February 2013

REVISED ICMI RECERTIFICATION
SUMMARY AUDIT REPORT

Carlin Mine, Nevada, USA

Submitted to: International Cyanide Management Institute (ICMI)
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Washington, DC  20005
United States of America

And: Newmont Mining Corporation
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Carlin Mine - 1 copy (pdf)
Golder Associates Inc. - 1 copy (pdf)
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1.0 SUMMARY AUDIT REPORT FOR GOLD MINING OPERATIONS

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2.0 LOCATION DETAIL AND DESCRIPTION OF OPERATION

2.1 Mine Location

The Carlin Mine (Carlin) is located in north central Eureka County, Nevada, USA, between 6 and 21 miles north of the town of Carlin and 35 to 40 miles west of Elko, as shown in Figure 1 below.

Figure 1: Regional Location Map
2.2 Background

The Carlin Mine (Carlin) is located in north-central Eureka County, Nevada, between 6 and 21 miles north of the town of Carlin and 35 to 40 miles west of Elko. Mining originally began in 1965 in the Carlin and Gold Quarry open pits, and then extended to underground mining in 1994.

Carlin is separated into the North and South Areas that are connected by a haul road and a public highway. The South Area is located in Eureka County, Nevada and consists of the following active facilities:

- The Gold Quarry open pit
- The Chukar underground mine
- Mill 5, including the reagent building, carbon in leach circuit (CIL), carbon in pulp (CIP) circuit, process laboratory, magnetic separator, and the carbon stripping circuit and regeneration kilns
- Mill 6 including the double rotating mill and roasters
- Mill 5/6 Tailings Storage Facility and the West Expansion and associated slurry and reclaim pipelines
- Tailings Booster Pump Houses #1 and #2
- Caro’s Acid Cyanide Treatment Plant (located at the Tailings Booster Pump House #1)
- Dry Stack Tailings Storage Facility (for tailings relocated from the James Creek Tailings Storage Facility due to pit expansion)
- Refinery
- Metallurgical and assay laboratories
- South Area Leach (SAL) Facility – Property Pad and Non-Property Pad, including the pads, carbon in column (CIC) plant, process laboratory, ponds, and pipelines
- Overburden piles, topsoil stockpiles, access roads, and haul roads
- Support facilities such as warehouses, administration buildings, truck shops, maintenance shops, and fueling facilities

The South Area includes the following inactive or closed facilities:

- James Creek Tailings Storage Facility (inactive and draining down, but used occasionally for upset conditions from the Tailings Booster Pump House)
- Gold Quarry Leach Facility (closed)
- Commercial Refractory Leach Facility (closed)

The circuits at the South Area include Mill 5, Mill 6, and two heap leach pads served by a single plant. Mill 5 is a pyrite flotation plant that processes sulfide and oxide ores that are ground in a sag mill and ball mills. The material is then sent to the floatation circuit where the sulfides are floated and dried 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 is combined and sent through a Caro’s Acid cyanide destruction circuit before disposal in the Mill 5/6 tailing storage facility. Gold-bearing solution from the South Area Leach Facility (i.e., Property and Non-Property Pads) drains to a series of pregnant ponds. Solutions from the pregnant ponds are pumped via pipeline to carbon-in-column (CIC) circuits at South Area plant. Loaded carbon is transferred to the carbon handling facility and refinery for further processing.
The North Area is located in Eureka and Elko Counties, Nevada and consists of the following active facilities:

- The East Carlin, Genesis/Blue Star, and Payraise open pit mines
- Full House, Pete Bajo, Exodus, Leeville, and Turf underground mines
- North Area Leach (NAL) Facility, including the pad, CIC facility, process laboratory, ponds, and pipelines
- The Leeville Water Treatment Plant
- Overburden piles, topsoil stockpiles, access roads, and haul roads
- Support facilities such as warehouses, administration buildings, truck shops, maintenance shops, and fueling facilities

The North Area includes the following inactive or closed facilities:

- Mill 4/2 Tailing Storage Facility (inactive and draining down)
- The Post 1 Leach Pad (inactive and draining down)

The circuits at the North Area include a heap leach pad and plant. The gold-bearing solution from the North Area Leach drains to a series of pregnant ponds. Solutions from the pregnant ponds are pumped via pipeline to carbon-in column (CIC) circuits at North Area plant. Loaded carbon is transferred to the carbon handling facility and refinery for further processing.
3.0 SUMMARY AUDIT REPORT

