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## INTERNATIONAL CYANIDE MANAGEMENT CODE AUDIT CARLIN MINE, NEVADA SUMMARY AUDIT REPORT

Submitted to:

Newmont Mining Corporation Carlin Mine P.O. Box 669 Carlin, Nevada 89414



and

International Cyanide Management Institute 888 16<sup>th</sup> Street, NW, Suite 303 Washington, D.C. 20006

Submitted by:

Golder Associates Inc. 44 Union Boulevard, Suite 300 Lakewood, Colorado 80228

April 16, 2009

053-2280

Name of Project:Carlin MineProject Owner / Operator:Newmont Mining CorporationName of Responsible Manager:John (Jack) Henris, Mine Manager

Address and Contact Information:

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Audit Dates: October 27-October 30, 2008

## Location and General Description

The Carlin Mine is located in Eureka County, Nevada, between 6 and 21 miles north of the town of Carlin and 35 to 40 miles west of Elko. Carlin Operations include the North and South Area Operations. The South Area Operations site is located in Eureka County, Nevada. The operation consists of:

- 1. The Gold Quarry open pit mine;
- 2. Mills 5 and 6;
- 3. Mill 5/6 and James Creek Tailing Storage Facilities (TSF) and Mill 5/6 TSF West Expansion;
- 4. Zadra and AARL carbon handling facilities;
- 5. Refinery;
- 6. Metallurgical and Assay laboratories;
- 7. Gold Quarry Leach;
- 8. South Area Leach Property Pad;
- 9. South Area Leach Non-Property Pad;
- 10. Commercial Refractory Leach Facility;
- 11. Waste Rock Disposal Facilities; and
- 12. Support facilities consisting of warehouses, truck shops, maintenance shops, and fueling facilities.

The North Area Operations site is located in Eureka and Elko Counties, Nevada: The operation consists of:

- 1. The Carlin, Genesis/Blue Star, Post, Bootstrap/Capstone, Tara, Beast, Sold, North Star, Payraise, Bob Star, Bobcat, Pete, Castle Reef, and Crow open pit mines;
- 2. Carlin, Deep Star, Deep Post, and Leeville underground mines;
- 3. Mill 4/2 Tailing Storage Facilities;
- 4. Metallurgical laboratories;
- 5. North Area Leach Facility;

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- 6. The Post Pad 1 Leach Pad;
- 7. Waste Rock Disposal Facilities
- 8. The Leeville Water Treatment Plant; and
- 9. Support facilities consisting of warehouses, truck shops, maintenance shops, and fueling facilities.

In addition to the above components, the Carlin Mine site includes overburden piles, topsoil stockpiles, administration buildings, maintenance facilities, and access and hauls roads. Mining originally began in 1965 in the Carlin and Gold Quarry open pits, and then extended to underground mining in 1994.

The Carlin Mine is an open pit and underground precious metal mine with multiple processing circuits. The circuits include Mill 5, Mill 6, and two heap leach facilities. The gold bearing solution from the heap leach facilities is processed though a carbon-in column (CIC) circuit. Mill 5 is a floatation plant that processes sulfide and oxide ores that are ground in a SAG mill and ball mill. The material is then sent to the floatation circuit where the sulfides are floated to generate a concentrate for later processing in the autoclave or roaster. The oxide material remaining after floatation is sent to a set of carbon-in-leach (CIL) tanks for gold recovery. Mill 6 consists of a double rotating mill and a roaster; sulfide material is fed to the roaster where the sulfides are volatilized. Material leaving the roaster is sent to a set of CIL tanks at Mill 5 for processing. Tailings from both CIL circuits are combined and sent through a Caro's Acid cyanide destruction circuit before disposal in the Mill 5/6 tailing storage facility.

Carlin receives liquid sodium cyanide from Cyanco located in Winnemucca, Nevada and from DuPont (from the Carlin facility) in specially engineered tanker trucks. The sodium cyanide is delivered by TransWood Inc and Sentinel. Cyanco, DuPont, TransWood Inc and Sentinel are signatory to the Code and have been certified as compliant with the Code by third-party auditors. Carlin stores and manages sodium cyanide in engineered tanks, pipelines and lined ponds that have had appropriate quality control and quality assurance. Carlin employees are trained in cyanide hazards and first aid, first response, emergency response, and specific operational task training. Carlin facilities are fenced to preclude wildlife and livestock from entering cyanide process areas. Carlin conducts daily, weekly, and monthly 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. Carlin has approved closure and reclamation plans along with financial assurance to complete the appropriate management of cyanide solutions and solids, and the decontamination of cyanide pipelines and equipment.

Auditors:

Pamela Stella, Lead Auditor Mark Montoya P.E. Technical Auditor Sofia Grahn, Technical Auditor Kris Hemlein, Technical Auditor

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Auditors Finding			$\mathbf{X}$	in full compliance with	
The operation is			in substantial compliance with	International Cyanide Managem Code	ent
			not in compliance with		
Audit Company:		Golder A	ssociates Inc.		
Audit Team Leade	r:	Pamela S	tella		
E-mail:		Pamela S	tella@golder.com		
Names and Signatu	ires c	of Other Au	ditors:		
Kris Hemlein Name of Auditor			Signature of Auditor	<u></u>	April 16, 2009 Date
Sophia Grahn			Alm Ca		April 16, 2009
Name of Auditor			Signature of Auditor		Date
Mark Montoya P.E. Name of Auditor	).		Signature of Auditor		April 16, 2009 Date
I attest that I meet	the c	riteria for k	nowledge, experience an	d conflict of interest	for Code Verification

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.

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1. PRODUCTION: Standard of Practice 1.1:		Encourage responsible cyanide manufacturing by purchasing from manufacturers who operate in a safe and environmentally protective manner. 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 substantial compliance with	Standard of Practice 1.1
		not in compliance with	

**Basis for Audit Finding:** Carlin has committed to only purchase cyanide from producers that are compliant with the International Cyanide Management Code (ICMC). Carlin has sodium cyanide supply contracts with Cyanco and E.I. DuPont De Nemours &Co., Inc. (DuPont).

2. TRANSPORTATION:		Protect communities and the transport.	environment during cyanide
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.	
	X	in full compliance with	
The operation is		in substantial compliance with	Standard of Practice 2.1
		not in compliance with	

**Basis for Audit Finding:** Carlin has sodium cyanide supply contracts with Cyanco and DuPont, which specify that the operation takes ownership of the cyanide at the time of delivery. Cyanco is by contract solely responsible for the production and transport of sodium cyanide to the delivery point at Carlin. Cyanco is a signatory producer to the ICMC and subcontracts TransWood Inc. for transportation of the cyanide to Carlin. TransWood has been certified by third party independent auditors as compliant with the ICMC with clear lines of responsibility for safety, security, release prevention, training, and emergency response.

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Standard of Practice	<u>2.2</u> :	Require that cyanide transporters response plans and capabilities a cyanide management.	
	X	in full compliance with	
The operation is		in substantial compliance with	Standard of Practice 2.2
		not in compliance with	

**Basis for Audit Finding:** Cyanco is by contract solely responsible for the production and transport of cyanide to the delivery point at Carlin. Cyanco is a signatory producer to the ICMC and subcontracts TransWood Inc. for transportation of the cyanide to Carlin. TransWood has been certified in October 2006 by third party independent auditors as compliant with the ICMC with appropriate emergency response plans and capabilities and have adequate cyanide management control measures.