3.1 Auditors Findings

☒ in full compliance with

☐ in substantial compliance with

☐ not in compliance with

The International Cyanide Management Code

Carlin is:

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

Audit Company: Golder Associates Inc.
Audit Team Leader: Kent Johnejack, Lead Auditor and Gold Mining Technical Specialist
Email: kjohnejack@golder.com

3.2 Name of Other Auditors

<table>
<thead>
<tr>
<th>Name, Position</th>
<th>Signature</th>
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<tbody>
<tr>
<td>Ivon Aguinaga, Mining Technical Specialist</td>
<td>![Signature Image]</td>
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<tr>
<td>Sophie Wheeler, Auditor*</td>
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*ICMI pre-certified lead auditor, but in this case functioning as a third auditor on the audit team.

3.3 Dates of Audit

The Recertification Audit was undertaken within four days from March 26 to 29, 2012.

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

I attest that this Summary Audit Report accurately describes the findings of the verification audit. I further attest that the verification audit was conducted in a professional manner in accordance with the International Cyanide Management Code Verification Protocol for Cyanide Gold Mine Operations and using standard and accepted practices for health, safety and environmental audits.
4.0 PRINCIPLE 1 – PRODUCTION

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

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

☑ in full compliance with

Carlin is ☐ in substantial compliance with ☑ Standard of Practice 1.1

☐ not in compliance with

Summarize the basis for this finding:

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

Carlin has committed to only purchase cyanide from producers which are complaint with the Code. Cyanco, located in Winnemucca, Nevada, is the cyanide producer and supplier for Carlin since the third quarter of 2010. Prior to that both Cyanco and Dupont provided cyanide to Carlin. The ICMI certified Cyanco’s production facility as compliant in October 2006 and recertified it in February 2010. Dupont’s production facility was certified as compliant by the ICMI in June 2006 and recertified in December 2009. Verification was by examination of the list of certified companies on the website for the International Cyanide Management Code accessed at http://www.cyanidecode.org/signatorycompanies.php.
5.0 PRINCIPLE 2 – TRANSPORTATION

5.1 Protect Communities and the Environment during Cyanide Transport

Standard of Practice 2.1: Establish clear lines of responsibility for safety, security, release prevention, training and emergency response in written agreements with producers, distributors and transporters.

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

Carlin is

Summarize the basis for this finding:

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

Carlin has had a sodium cyanide supply contract with Cyanco since 2000. Cyanco in turn subcontracts with TransWood for transportation. This contract specifies that the operation takes ownership of the cyanide at the time of delivery. A 2005 supplement to the contract specifies that the supplier must be certified by the ICMI. Although the contract does not specifically list the responsibilities for the Code Transportation Principles and Standards of Practice, the Cyanco and TransWood recertification reports indicate that they are aware of their responsibilities under the Code. TransWood was first certified in October 2006 and most recently recertified on January 20, 2010, as shown on the ICMI website.

In 2009 and 2010, Carlin also had a sodium cyanide supply contract with Dupont, who in turn subcontracted to Sentinel for transportation. This contract specifies that the operation take ownership of the cyanide at the time of delivery. Although the contract does not define responsibility for the Code Transportation Principles and Standards of Practice, the Dupont and Sentinel recertification reports indicate they are aware of their responsibilities under the Code. Sentinel was first certified in November 2006 and was most recently recertified on January 14, 2010, as shown on the ICMI website.

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

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

Carlin is

Summarize the basis for this finding:

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

Cyanco and Dupont were by contract solely responsible for production and transport to the delivery points at Carlin during the recertification period. Cyanco is a signatory producer to the Code and subcontracts TransWood for transportation of the cyanide to Carlin. TransWood is a signatory to the Code. TransWood was first certified in October 2006 and was most recently recertified in January 2010 as fully compliant with the Code with appropriate emergency response plans, capabilities, and cyanide control measures. Dupont...
is also a signatory producer to the Code and subcontracts Sentinel for transportation of the cyanide to Carlin. Sentinel is a signatory to the Code. Sentinel was first certified in November 2006 and was most recently recertified in January 2010 as fully compliant with the Code with appropriate emergency response plans, capabilities, and cyanide control measures. The auditors examined Bills of Lading to verify that the cyanide delivered to Carlin was produced by Cyanco and Dupont, and transported by TransWood and Sentinel, respectively.
6.0 PRINCIPLE 3 – HANDLING AND STORAGE

6.1 Protect Workers and the Environment during Cyanide Handling and Storage

Standard of Practice 3.1: Design and construct unloading, storage and mixing facilities consistent with sound, accepted engineering practices, quality control/quality assurance procedures, spill prevention and spill containment measures.

☑ in full compliance with

Carlin is ☐ in substantial compliance with ☐ not in compliance with

Summarize the basis for this finding:

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

All facilities for unloading and storing cyanide have been designed and constructed in accordance with existing State of Nevada requirements and accepted engineering practices. In addition, the design and construction of these facilities have been reviewed and approved by the Nevada Division of Environmental Protection. No changes or modifications have been made to these facilities since the initial certification date of May 15, 2009.

Carlin has four cyanide unloading and storage areas located at the North Area Leach (NAL) carbon columns, the South Area Leach (SAL) carbon columns, the SAL Non-Property Phase I Pregnant Pond Area, and Mill 5. The liquid cyanide storage tanks have a high level alarm and ultrasonic level indicator. Tank levels are monitored from the control room. The unloading and storage areas are located away from public access and no surface water bodies are nearby. The cyanide storage tanks at NAL and SAL are located outside with adequate ventilation. The cyanide tanks at Mill 5 are located inside with an open bay door to the outside and an exhaust fan for ventilation. Fixed hydrogen cyanide (HCN) monitors are installed at the cyanide storage tanks. The cyanide unloading pads are constructed either with cast-in-place reinforced concrete or on a high density polyethylene (HDPE) liner surface to prevent seepage to the subsurface. Cyanide-related tanks are within cast-in-place reinforced concrete containment areas to contain releases of cyanide. Incompatible chemicals are stored in separate concrete containment areas. Fences are installed around the mine site. The auditors inspected these facilities.

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

☑ in full compliance with

Carlin is ☐ in substantial compliance with ☐ not in compliance with
Summarize the basis for this finding:

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

Cyanide is delivered as a liquid in tankers. The liquid is transferred from the tanker to a cyanide storage tank and there are no empty cyanide containers that require disposal. Carlin has developed cyanide offloading procedures that describe measures to prevent exposures and releases of cyanide during unloading and storage. The procedures also cover the responsibilities for the transporter and the site personnel. Carlin has copies of Cyanco’s Sodium Cyanide Delivery Procedure onsite. The Cyanco procedure details step by step the offload procedures and includes photographs of all valves and couplings. Carlin requires appropriate personal protective equipment during the unloading. Carlin also requires observation by an operator during the hook up and the start of the unload process, and then during the unhook of the tanker conveyance hoses. Both the transporter and operator check to confirm that the storage tank has sufficient capacity for the unloading. The Carlin operator is trained in the transporter emergency procedures, the proper operation of valves, and the emergency shut off locations. The auditors reviewed the procedures and observed two cyanide deliveries.
7.0 PRINCIPLE 4 – OPERATIONS

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

**Standard of Practice 4.1:** Implement management and operating systems designed to protect human health and the environment including contingency planning and inspection and preventative maintenance procedures.

☑ in full compliance with

Carlin is □ in substantial compliance with ☑ Standard of Practice 4.1  
☐ not in compliance with

**Summarize the basis for this finding:**

Carlin is in FULL COMPLIANCE with Standard of Practice 4.1; implement management and operating systems designed to protect human health and the environment including contingency planning and inspection and preventative maintenance procedures.

Carlin has developed a series of standard operating procedures, standard task procedures, and operating plans that describe the practices necessary for the safe and environmentally sound operation of the facility, including the specific measures needed for compliance with the Code and regulatory requirements. The Fluid Management Plans and Temporary Closure Plans for Mill 5/6, NAL and SAL cover the operation’s water management strategies for process facilities including any upset, malfunction or failure of the management fluid system and unexpected temporary closure.