DuPont's most recent cyanide supply contract with Newmont dated December 28, 2007 specifies that Carlin takes ownership of the product at the time of delivery in the tank. DuPont is signatory to the ICMC. The DuPont supply chain from the manufacturing facility in Memphis, Tennessee as it related to interim storage and due diligence of the rail transport has been completed and documented in Audit Report DuPont Management of Sodium Cyanide Transportation via Rail Memphis, TN Plant to Carlin, NV Packaging Terminal via Union Pacific Railroad and Canadian National Railway. The portion of the supply chain between the mine and the DuPont Carlin facility has been audited and certified by the ICMI in June 2006. Sentinel Transportation LLC (Sentinel) is signatory and is in compliance with the ICMI (November 2006). DuPont is in full compliance with ICMC cyanide transportation audit requirements and have considered to the extent practical, the security, safety, training and emergency response aspects of the rail carriers.

## 3. HANDLING AND STORAGE: Protect workers and the environment during cyanide handling and storage.

<u>Standard of Practice 3.1</u>: 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.

	$\mathbf{X}$	in full compliance with	
The operation is		in substantial compliance with	Standard of Practice 3.1
		not in compliance with	

**Basis for Audit Finding:** The Carlin North Area, South Area Leach and Mill 5/6 containment and fluid management systems have been constructed in accordance with the designs reviewed and approved by the Nevada Division of Environmental Protection. Bechtel completed Turnover Packages for the Mill 5/6 complex and certified that the listed process systems (e.g., tanks, pumps,

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and related components) have been tested, inspected and considered to operationally complete. The construction report for the sodium cyanide distribution line replacement covers the materials, installation and testing of the primary and secondary pipelines used to distribute cyanide at Mill 5 and Mill 6 CIL circuits and the carbon stripping circuit.

In October 2008 Newmont commissioned AMEC Earth and Environmental, Inc. (AMEC) to perform field inspections of certain facilities in lieu of resurrecting the original QC/QA documentation. Field Inspections conducted by AMEC:

- South and North Area Operations, Cyanide Unloading, Storage and Distribution Systems as well as Refinery and AARL Areas, Field Inspections Completed October 13 and 21, 2008, AMEC, October 28, 2008;
- Mills 5 and 6 CIL and CIC Process Circuits, Field Inspection Completed November 17, 2008, AMEC, November 20, 2008;
- Mills 5 and 6 Tailings Booster Station, Field Inspection Completed November 12, 2008;
- South Area Leach Barren and Pregnant Solution Systems Field Inspection Completed October 22, 2008;
- Gold Quarry Mills 5 and 6 Mill Solution Tank Field Inspection Completed January 21, 2009;
- Mill 6 Thickener Pond, Field Inspection Completed November 12, 2008;
- Mills 5 and 6 Mill Solution System, Field Inspection Completed October 17, 2008; and
- North Area Leach Barren and Pregnant Solution Systems Field Inspection Completed October 13, 2008.

AMEC also completed calculations of the secondary containment areas for the North Area Leach Carbon columns, South Area Leach Carbon Columns and the Mills 5 and 6 CIL secondary Containments (including the new CIL tank area).

The first report included an inspection of the NAL, SAL and Mill 5 CIL and Mill 6 CIL and cyanide distribution pipelines. Based on physical inspection of the cyanide unloading, storage and distribution systems located at the South and North Area Operations, the cyanide facilities and equipment referenced above have performed in accordance with the cyanide producer's guidelines, applicable Nevada regulations and accepted engineering practices in place at the time of construction. The inspection has indicated that these cyanide facilities have met the required objectives for containment and safe operation under the ICMC. This inspection has determined that the cyanide facilities and equipment can continue to operate safely following within the normal operational practices and maintenance requirement in place at the Carlin Operation.

The summary of the Mill 5 and 6 report concluded that based on the inspection that was completed on October 17, 2008, the Mill 5 and 6 Mill Solution systems appear to have been constructed using procedures and materials suitable for conveyance of low pressure and low concentration cyanide solution. QA/QC during construction was performed on the geomembrane lined cooling pond, and on the geomembrane lined secondary containment for the pipe corridor.

Cyanide storage tanks are located on cast-in-place reinforced concrete pads and within concrete curbed containment that prevents seepage to the subsurface. Cracks and other voids in the concrete are patched with epoxy or coated. Carlin has an inspection and preventative maintenance program for identification and patching of cracks. Review of the containments indicated that they are well maintained and that all cracks have been effectively patched. The cast-in-place reinforced concrete

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containments are competent barriers to the leakage. Carlin has an inspection and preventative maintenance program for identification and patching of cracks.

Carlin uses steel and HDPE primary containment pipelines for conveyance of cyanide solutions and slurries. Polyvinyl chloride (PVC) pipe is used in some cases as secondary containment piping and leak detection. Cyanide tanks are fabricated from steel. These materials are compatible with cyanide and high pH solutions.

Cyanide is stored away from surface water and areas where personnel congregate. Cyanide offloading is located on concrete surfaces (except Mill 5/6) with spill containment. All cyanide storage tanks are equipped with overfill protection. There is adequate ventilation and security for all cyanide storage tanks. All the cyanide storage tanks are located apart from foods, animal feeds, and no smoking is allowed. The Mill 5/6 cyanide storage area is located away from the acid storage tank and within separate concrete containments. Mill 5 flotation circuit has a sulfuric acid addition that was added in 2005 to control pH in the treatment of bio-oxidized ore. Sulfuric acid is stored in a 17,000-gallon carbon steel tank and is located within a Novolac® epoxy-coated concrete containment area with a dedicated solution collection sump and evacuation pump. The facility, located on the northeast side of the Mill 5 building adjacent to the existing reagent building and MIBC storage area, is comprised of a concrete truck load-out pad, a storage facility with dedicated secondary containment, distribution pipelines with secondary containment, and spill collection sumps.

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.

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

Basis for Audit Finding: Carlin has developed and implemented Unloading Liquid Cyanide standard operating procedures (one for the Mill and one for the Leach operations) which cover the responsibilities for the transporter and the site personnel. Carlin has an SOP titled Cyanide Delivery Checklist (dated 7/9/08) that identifies the requirements the Reagent Technician must follow before cyanide offload can commence.

Carlin receives liquid cvanide exclusively (30 % strength liquid sodium cvanide) and is delivered to Carlin in special engineered tankers. The liquid is transferred from the delivery tanker directly into the storage tanks. The requirements for disposal and stacking heights of solid cyanide boxes do not apply to Carlin because Carlin does not receive solid cyanide in containers.

Carlin regent technicians are trained on Cyanco's and DuPont's off-load procedures. Off-loading does not occur until a Carlin reagent technician is there to observe and document the procedure. Both the transporter and technician check to confirm that the storage has sufficient capacity for the offload. The pre- and post- filling levels are recorded on the bill of lading. The Carlin technician is trained in the transporter PPE requirements, procedures, and emergency shut off locations. Carlin technicians have a radio for use during offloading if needed. The Mill 5/6 technician would communicate with the control room during offloading. Technicians at NAL and SAL have a radio to communicate with

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security. Additionally, the Carlin operator has access to PPE, cyanide antidote and oxygen at the offload area in the case of an emergency. The transporter off-load procedures are designed to prevent the potential for release.

<i>4. OPERATIONS:</i> <u>Standard of Practice 4.1</u> :		Manage cyanide process solutions and waste streams to protect human health and the environment.	
		Implement management and operating systems designed to protect human health and the environment utilizing contingency planning and inspection and preventive maintenance procedures.	
	X	in full compliance with	
The operation is		in substantial compliance with	Standard of Practice 4.1
		not in compliance with	

**Basis for Audit Finding:** Carlin has developed a series of procedures for the operation of Mill 5/6 CIL and Mill 5/6 TSF, and the NAL and SAL carbon columns, heap leach operations and ponds.

These operating procedures include:

NAL

- Barren Solution Line Breakage
- Cyanide Monthly Inspection
- NAL Cyanide Containment Inspection
- Pregnant Pond Level Control
- Leak Detection SOP
- Procedure for Power Outages

SAL

- Barren and Pregnant Line Damage
- Damage to Barren or Pregnant Pond
- Monitoring SAL Leak Detectors
- Operations of Pads on Emergency Power
- SAL Pond Level Control
- Shift Change Procedures
- SAL Carbon Columns Cyanide Containment Area Inspection
- SAL Startup and Shut Down Procedures for Emergency

Mill 5/6 and Caro Plant

- Mill 5 Upset Condition: High Slurry or Solution Level in Mill Basement
- Emergency Spill Response for the Mill 5 Thickener
- C.I.L. Tank Upset Condition
- Cyanide Spill Response and Clean-Up SOP
- Mill 6 NKM Screen Cleaning SOP
- Caro's Acid Operating Procedures
- Tails Booster Pump House Upset Condition SOP
- Tails PM
- Tails Operator Report

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- CIL Tank Operation SOP
- Starting/Stopping Hot and Cold Caro's Systems
- Mill 5 Instrument Cyanide Detector PM
- Mill 5 Cyanide Reagents Building SOP
- Mill 5 Sampling Procedure
- Cyanide Titration
- Mill 5 Secondary Containment Cleanup SOP
- Mill 5 Continuous HCN Gas Monitor SOP
- Above-Ground Tailings Slurry, Reclaim And Under Drainage Solution Lines Inspection SOP
- Cyanide Containment Inspection
- Cyanide Monthly Inspection
- Tailings Booster Pump House and Spigoting SOP
- Under Drainage Ponds and Pumps Inspection SOP
- Carlin Tailings & Reclaim Lines Inspection, Reporting and Remediation Procedure
- Mill 5/6 Tails Bird Hazing SOP
- Mill 5 Power Outage SOP and
- Barge Pumps Inspection SOP.

Water Pollution Control Permits (WPCP) have been prepared and submitted to NDEP for South Area Leach (NEV0088011) (valid 05/26/08 - 04/06/09), North Area Leach (NEV0087065) (valid 08/01/08 - 06/01/09), and Mill 5/6 Facilities (NEV0090056) (valid 10/13/08 - 04/26/2012). These Plans cover specific requirements and plans for the operation of the cyanide facilities.

Carlin has Fluid Management Plans in the individual Water Pollution Control Permits for the NAL, SAL and Mill 5/6 which include descriptions of the fluid management requirements for safe operation and within regulatory compliance. This includes the minimum requirement for 2 foot freeboard within all process solution ponds, 3 foot freeboard limit for stormwater ponds and 3 foot freeboard in the Mill 5/6 Tailings Impoundment. The cyanide concentration in the tailings is limited to 35 ppm of WAD cyanide. The Water Pollution Control Permits issued by the Nevada Department of Environmental Protection (NDEP) also provides a detailed description of the applicable regulatory requirements. Other regulatory requirements include monitoring, sampling, regular pumping and monitoring of leak detection and leak collection systems, tailings piezometers and groundwater wells.

Carlin has developed and implemented operator task-specific SOPs that address protection of human health and the environment for the operation of cyanide carbon-in-leach (CIL) processing. These SOPs were found to have adequate contingency planning, routine inspections, and a preventive maintenance program. SOPs address all the cyanide management tasks such as unloading and storage of cyanide; operation of the CIL systems and operation of cyanide destruct circuit for tailings disposal. Contingency planning documents have been developed and implemented to support the process pond management and solution inventory to address power failure, and extreme rainfall management. Carlin uses a computer based preventive maintenance system, Ellipse, to identify, issue work orders and document all preventive maintenance activities.

Carlin has contingency plans/procedures for responding to abnormal conditions in the leach, mill, CIL, cyanide treatment plant and tailings. The Carlin Mine Operating Plan presents procedures for normal and unusual or emergency operating conditions and emergency release response and contingency plans for the facilities. The documents specify actions for insufficient freeboard in the TSF and other ponds, severe weather conditions, power outage or pump failure, cyanide detected in

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ground or surface water, temporary cessation of operations or closure, shutdown or failure of the Caro's acid system and solution in leak detection systems. The document specifies the available pond storage volumes, pump capacities and strategies for conveyance of solution to prevent overtopping and discharge.

Daily, weekly and monthly inspections are completed by the operators. Daily inspections are conducted of the tailings area (pipe, tailings impoundment, and decant pond) and Leach/CIL/Carbon areas and include safety and environmental concerns. The Mill 5/6 operators are responsible for conducting workplace inspections on a daily basis using the operator's checklist. Inspections include piping, pumps, reagent tanks, leak detection and containments, eyewash/shower stations, vents and fans, housekeeping, gates and fencing, HCN detectors and emergency generators. Carlin conducts weekly inspections of the drainage systems, containment structures for process chemicals and storage tanks, the labeling of process water, chemical transfer lines and tanks, cracks in outside containment structures or within the plant, the condition of valves/pipe connections and general housekeeping.

There are two fixed diesel generators located by the mill and two at each CIC (NAL and SAL) plant to supply power in case of a power outage. Power output from the generators is adequate to maintain solution flows and prevent overtopping of solution ponds. The generators are tested monthly by the process electrical department and are on the surface mine maintenance PM schedule. The preventative maintenance schedule and requirements for the generators is tracked through the Ellipse system.

Carlin has a SOP for Change Management Environmental that is prepared for an activity, process, or task that, if conducted under uncontrolled conditions could have a significant impact on:

Security of employees and Newmont property •

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- Newmont's social responsibility, including impacts to Environment, Safety, and Community • relations
- Newmont values.

Standard of Practice 4.2:

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

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- in full compliance with
- - in substantial compliance with **Standard of Practice 4.2**
- not in compliance with

Basis for Audit Finding: Cyanide consumption is continually optimized in the plants. The cyanide dosage range is established by an ongoing cyanide optimization. The percent gold recovered during the test period is compared to the cyanide. The procedure used to adjust the cyanide addition is generally one of two methods:

Automatic Control: The slurry from the second to last CIL leach tank is continually filtered to ٠ retrieve a solution sample. This continuous solution is then analyzed every 20 minutes for cyanide. If the cyanide is lower than the target, then the first leach tank cyanide set point is increased. If the cvanide is greater than the target, then the first leach cvanide set point is

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decreased. A continuous solution sample from the first leach tank is also retrieved and analyzed every 20 minutes. If the cyanide is lower than the solution concentration target the cyanide flow set point is increased. If the cyanide is greater than the target the cyanide flow set point is decreased.

• Manual Titration Control: The control is identical to the above, except for the operator retrieves the samples manually and uses manual adjustments to the cyanide flow set point to maintain the cyanide residual and pH target. The manually recorded cyanide concentration and pH are recorded on daily inspection forms.

Carlin's Metallurgical Department monitors cyanide consumption on a shift basis to evaluate and adjust the rates as appropriate. Carlin's Metallurgical Department has evaluated varying control strategies to evaluate cyanide concentrations. At the time of the audit, Carlin was implementing a cyanide consumption test series for Mill 5 and Mill 6. The test involved a 4 week period of sampling of slurry for bottle roll tests subjected to various cyanide concentrations with the intent of optimizing cyanide addition concentrations to the circuits.

Carlin has implemented a strategy and management system to control the addition of cyanide in the mills. The cyanide concentration is regularly monitored and gold extraction evaluated to optimize the recovery. Also considered in the analysis is the cyanide concentration going to tails to assure that the cyanide concentration is below 50 milligram per liter (mg/L) after Caro Acid destruction. Information from the Caro Plant and prior to sending detoxified tailings to the TSF is communicated to the Mill operator to determine if adjustments to the cyanide destruction process operation are required.