Carlin has developed and implements inspection and preventative maintenance programs to assure the continuous and safe operation of the equipment for cyanide management. Inspections include cyanide tanks, secondary containments, pipelines, pumps, valves, Caro’s Acid Plant, TSF, underdrain ponds, carbon column facilities, leach pad areas, process ponds, stormwater ponds, pumping stations, solution and transfer collection ditches, and the leak detection and collection systems. Preventive maintenance programs cover pH meters and HCN monitors, emergency generators, ultrasonic tank level indicators, pumps, valves, and tanks. The inspection and maintenance frequency is sufficient to assure that cyanide facilities are functioning within the design parameters.

Carlin uses the Ellipse system for identifying, assigning responsibility, scheduling, and tracking the completion of the preventative maintenance activities. The Ellipse system identifies future activities for regular preventative maintenance and includes information on the task requirements and completion.

Carlin modifies its control measures, standard operating procedures, inspection program, and preventative maintenance schedule based on operational knowledge gained from past incidents. Carlin provided examples where release investigation results were incorporated at the appropriate programmatic level to reduce the potential for future reoccurrence. Examples included addition of concrete pads around a pump station to extend the sump system; revision of a pump maintenance operating procedure; an increase in inspection frequency for a screen prone to icing; revision to an inspection form to include a screen prone to icing; revision to an inspection form to include a channel segment where a blockage previously occurred; and an increase in the frequency of preventative maintenance for check valves with previous malfunctions.

Carlin has seven fixed diesel generators to operate critical functions at Mill 5, TBPH, NAL and SAL during power outages.

February 13, 2013
Date

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

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

**Carlin is**

**Summarize the basis for this finding:**

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

Carlin receives ore for processing from Gold Quarry open pit and Chukar, Leeville, Pete Bajo, Exodus, Full House, and Turf underground operations. Cyanide consumption has been maintained between 0.20 and 0.25 lb/ton of solution (i.e., approximately 100 to 125 mg/L) at Mill 6 CIL 1 Tank and between 0.25 and 0.30 lb/ton of solution (i.e., approximately 125 and 150 mg/L) at Mill 5 CIL 1 Tank based on the efficiency of the Caro’s Acid Plant to detoxify cyanide to below 0.10 lb/ton of solution (i.e., approximately 50 mg/L). The cyanide target range in the tailings prior to cyanide destruction is between 0.10 and 0.25 lb/ton of solution (i.e., 50 to 125 mg/L). The auditors reviewed operating procedures and technical memoranda, and inspected the cyanide destruction system during the site visit.

Carlin adjusts the cyanide addition rates in the leach tanks, as needed, to maintain a WAD cyanide concentration of 50 mg/L at the tailings spigot. Cyanide content and pH are analyzed manually using a titration method every two hours. Cyanide content and pH are recorded on daily leach reports. The auditors reviewed daily leach reports from the recertification period to verify that the pre-destruction targets were maintained.

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

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

**Carlin is**

**Summarize the basis for this finding:**

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

Carlin has developed three water balances to cover the North Area Leach Facility, the South Area Leach Facility, and the Mill 5/6 Tailings Storage Facility. The models are comprehensive in that they consider the factors applicable to each facility. The models are probabilistic in that GoldSim is a dynamic systems model that stochastically represents input variables with distributions. The models consider long-term variability of precipitation (e.g., dry years, wet years), monthly and daily variability, and extreme events (e.g., 100-year, 24-hour storms). In addition, the Mill 5/6 Tailings Storage Facility evaluation considers the Probable Maximum Flood. The auditors reviewed the water balance models and their documentation, as well as interviewed the Carlin staff responsible for the models.

The water balance models for the North Area Leach Facility and the South Area Leach Facility consider the appropriate factors with reasonable values for the facility and site conditions. Solution application rates and irrigation cycles are defined. Power outages of 6 to 8 hours are considered, as well as the extreme event of the 100-year, 24-hour storm. Losses are conservatively limited to only evaporation. Upgradient run-on is diverted and no solutions are treated for discharge. Freezing and thawing are not considered due to their...
short duration in the high desert climate. Groundwater is prevented from interacting with leach solutions by the liner systems.

The water balance model for the Mill 5/6 Tailings Storage Facility considers the appropriate factors with reasonable values. Filling rates are defined. A power outage is not considered because slurry pumping to the facility would cease and drainage is slow and unaffected by short-term perturbations. Losses consist of underdrain drainage and evaporation. Upgradient run-on is diverted and no solutions are treated for discharge. Freezing and thawing are not considered due to their short duration in the high desert climate. Groundwater in the vicinity is at least 100 feet below ground surface.