Standard of Practice 4.3:		Implement a comprehensive water against unintentional releases.	management program to protect
	X	in full compliance with	
The operation is		in substantial compliance with	Standard of Practice 4.3
		not in compliance with	

**Basis for Audit Finding:** Carlin has implemented several comprehensive water balance models that track water flow throughout the site-wide engineered water management facilities. The models are probabilistic and address the uncertainty and variability of climatic data to prevent overtopping of the heap leach facilities and process ponds and the tailings facility. The purpose of the water balance simulation models developed for the Carlin Mine is to provide Newmont personnel with an analytical tool to evaluate alternative strategies for managing the operation over the life cycle of the mine and to support decision making and planning. The models allow the user to define initial and operating conditions within the Carlin Mine system and simulate the projected performance of the mine water system over a given period.

The water management facilities at Carlin are located in two separate operating areas, the North Area and the South Area. The North Area is located approximately 20 miles north of the South Area. Essentially, four models consider the active cyanide facilities located at the South Area and North Area operations. These models were developed with Goldsim® software (various versions).

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Two separate models are used manage water balance at the South Area operations. The Mill 5/6 Tailings Storage Facility (TSF) model, developed by Ecological Resource Consultants Inc. (January 2006), is designed to predict fluctuations in solution volumes and flow rates at the Mill 5/6 TSF and related components. The major components of the Mill 5/6 TSF model include the Mill 5/6 complex (Mill 5 and Mill 6), and the tailings impoundment and reclaim operations. The South Area Leach (SAL) model, developed by Engineering & Hydrosystems Inc. (July 2005), is designed to predict fluctuations in solution volumes at the Property and Non-Property heap leach facilities. The major components of the SAL model include the leach pads, three sets of process and stormwater pond systems, and the Carbon-in-Column (CIC) Plant and Barren Sump.

Two separate models are also used to manage water balance at the North Area operations. The North Area Leach (NAL) model, developed by Engineering & Hydrosystems Inc. (April 2005), is designed to predict fluctuations in solution volumes at the North Area leach pad, the process and stormwater pond system, and the CIC Plant and Barren Sump. The Mill 4/2 TSF model, tracks water movement through the Mill 4/2 TSF located in the North Area. There is no longer an active mill at the North Area operations; therefore, the Mill 4/2 TSF does not receive tailings and is used only as an emergency water balance facility.

The water balances consider site specific factors into the models. The water balance models include inputs for leach solution application rates for the individual leach pads and the tailings deposition rate at the Mill 5/6 TSF. The SAL and NAL water balances effectively use two precipitation models each, one for average precipitation with a 100-year, 24-hour precipitation event plus a 6-hour draindown (worse case design conditions), and the other for stochastic precipitation. The stochastic models were developed from real statistical precipitation data from a meteorological station located in Elko, Nevada and onsite meteorological stations, and were adjusted for the design average annual precipitation. The Mill 5/6 TSF model utilizes the framework of the Goldsim® meteorological model developed for the SAL as the basis for precipitation. The Mill 4/2 TSF climate module is the same as that used for the NAL model. The precipitation models discussed in Section 4.3.2(b) above were developed using 90 plus years of data from a meteorological station located in Elko, Nevada and onsite meteorological stations. Evapotranspiration (ET) for the SAL and NAL models was estimated for the site using a study, which entailed calculating potential ET using multiple methods and station meteorological data and accounting for aspect, elevation, temperature and slope. Evaporation for the Mill 5/6 TSF model was determined based on meteorological data collected at the Gold Quarry station using the Aerodynamic Method of evaporation calculation.

The Carlin water balance models consider the stormwater runoff entering ponds and tailings impoundments from any upgradient watersheds not diverted by stormwater control structures. Nonetheless, the majority of upgradient stormwater flow is diverted around the facilities and the only excess water that enters the system during a storm event is from precipitation falling directly onto the facilities, and stormwater runoff between the diversion structures and the facilities.

The water balance models incorporate a number of design elements that affect the results. These include production rates, new and leached ore moisture contents, tailings geotechnical properties, pond and impoundment water depths and geometries, varying leach application rates, heap lift heights and leach areas, dispersion of solutions and precipitation through heaps, pumping rates, tailings water reclaim rates, meteorological data, enhanced evaporation techniques and closure draindown rates among others.

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Carlin has written Fluid Management Plans (FMPs) for the SAL, NAL and Mill 5/6 TSF facilities. The FMP describe the methods to be used for the monitoring of process solutions controlled within the fluid management systems. The FTPs also contain a process description and present monitoring locations, leachate collection and recovery systems, sampling frequencies, and the analytical profiles used for evaluating the performance of the fluid management systems. The FMPs for the leaching facilities provide capacities and the maximum operating volumes of the pond systems. The Mill 5/6 FMP describes the procedure for managing discharge to the Mill 5/6 TSF to prevent the supernatant pond from extending beyond the limits of the synthetic-lined portion of the facility. The NDEP Water Pollution Control Permits referenced by these plans provide requirements for operating the facilities within approved design limits.

Carlin has inspection and monitoring activities for the cyanide facilities to prevent unplanned discharge of process solutions to the environment. The Carlin pond systems and impoundments are designed and operated with adequate freeboard. Carlin operators conduct inspections to ensure that the water levels in the solution ponds and tailings impoundments are within maximum operating levels. Carlin measures meteorological data onsite from two automated meteorological stations and compares the results to design assumptions and revises operating practices as necessary. Carlin updates its water balance models when major modifications or significant changes occur to the water balance systems.

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

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**Basis for Audit Finding:** Carlin has implemented measures for restriction of wildlife and livestock to containments with process solution above 50 mg/l. These measures consist of wildlife fencing around all facilities and ponds containing process solutions and bird netting covering the Property Pad collection ditch.

Carlin completes daily sampling and analysis of samples from open water in the Mill 5/6 TSF. Review of recent WAD cyanide monitoring information for the tailings exiting the Caro Acid Plant, the 3 spigots to the Mill 5/6 TSF, and the underdrains indicates that the operation has procedures in place, the necessary equipment and the staff to keep the spigot discharge and supernatant pond WAD cyanide below 50 mg/L. In addition to maintain the WAD cyanide concentrations below 50 mg/l in the Mill 5/6 TSF, Carlin also uses propane cannons at the Mill 5/6 TSF to deter waterfowl from using the open water of the supernatant pond at the Mill 5/6 TSF.

Carlin has a heap leach operation standard operating procedure that covers the operation of the leach system to prevent overspray from the lined area and ponding on top of the heap.

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Carlin is required by the Nevada Department of Wildlife (NDOW) to conduct mortality monitoring and report all wildlife mortalities. No cyanide related mortalities have been reported during 2007 the first half of 2008.

<u>Standard of Practice 4.5</u> :		Implement measures to protect f indirect discharges of cyanide proc	ish and wildlife from direct and cess solutions to surface water.
	X	in full compliance with	
The operation is		in substantial compliance with	Standard of Practice 4.5
		not in compliance with	

**Basis for Audit Finding:** Carlin is designed and operated for zero-discharge of process fluids. Operation performance history, design criteria and the project water balance indicate that facilities operation is consistent with the zero-discharge requirements. Monitoring information indicates there is no impact to groundwater or surface water quality from milling or heap leach operations. Spill prevention and emergency response plans have been developed to comply with the zero-discharge operating requirements.

Standard of Practice 4.6:Implement measures designed to manage seepage from cyanide<br/>facilities to protect the beneficial uses of groundwater.Image: Standard of Practice 4.6:Implement measures designed to manage seepage from cyanide<br/>facilities to protect the beneficial uses of groundwater.Image: Standard of Practice 4.6:Implement measures designed to manage seepage from cyanide<br/>facilities to protect the beneficial uses of groundwater.Image: Standard of Practice 4.6:Implement measures designed to manage seepage from cyanide<br/>facilities to protect the beneficial uses of groundwater.

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

**Basis for Audit Finding:** Carlin has implemented solution management and seepage control systems to protect groundwater below and downgradient of the operation. The active cyanide facilities at the Carlin operation are located in two separate operating areas, the North Area and the South Area. The North Area is located approximately 20 miles north of the South Area.

The cyanide facilities currently active at the South Area include:

- the Mill 5/6 beneficiation complex (Mill 5/6 complex);
- the Mill 5/6 Caro's Acid plant;
- the James Creek tailings storage facility (TSF);
- the Mill 5/6 TSF;
- the South Area Leach (SAL) facilities; and
- associated pipelines, channels, ponds, pumps and containment for conveyance and control of process solutions within the facilities.

Tailings material generated in the Mill 5/6 CIL circuits is pumped to the Mill 5/6 Caro's Acid plant located at the Tailings Booster Pump House facility, where cyanide is neutralized for wildlife protection prior to delivery to the Mill 5/6 TSF. Tailings are delivered to the James Creek TSF via an HDPE overflow pipeline from the Tailings Booster Pump House only when maintenance activities are required on the Mill 5/6 TSF or associated pipelines, or in the event of an emergency. The James

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Creek TSF also receives dust suppression and wash down water from the SAL Secondary Tertiary Crushing Facility.

The SAL facilities, considered as active cyanide facilities, are comprised of two conventional heap leach pads (Property and Non-Property), three sets of process and stormwater ponds and a shared carbon adsorption plant. Loaded carbon from the plant is transported by truck to the Mill 5/6 carbon handling and stripping facility. Major components associated with the Property leach pad include a lined solution transfer channel, a pregnant solution pond, two stormwater ponds and a barren solution pumping station. Major components associated with the Non-Property leach pad include three lined and leak detected solution transfer channels, two pregnant solution ponds, two stormwater ponds, and a facility process pond. The facility process pond is also referred to as the "30 Million Gallon Pond" and functions to provide overflow volume for the process ponds and to provide an alternative to pumping leach solution to other facilities, particularly during seasonal solution operating volume increases.

The cyanide facilities currently active at the North Area include:

- the North Area Leach (NAL) facilities; and
- the Mill 4/2 TSF.

The NAL facilities, considered as active cyanide facilities, are comprised of a conventional heap leach pad, two pregnant solution ponds, one stormwater pond, a system of solution collection channels and a carbon adsorption plant. Loaded carbon from the plant is transported by truck to the Mill 5/6 carbon handling and stripping facility.

Carlin conducts groundwater monitoring. Certified laboratories are used for all parameters covered by the State of Nevada Laboratory Certification Program. Handling, preservation and transportation of samples are conducted in conformance with established EPA protocols, where appropriate.

The regulatory numerical standard established for Carlin's groundwater protection is 0.2 mg/l WAD cyanide, for Primary and Secondary Drinking Water Standards. Groundwater monitoring data was reviewed for a one-year period through the second quarter of 2008 for representative monitoring wells and production wells. The data demonstrate that the operation has not exceeded the above referenced numerical standard for WAD cyanide at the groundwater compliance points, and that the operation is protective of the designated "beneficial use" of groundwater. All results reported for WAD cyanide during this period were well below the standard and in most cases below the detection limit of 0.01 mg/l WAD cyanide.

Standard of Practice 4.2	<u>7</u> :	<i>Provide spill prevention or contains and pipelines.</i>	nent measures for process tanks
	X	in full compliance with	
The operation is		in substantial compliance with	Standard of Practice 4.7
		not in compliance with	
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**Basis for Audit Finding:** Carlin has implemented spill prevention and containment measures for all cyanide unloading, mixing, storage and process solution tanks. The Carlin operation has secondary curbed concrete containments for all cyanide unloading, storage and processing tanks. The secondary containments are sized to hold a volume greater than that of the largest tank within the containment and all piping draining back to the tank plus runoff from the design storm event. Other secondary containments include pipe-in-pipe and geomembrane-lined channels. The secondary containments in the cyanide unload and storage areas have been designed to contain at least 110 % of the largest tank capacity and the design storm event. Secondary containment in the process areas has automated pumping systems for management of tank leakage. SOPs have been developed to address management of spill response and clean-up within the containments. Review of the operation indicates that all tanks, piping and containments are constructed of materials appropriate for handling high pH cyanide solutions. All cyanide piping is within containment and pipe-in-pipe configuration is used for all drainage crossings.

<u>Standard of Practice 4.8</u> : Implement quality control/quality assu that cyanide facilities are construct engineering standards and specification		structed according to accepted	
	X	in full compliance with	
The operation is		in substantial compliance with	Standard of Practice 4.8
		not in compliance with	

**Basis for Audit Finding:** The project construction of the leach process and tailings storage facilities has been verified by qualified engineering companies and includes detailed quality control /quality assurance (QC/QA) data collection and documentation. The QC/QA documents indicate that the construction was completed according to engineering standards and specifications. The QC/QA reports were prepared by qualified engineering companies and document the responsibilities of parties involved in the design, construction and review of the facilities and certify that the facilities were constructed in accordance with project drawings and specifications. Carlin has committed to retain all QC/QA information in the onsite document library and onsite storage units.

Standard of Practice 4.9:

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

**Standard of Practice 4.9** 

The operation is

- $\mathbf{X}$  in full compliance with
  - in fun compliance with

not in compliance with

in substantial compliance with

**Basis for Audit Finding:** Carlin has environmental monitoring programs developed to evaluate the performance of the cyanide management systems on wildlife, surface and groundwater quality. The Carlin Mine Water Sampling and Monitoring Procedure describes the water quality monitoring program for the mine, including all the monitoring locations with text, tables and figures. The environmental programs have been prepared and approved by qualified professionals and implemented by qualified personnel and include all appropriate sampling and analysis documentation.

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5. DECOMMISSION	NING:	Protect communities and the environment from cyanide throug development and implementation of decommissioning plans fo cyanide facilities.	
Standard of Practice	<u>5.1</u> :	Plan and implement procedures for effective decommissioning cyanide facilities to protect human health, wildlife and livestock.	
	X	in full compliance with	
The operation is		in substantial compliance with	Standard of Practice 5.1
		not in compliance with	

**Basis for Audit Finding:** Carlin has prepared comprehensive plans for decommissioning and reclaiming all project components at the cessation of operations. Two separate plans have been developed, one for each operating area. These plans include the following written procedures for decommissioning the cyanide facilities at both areas.

- Reclamation and Operating Plan, SOAP Mine, Newmont Mining Corporation, July 31, 2006; and
- Reclamation Plan Update and Amendment, North Area Leach, JBR Environmental Consultants Inc., January 30, 2007.

Carlin has developed an implementation schedule that considers the treatment and evaporation of all process solution, detoxification and rinsing of equipment, and removal and decommissioning of leach pads, ponds and other containments. The closure and reclamation plans include an implementation schedule and performance monitoring. Carlin reviews and updates the requirements and costs of the Closure and Reclamation Plans on a three year basis in accordance with requirements of the regulatory agencies.

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

 Image: Standard of Practice 5.2
 in full compliance with

 The operation is
 in substantial compliance with

 Standard of Practice 5.2
 not in compliance with

**Basis for Audit Finding:** Carlin has developed cost estimates with sufficient financial resources for the closure of the cyanide-related facilities and activities. Carlin has established an approved financial surety to cover the full cost of cyanide facility decommissioning.

The Carlin reclamation plans contain cost estimates for the funding of third party implementation of the decommissioning activities. These estimates include comprehensive closure and reclamation costs for the entire mine site, including both the South Area and North Area operations. The total

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reclamation estimate for the South Area and North Area is \$101.2M and \$19.2M, respectively.