Carlin inspects and monitors its ponds and impoundments to prevent overtopping in accordance with the Fluid Management Plans and Standard Operating Procedures. Carlin conducts annual inspections of the stormwater controls and diversions. The auditors reviewed the inspection and monitoring records, and observed the facilities during the site visit.

Carlin has designed its ponds and impoundments with adequate freeboard above the maximum solution capacity. All process ponds have been designed with 2 feet of freeboard, while stormwater ponds have been designed with 3 feet of freeboard, based on power outage and extreme event scenarios. The tailings impoundments have been designed with 5 feet of freeboard above the operating levels and the levels to contain the Probable Maximum Flood. Carlin ensures that its ponds and impoundments are operated with adequate freeboard by providing operators and managers with a pocket-size field manual that lists the operating parameters, including freeboard, for each pond and impoundment. In addition, Carlin has painted a red line on the liner of each pond that shows the maximum allowable solution level before encroaching into freeboard. The auditors reviewed the freeboard criteria in the various documents and observed that freeboard was properly maintained at the time of the site visit.

Carlin has developed comprehensive water balance models for the life of each facility that incorporate stochastic precipitation distributions. Unless extreme precipitation occurs that is outside the distributions used, frequently updating the distributions with new precipitation data is unlikely to change the distributions in any meaningful way. Nevertheless, Carlin continued to collect onsite precipitation data throughout the recertification period, and to evaluate whether changes to the water balance models were necessary; none have been necessary during the recertification period because central Nevada has been in a drought for the last 6 years. Carlin does review the water balances when design or operating conditions change, as evidenced by the verification of the South Area model January 2012 due to minor changes in loading rates and solution application rates, as well as the addition of the Dry Stack Facility to the model. Neither design nor operating conditions have changed for the North Area model or the tailings model, and therefore these models have not needed review.

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

- in full compliance with
- in substantial compliance with
- not in compliance with

**Carlin is**

- in full compliance with Standard of Practice 4.4
- in substantial compliance with
- not in compliance with

**Summarize the basis for this finding:**

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

Carlin has implemented measures to control bird, wildlife, and livestock access to open waters regardless of whether the WAD cyanide concentration is greater than 50 mg/L. For process ponds, the measures consist of 8 foot high barbed wire fence with a tighter weave mesh at the bottom. For the tailings storage facilities,
the measures consist of propane cannons, distress calls, and in the high activity season from April to October, hazing from an air boat. The auditors observed these measures during the site visit.

Based on spreadsheets of daily and shift data, as well as graphs of quarterly data, Carlin has maintained WAD cyanide concentrations in open water in ponds and impoundments below 50 mg/L with only isolated, minor excursions during the recertification period. Carlin has not experienced significant wildlife mortality during the recertification period, based on auditor review of the quarterly reports submitted to the Nevada Department of Wildlife. Carlin has developed a Standard Task Procedure for control of ponding on leach pads. The procedure is implemented by means of shift inspections (i.e., operator reports) that are completed twice per day. The auditors examined examples of these operator reports and inspection forms support that ponding is generally observed, documented, and mitigated in a timely manner, and that measures are taken to reduce flows, fix leaks, or otherwise reduce ponding. Based on auditor observations during the site visit, Carlin uses only drip irrigation on the leach pads in the North Area and South Area to avoid the potential for overspray.

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

- [x] in full compliance with

Carlin is

- [ ] in substantial compliance with
- [ ] not in compliance with

**Standard of Practice 4.5**

**Summarize the basis for this finding:**

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

Standard of Practice 4.5 is inapplicable because Carlin does not have direct or indirect discharges to surface waters. Carlin operates with zero discharge of process solutions. No surface water bodies are present at or near the mine. The auditors observed no flowing watercourses or surface water bodies in the vicinity of the mine.