The estimates itemize costs for "Detoxification/Water Treatment/Disposal of Wastes," which includes process ponds/sludge, heaps, tailings, surplus water disposal, fluid management and water monitoring as approximately \$12.4M for the South Area and \$4.9M for the North Area. Structure, equipment and facility removal is estimated as an additional \$5.1M for the South Area and \$0.7M for the North Area. Contingency, insurance, bond, profit and contract administration costs for all project components are itemized separately.

Carlin is required by NDEP and Bureau of Land Management (BLM) regulations in their permit requirements to review and update the "Reclamation Costs" at least every three years (NAC519.A). Additionally, Carlin updates its Reclamation Plan and associated cost estimate as any mine components change.

6. WORKER SAFET	' <b>Y</b> :	Protect workers' health and safety	y from exposure to cyanide.
Standard of Practice	<u>6.1</u> :	Identify potential cyanide exposure scenarios and take m necessary to eliminate, reduce and control them.	
	$\mathbf{X}$	in full compliance with	
The operation is		in substantial compliance with	Standard of Practice 6.1
		not in compliance with	

**Basis for Audit Finding:** Carlin has identified potential cyanide exposure scenarios and developed procedures and plans to eliminate, reduce and control worker exposure. Carlin has individual task specific Standard Operating Procedures (SOPs) that provide details for safe operation of cyanide equipment, personal protective equipment requirements, inspection requirements and confined space entry. The Inspections SOP provides procedures for conducting pre-work inspections that includes the responsibilities of workers, supervisors, foremen, superintendents, managers and Health, safety and Loss Prevention (HSLP) personnel. Additionally, the procedure includes a Hazard Report form, General Inspection Report Form and Process Inspection Check List.

Carlin has a Change Management Policy that requires any proposed changes in SOPs be discussed with the area supervisors prior to implementation. All changes are communicated to the workforce and training requirements updated. Worker input is solicited in Standard Task Procedure (STP) review meetings (when there is change or when procedures are routinely reviewed), during safety meetings and via a telephone hotline established to solicit complaints. Worker input is required (defined as vital) for the Task Analysis & SOPs (PowerPoint Presentation provided to workers).

A review of the Carlin Risk Assessment for HCN Exposure (RA) (December 2008) indicates a medium risk for HCN exposure (likely or possible to happen with minor to moderate consequences) due to inadequately trained personnel assuming work tasks involving CN handling. The RA provides prevention/mitigation measures for this risk, including: Basic CN training in annual refresher courses, administration of operator training tests, operator walk-through with supervisors (foremen and general foremen), and HCN sampling conducted by IH personnel.

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According to the Draft Cyanide Management Plan, change management for CN usage procedures includes notifying the Environmental and Safety Managers prior to any material change in cyanide use or management which will have potential for worker exposure. Managers are to determine if the change requires revisions to other production processes, controls, procedures, PPE, or personnel training.

<u>Standard of Practice 6.2</u> :		Operate and monitor cyanide facilities to protect worker health and safety and periodically evaluate the effectiveness of health and safety measures.	
	X	in full compliance with	
The operation is		in substantial compliance with	Standard of Practice 6.2
		not in compliance with	

**Basis for Audit Finding:** The Oxide Leach Manual states the heap leach solutions will have a cyanide concentration limit of 50 ppm (0.2 and 0.35 lbs/ton) and a pH ranging from 9.3 to 9.5. However, Carlin controls the pH in a range from 9.5 to 10.8 to prevent the generation of HCN gas. The pregnant ponds are checked for pH and cyanide concentrations. These values are recorded daily and on shift logs. Carlin operates to Nevada Department of Wildlife (NDOW) limits for HCN gas prevention and animal mortality of 50ppm cyanide concentration in process solutions.

Carlin has a total of 22 Sensodyne fixed cyanide monitors placed at critical locations, such as the cyanide storage tanks at Mill 5/6 and the SAL Carbon Columns, are equipped with fixed hydrogen cyanide monitoring meters with warning lights at 4.7 ppm (for "Investigate and Correct") and 10 ppm (for "Evacuate"). Additionally, prior to maintenance work or confined space entry, work areas are checked for hydrogen cyanide concentrations with Monitox meters. Fixed monitoring meters with warning lights at 4.7 parts per million (ppm) ("Investigate and Correct") and 10 ppm ("Evacuate") are installed at the Phase 1 pond at SAL, CICs, and cyanide offload areas at both SAL, Mill 5/6 and NAL. The fixed monitoring meters are calibrated on the monthly basis as documented in the Ellipse Preventive Maintenance Program.

Hydrogen cyanide Monitox meters are made available to employees to check the cyanide concentrations in any area. Cyanide Drager tubes are used for quick checks of potential problem areas.

Showers, low pressure eyewash stations and non acidic sodium bicarbonate fire extinguishers are maintained, inspected and tested on a monthly basis. Eyewash stations operate on reduced pressure. Locations of shower/eyewash stations and fire extinguishers are presented on Safety Equipment Maps developed by Emergency Response personnel.

Warning signs are located in areas of cyanide usage to alert workers that cyanide is in use and include the use of PPE. Unloading, storage, mixing and process tanks and piping containing cyanide are labelled that they contain cyanide to alert workers of their contents, and the direction of cyanide flow in pipes is designated. Carlin provides the cyanide safety information (Material Safety Data

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Sheets and first aid procedures) at all key process locations. Carlin has implemented an accident investigation process to report and investigate all cyanide related incidents.

<u>Standard of Practice 6.3</u> :		Develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.	
	X	in full compliance with	
The operation is		in substantial compliance with	Standard of Practice 6.3
		not in compliance with	

**Basis for Audit Finding**: Carlin has developed an Emergency Response Plan (ERP) and implemented the Plan through training and installation of emergency response equipment. Carlin has safety equipment including safety showers with eye wash stations, first aid equipment (amyl nitrite, medical oxygen and resuscitator), an emergency response vehicle, and employee first aid training. The antidotes are stored and replaced as specified by the manufacturer's storage temperature range and expiration date.

Carlin has employees trained to serve as First Responders and Emergency Medical Technicians (B) (EMTs). Every shift has at least one First Responder trained on the administration of amyl nitrate and oxygen for treatment of cyanide exposure. Carlin has 40 First Responders trained to address cyanide exposure. These personnel are distributed through 4 shifts of work plus the day shift, so that each shift has at least 5 first responders on duty. The mine has a fully equipped Emergency Response Vehicle and a Nevada licensed ambulance to transport workers exposed to cyanide.

In the event of a worker exposure Carlin will provide on-site first aid and provide a kit with intravenous cyanide antidote for transport with the patient to the local hospital. Carlin has made formal arrangements with local hospitals to treat cyanide exposed workers. Carlin has conducted cyanide exposure drills and tests the relevant emergency procedures at least once per year.

Carlin has a radio system providing coverage of the mine site with a channel dedicated to emergency response. Carlin also provides cards to be carried by all personnel with emergency response radio and telephone numbers. The ERP contains a "MayDay Procedure" for responding to emergencies. The ERP is posted at various locations around the mine site. Routine training for this procedure is also provided.

Locations of emergency equipment, which includes first aid kits, fire extinguishers, shower/eyewash stations, cyanide antidote kits and escape packs are provided on Safety Equipment Maps developed by Emergency Response personnel for all areas. The ERP provides the locations and contents of the on-site Emergency Response Vehicles (3), firefighting truck and bus, technical rescue vehicle, and hazmat response trailer. The ERP outlines storage quantities and locations of high-strength and dilute sodium cyanide solutions. Response procedures are provided in the ERP, including procedures to treat victims exposed to cyanide.

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Carlin HSLP personnel conduct monthly inspections of the emergency equipment. Emergency Response personnel inspect the cyanide antidote kit located in the ambulance monthly, and the emergency response vehicles and their contents quarterly. Operations personnel conduct inspections each shift. An outside contractor performs annual inspections of the fire extinguishers.

Carlin has established formalized arrangements with the Northern Nevada Regional Hospital in Elko and has determined that the facilities have adequate, qualified staff, equipment and expertise to respond effectively to victims exposed to cyanide. Carlin conducts mock drills on a minimum frequency per the ERP.

7. EMERGENCY RE	CSPONSE	: Protect communities and development of emerger capabilities.	the environment through the ncy response strategies and
Standard of Practice	<u>7.1</u> :	Prepare detailed emergency respo releases.	nse plans for potential cyanide
	X	in full compliance with	
The operation is		in substantial compliance with	Standard of Practice 7.1
		not in compliance with	

**Basis for Audit Finding:** Carlin has developed and implemented an Emergency Response Plan (ERP) and procedures to respond to cyanide related emergencies and emergency control management that address potential cyanide releases including containment plans and analysis of potential scenarios. The ERP includes descriptions of actions to be taken in response to a cyanide incident or spill. These include evacuating an area and taking steps to minimize danger to the public. The ERP describes measures and guidelines to evaluate situations, provide first aid, administer antidote, report the situation, and undertake appropriate control and cleanup measures. Instruction for notification of response organizations and agencies are provided in the ERP and the Rapid Responders Manual (RRM). If the incident was determined to be major, the Newmont "Rapid Response Program" would be activated and a Rapid Response Team would be assembled. The Rapid Response Team manages wide-area notifications.

The emergency response plans are evaluated and updated at least annually.

Standard of Practice 7.2: Involve site personnel and stakeholders in the planning		nning process.		
	X	in full compliance with		
The operation is		in substantial compliance with	Standard o	of Practice 7.2
		not in compliance with		
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**Basis for Audit Finding:** Carlin works with members of the Emergency Response Team (ERT) in reviewing and updating the ERP and the RRM. The ERT members are employees and stakeholders. ERT members review proposed revisions and provide suggestions. Carlin's workforce participates in the emergency response planning process through mock drills and safety training.

The Carlin Emergency Response Coordinator is a member of the Lander County Local Emergency Planning Committee (LEPC). Through his participation with the LEPC, they are informed of Carlin's emergency plan and planning process.

The town of Carlin is the nearest community to the Carlin Mine and is located between 6 and 21 miles south of the mine facility. Therefore the nearest community is highly unlikely to be directly affected by a release of cyanide from the site. However, the Carlin Emergency Response Coordinator advocates for cyanide safety, by communicating with Elko and Carlin community members. The ERP outlines the procedures for involving external emergency services (fire response, police, ambulance, rescue, etc), and the liaison with government agencies in the event of an emergency at the facility. The ERP also requires the Mine Emergency Response Team to ensure that drills include and are conducted in coordination with external agencies and relevant stakeholders as under the Rapid Response Program.

<u>Standard of Practice 7.3</u>:

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

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

**Basis for Audit Finding:** The ERP and RRM identify the individuals in charge of an emergency situation. The plan identifies the Mine Manager as responsible for the overall management of an emergency and that if the manager is not on site the Mine Foreman will take charge. Reporting to the Site Manager are the General Forman and Supervisors who will coordinate emergency response efforts for an accident in their respective areas. The Emergency Response Team Captain directs the activities of the ERT at the accident scene and reports to the Supervisor. The ERP provides a list of individuals who will make up emergency response teams.

Emergency response equipment and supplies are inspected quarterly and records are maintained by the Emergency Response Coordinator.

Carlin has made formalized arrangements with Northern Nevada Regional Hospital regarding the role the hospital would play in the event an employee was overexposed to cyanide. Access Air (air ambulance service) has been contacted by telephone and provided with the mine site "landing" coordinates. A mock drill was conducted that involved a cyanide exposure incident requiring implementing procedures for contacting the hospital and transporting the victim to the hospital.

Only State of Nevada certified First Responders or Emergency Medical Technicians (EMT) serve on Emergency Response Teams (ERT). All of the ERT members are certified as Hazardous Material Technicians through CFR 1910.120 within one year of joining the team. The ERT meet monthly for

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training; and each month they review a response scenario, practice the use of the equipment, and inspect the equipment. The list of individuals, whom serve on the emergency response teams, includes their status as First Responder or EMTs, their shift, and the area where they work.

The ERP includes call-out procedures and 24 hour contact information for coordinators and outside responders listed above. There are emergency response team members at the mine during all shifts and an emergency response team can be assembled via radio contact, as necessary.

<u>Standard of Practice 7.4</u> :		Develop procedures for internal and external emergency notification and reporting.	
	X	in full compliance with	
The operation is		in substantial compliance with	Standard of Practice 7.4
		not in compliance with	

**Basis for Audit Finding:** The ERP and the RRM include procedures and telephone numbers for notification of management, regulatory agencies and outside response providers, internal and external emergency notification and reporting. The ERP incorporates the Newmont Rapid Response (NRR) system that addresses notifications and communications with the public.

<u>Standard of Practice 7.5</u> :		Incorporate into response pla monitoring elements that account y cyanide treatment chemicals.	ins and remediation measures for the additional hazards of using
	X	in full compliance with	
The operation is		in substantial compliance with	Standard of Practice 7.5
		not in compliance with	

**Basis for Audit Finding:** Carlin has prepared a Draft Cyanide Management Plan that addresses appropriate uses and situations for cyanide treatment chemicals. Carlin has developed plans to sample and monitor soils and groundwater in the event of a cyanide spill. The ERP and the RRM state that any "wet soil" will be moved to the heap leach pad. Additionally, the Fluid Management Plans for the NAL, Mill 5/6 and SAL state that cyanide releases will be disposed of on the heap leach pad, , tailings facility, or returned to the leaching circuit, depending on the nature of the release. Clean up procedures are outlined in the Operating Plans for the Water Pollution Control Permits. Any spill or release that would require the notification of a regulatory agency would include an action plan for the monitoring, sampling, and/or clean-up plan. The "Spills in Cyanide Secondary Containment" SOP defines locations where spills will be pumped including process facilities, tailings pond or leach pads. Soils and other materials contaminated with cyanide will be stored on the heap leach or tailings facilities.

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The Fluid Management Plans require sampling to identify the extent of a contaminated area. All cyanide contaminated soil with WAD cyanide  $\geq 0.2$  ppm must be excavated or treated in place. Spill sites must be monitored to validate clean up.

Standard of Practice	<u>7.6</u> :	Periodically evaluate response revise them as needed.	procedures an	d capabilities	and
	X	in full compliance with			
The operation is		in substantial compliance with	Standard o	f Practice 2.2	
		not in compliance with			

**Basis for Audit Finding:** Carlin has committed to annual evaluation and update of the Emergency Response Plan, if needed. Additionally, at least once per year Carlin will conduct a cyanide-related emergency response drill. The ERP includes a procedure to review the plan annually or after emergencies and update as required. In addition, Carlin conducts mock drills at least two or three times per year to practice and prepare for emergencies and to provide insight into the effectiveness of the ERP. The ERP was recently modified (August 2008) as a result of information collected from a mock drill in July 2008.

8. TRAINING: <u>Standard of Practice 8.1</u> :		Train workers and emergency to cyanide in a safe and environment	
		Train workers to understand the hazards associated with cyanide use.	
	X	in full compliance with	
The operation is		in substantial compliance with	Standard of Practice 8.1
		not in compliance with	

**Basis for Audit Finding:** Carlin provides training to all employees on the hazards of cyanide and will provide annual refresher training. Carlin retains all cyanide training records for all employees. The cyanide related performance assessment tests are also retained in the employees' permanent record. Mill and leach pad workers and personnel who will be working around cyanide are provided several levels of training. Initially they receive the new hire training that includes "Cyanide Safety". Employees, who are assigned to specific areas of the operations where cyanide is an integral part of the process, are trained on the safe use and handling of cyanide. Employees receive job specific training that includes cyanide safety and training on each of the circuits where they will work.