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

- [x] in full compliance with

Carlin is

- [ ] in substantial compliance with
- [ ] not in compliance with

**Standard of Practice 4.6**

**Summarize the basis for this finding:**

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

Carlin has implemented measures to protect groundwater below and downgradient of the operation. Although the details vary by facility, the NAL and SAL heap leach pads generally consist of (from top to bottom) a drainage layer, underdrain solution collection piping, a protective layer, HDPE liner, and compacted subgrade. The main solution headers are underlain by HDPE-lined trenches with perforated pipes that report to collection sumps. Solution ponds are double-lined with geonet as a leachate collection and recovery systems. Stormwater ponds are single-lined with compacted subgrade. The SAL and NAL carbon in column (CIC) Facilities are constructed on concrete containment areas with stemwalls underlain by synthetic liners. All solution conveyances for the heap leach facilities are constructed of HDPE pipe.
underlain by HDPE secondary containment ditches. The auditors inspected these facilities during the site visit.

The Mill 5/6 Facility protects groundwater by concrete floors and stemwalls or with peripheral bermed or walled concrete containment with collection sumps. Mill pipelines are single-walled but either located on concrete containment or are above ground with secondary containment where they can be visually inspected. Buried pipelines within the mill have dual containment. The Mill 5/6 tailings and reclaim pipelines are HDPE and contained within HDPE lined channels. The Tailings Booster Pump House #1 is constructed of concrete stemwalls and floors, as is the adjacent Caro’s Acid Plant. The Tailings Booster Pump House #2 is also constructed of concrete stemwalls and floors, but as it is located adjacent to the Mill 5/6 Tailings Storage Facility, any releases would directly report to the tailings. The auditors inspected these facilities during the site visit.

The Mill 5/6 Tailings Storage Facility supernatant pond is constructed (from top to bottom) with a drainage layer with solution collection pipelines, a compacted clay layer, and compacted subgrade. The supernatant pond area and adjacent embankment are lined with HDPE liner over geotextile and the drainage layer. The Mill 5/6 Tailings Storage Facility West Expansion supernatant pond is constructed on the upstream face with a double-sided geonet/geotextile as a leachate collection and recovery system overlain with HDPE liner. Outside the pool area, the upstream embankment face is covered with HDPE liner only. The underdrain ponds are HDPE double-lined with geonet as a leachate collection and recovery systems. The auditors inspected these facilities during the site visit.

The Nevada Groundwater Standard for WAD cyanide is 0.2 mg/L for Primary and Secondary Drinking Water Standards. The auditors reviewed groundwater monitoring data from recertification period for the North Area and the South Area indicates that there was generally no detectable WAD cyanide in groundwater at compliance points or downgradient of the area. Carlin had a few cases of WAD cyanide detections, but the values were well below the applicable standard. The operation is protective of the designated beneficial use of groundwater.

Carlin does not use mill tailings as underground backfill. Carlin has not caused cyanide concentrations in groundwater to rise above levels protective of beneficial use, and therefore is not engaged in remedial actions associated with cyanide.

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

- in full compliance with
- in substantial compliance with
- not in compliance with

**Carlin is**

**Summarize the basis for this finding:**

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

Carlin has spill prevention and containment measures for the cyanide unloading and storage areas, repulp tank, leach feed tanks, CIL and CIP tanks and the Caro’s Acid Plant at Mill 5/6 as well as for the cyanide unloading and storage areas, barren solution pumping stations and carbon columns at the NAL and SAL operations. Carlin has automated pumps within the containments to pump collected solutions into the process circuit. The auditors inspected these facilities.

The Mill 5/6 secondary containment areas, which are located within process buildings or within walled concrete containment, are hydraulically linked to provide in excess of the required 110 percent containment volume for the largest tank within the linked area. The NAL and SAL cyanide storage and process tanks are
located within a concrete containment area that was constructed over a HDPE liner placed below grade to drain to a HDPE lined perimeter ditch that reports to the process solution pond systems. The NAL and SAL cyanide unloading areas, constructed over a HDPE liner, also reports to the process solution pond systems. The NAL and SAL secondary containments have been designed to contain at least 110 percent of the largest tank capacity and the design storm event. Standard operating procedures have been developed to address management of spill response and clean up within the containments. The auditors inspected these facilities and reviewed capacity calculations.

All tanks and pipelines are constructed of materials compatible with cyanide and high pH conditions. Carlin has constructed all pipelines with spill prevention and/or containment measures to collect leaks and prevent releases. The pipelines are constructed as pipe-in-pipe configuration, within lined ditches, and/or with flow deviation sensors and pressure sensors with alarms. Alarms are monitored at the Mill 5 control room or the SAL control room for their respective areas. The plant has adequate concrete spill containment to minimize seepage. In addition, pipelines and containment are visually inspected every shift. The auditors inspected these facilities and examined inspection records from the recertification period.