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Standard of Practice	<u>8.2</u> :		operate the facility according to tect human health, the community
	X	in full compliance with	
The operation is		in substantial compliance with	Standard of Practice 8.2
		not in compliance with	

**Basis for Audit Finding:** All new employees are required to have the "Cyanide Safety" class; and employees who work in process operations and maintenance receive additional training on cyanide safety prior working with and around cyanide equipment. Employees who are assigned to specific areas of operations (or circuits) where cyanide is an integral part of the process are further trained on the safe use and handling of cyanide. At the start of working in a specific area, all new employees attend the "Site Specific Hazards Training", which includes cyanide hazards. A site tour is undertaken and a checklist completed and signed off for the understanding by the employee as well as countersigned by the instructor. Subsequently, the mandatory '5000-23' Certificate of Training form for hazardous materials training is submitted to the Mine Safety Health Administration (MSHA). In addition, a specific "Sodium Cyanide Safety" training course has been held for all operators in 2008 – this course was followed by a "Cyanide Safety Review" multiple choice test for every attendee. The "Site Specific Hazards Training".

The training materials include the STPs for the operating equipment and performing functions such as "Cyanide Offloading" that identify specific cyanide management elements with each job; and training documents that address "Task Analysis and SOPs" and "Cyanide Equipment Decontamination". Each employee receives instructions on performing tasks and operating equipment and initials a form listing the training elements, acknowledging that they have received this instruction. Employees are trained and observed for proficiency and skill prior to unsupervised assignment to an area or job.

Carlin employees are trained annually on use and hazards associated with cyanide. The annual training is evaluated with examination. Additional training includes periodic (monthly) safety meetings that include instruction and training on cyanide and other safety topics.

Carlin maintains training records for each employee throughout the entire period of their employment. The records include the names of the employee and the trainer, the date of training; the topics covered, and any test results.

Standard of Practice 8.	<u>3</u> :	Train appropriate workers and p exposures and environmental relea.	-
	X	in full compliance with	
The operation is		in substantial compliance with	Standard of Practice 8.3
		not in compliance with	
Carlin Mine		Pamela 1545	April 2009
Name of Facility		Signature Lead Audi	
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**Basis for Audit Finding:** Employees involved in the use and handling of cyanide, such as unloading, mill operations, and maintenance, are trained on risks and proper handling techniques and emergency response procedures. The training includes decontamination and first aid procedures. Carlin mill employees working in cyanide areas participate in mock drills. Employees assigned to a specific area where cyanide is an integral part of the operation or process, such as unloading, mill operations, and maintenance, are trained on the safe use and handling of cyanide. The training includes the use of process SOPs and includes instruction in decontamination and first aid procedures for cyanide release incidents. SOPs include requirements for understanding the emergency response procedures and knowing where emergency response equipment is stored. Also, emergency response procedures are provided to all employees through the "Cyanide Safety" training.

The Emergency Response Coordinators and First Responders are trained on the procedures and guidelines outlined in the ERP including the response to a cyanide spill, release, or emergency. Training includes the use of the cyanide antidote, SCBA, other PPE necessary to respond to a cyanide emergency and HazWoper training.

Carlin employees receive annual refresher training that includes training on cyanide hazards, safety measures and response procedures. Mill workers and operations personnel who will be working around cyanide are provided with "Cyanide Safety" training. In addition, responses to cyanide exposures are discussed, periodically, in the safety meetings. Emergency Response Team members also receive annual refresher training as part of their periodic re-certification, and also participate in the mock drills.

Carlin has presented their ERP to the Eureka County LEPC. Carlin has exchanged communications with Northern Nevada Regional Hospital on the use of cyanide at the site and the ability of the hospital to respond to a cyanide emergency. Carlin is a member of the Local Emergency Planning Committee (LEPC) Mutual Aid Agreement. The LEPC is made up of members from various government agencies as well as private industries. The purpose of the Mutual Aid Agreement is to ensure there are sufficient personnel and equipment resources for response to catastrophic emergencies such as fire, medical, rescue, hazardous material spills, earthquake, and severe weather. As part of the Mutual Aid Agreement, Carlin has distributed the site ERP to the LEPC members.

Training records documenting employee training on cyanide use, safety, and emergency response are retained by the Carlin Rapid Response Manager. The records include the names of the employees and the trainers, the date of training; the topics covered, and any test results demonstrating an understanding of the training materials. Additionally, the mine retains certificates of HazMat Technician training.

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9. DIALOGUE:	Enga	ge in public consultation and disclos	ure.
Standard of Practice	<u>9.1</u> :	Provide stakeholders the opportic concern.	unity to communicate issues of
	X	in full compliance with	
The operation is		in substantial compliance with	Standard of Practice 9.1
		not in compliance with	

Basis for Audit Finding: Carlin is located in north eastern Nevada. The closest communities are Carlin, 6 km to the south, and Elko, 35 km to the east along interstate highway 80.

Carlin has an open door policy. A contact telephone number for the External Relations Group Manager is published in the monthly Newmont Notes section of the daily local news publications for the towns of Elko (Elko Daily Free Press), Winnemucca (The Humboldt Sun) and Battle Mountain (The Bugle). Any issues raised by stakeholders are logged in the Community Relations Issue Record form. None of the forms reviewed by the auditor referred to cyanide management. Apart from the External Relations office at the Carlin site, Newmont also has an office with five external communications representatives in the local town of Elko. Newmont provides an internet email address for the public to email if they have concerns regarding the Carlin Operations. Additionally, Carlin (Newmont) has a website (www.newmont.com) that serves as a means of contacting the company to communicate issues of concern related to cvanide use and management.

Breakfast communication sessions for community representatives have been initiated in Elko. The first meeting was held in September 2008 and are planned to be held bi-annually. The meeting in Elko included a presentation on cyanide hazards and the Cyanide Code.

Carlin staff attends bi-annual Teachers' Workshops organized by the Nevada Mining Association. The workshops are aimed towards educating teachers about mining, allowing them to pass the information on to school students. Carlin also gives lectures and shows a mining video in local schools.

Initiate dialogue describing cyanide management procedures Standard of Practice 9.2: 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: Carlin provides the opportunity to communicate issues of concern with the public through contact with the local stakeholders during mock drills, the quarterly communication sessions and public tours.

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Signature Lead Auditor

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

$\times$ in :	full com	pliance	with
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The operation is	in substantial compliance with	Standard of Practice 9.3

Not in compliance with

**Basis for Audit Finding:** The Water Pollution Control Permit (WPCP) and the accompanying Fact Sheet describes the use and management of cyanide at the site. These public documents are available from Carlin or from the Nevada Division of Environmental Protection (NDEP) in Carson City. WPCP Quarterly Monitoring Reports, which include details of any potential cyanide spills, are submitted to the NDEP and are hence available to the public.

Carlin has hand-outs ("How Gold is Produced"), which are handed out during mine tours, describing the operation and the use of cyanide.

The Newmont website provides for the download of their corporate sustainability report titled "Beyond the Mine: The Journey Towards Sustainability 2007" that contains information on the use of cyanide (http://www.beyondthemine.com/2007/?l=2&pid=5&parent=19&id=167).

Carlin provides quarterly reports to the NDEP Bureau of Mining Regulation and Reclamation that includes a summary of cyanide spills and releases, and environmental performance monitoring. These reports are available to the public by request. Carlin is required to complete MSHA reports that would include any cyanide related worker exposure or death. Newmont provides operational and environmental information in Newmont's annual corporate sustainability report, "Now and Beyond" and on Newmont's website (<u>www.newmont.com</u>). The website has an environmental record for spill management and cyanide incidents and includes the Carlin Operations.

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