There are three locations where solution pipelines cross ephemeral washes and require special protection. These crossings occur along the James Creek Diversion. At the crossings, the solution pipelines are contained within an HDPE secondary containment channel passing over the diversion culverts. In addition, Carlin conducts daily inspections of these three crossings. The auditors inspected these crossings and reviewed inspection records from the recertification period.

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

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

Carlin is

Standard of Practice 4.8

Summarize the basis for this finding:

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

Six new cyanide facilities were built and three modifications to the exiting cyanide facilities were made since the initial certification audit. New cyanide facilities included: Mill 5/6 Tailings Storage Facility West Expansion (Phase I); Tailings Booster Pump House #2; Mill 6 Magnetic Separator, Auxiliary Cyanide Tank to Mill 6 CIL #1 and #2; new cyanide lines at the NAL carbon columns; and new cyanide lines at the SAL carbon columns. Modifications to cyanide facilities included: Mill 5 CIL tanks addition and containment upgrades; Mill 5/6 containment upgrades in the yard and vehicle access areas; and Mill 5/6 Tailings Booster Pump House #1 concrete containment upgrades. The auditors inspected these facilities, and reviewed as-built drawings and construction reports.

The QA/QC documentation for the new cyanide facilities and the modifications to the existing facilities indicated that construction activities, testing and inspections were performed in general accordance with design drawings and technical specifications. QA/QC programs addressed and documented the suitability of materials and adequacy of soil compaction for earthworks for cyanide facilities (as applicable to each project). The auditors reviewed as-built drawings and construction reports.

Carlin has retained the QA/QC documents listed in the initial certification audit, as well as the QA/QC documents for the new cyanide facilities and modifications to the existing cyanide facilities. The auditors observed the retained documents.

Carlin Mine
Name of Facility

February 13, 2013
Date

Signature of Lead Auditor

February 2013
Project No. 113-92581

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Carlin retained professional engineers licensed in the State of Nevada to conduct QA/QC work for all cyanide facilities. The auditors observed their stamps on the documents and drawings reviewed.

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

☑️ in full compliance with

☐ in substantial compliance with Standard of Practice 4.9

☐ not in compliance with

**Summarize the basis for this finding:**

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

Carlin has developed a manual for water sampling and monitoring, as well as two standard operating procedures related to wildlife monitoring and reporting. The water sampling and monitoring procedures were developed by an environmental engineer, updated periodically by samplers with 20 years of experience, and reviewed by senior environmental managers with backgrounds in hydrology/geology and environmental engineering. The auditors reviewed the procedures and interviewed the staff responsible for the monitoring program.

In accordance with the sampling procedures, the samplers document weather and other conditions that may impact sample quality in the field logbook. Carlin monitors for cyanide in groundwater from monitoring wells downgradient of cyanide facilities. Carlin has 38 monitoring wells in the North Area and 14 monitoring wells for the South Area. The operation also monitors for cyanide in ephemeral runoff in the James Creek Diversion through the South Area. Carlin collects samples from both upstream and downstream of the site. Carlin inspects for wildlife mortalities on a shift basis (i.e., day shift and night shift) at ponds, tailings storage facilities, and heap leach pads. Mortalities are reported according to a standard operating procedure that includes specific procedures for cases where there is a suspicion that the death was cyanide-related. Carlin submits quarterly wildlife mortality reports to the Nevada Department of Wildlife. Carlin generally monitors groundwater on a quarterly frequency, although some wells are monitored on a monthly, semi-annual, or annual frequency. Ephemeral runoff in the James Creek Diversion is monitored on a quarterly basis after precipitation. The auditors reviewed inspection forms, field sampling forms, and associated reports from the recertification period.
8.0 PRINCIPLE 5 – DECOMMISSIONING

8.1 Protect Communities and the Environment from Cyanide through Development and Implementation of Decommissioning Plans for Cyanide Facilities

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

☒ in full compliance with

☐ in substantial compliance with    Standard of Practice 5.1

☐ not in compliance with

Summarize the basis for this finding:

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

Carlin has prepared reclamation plans and tentative permanent closure plans for both the North Area and the South Area in accordance with Nevada Division of Environmental Protection and US Bureau of Land Management regulations. These plans include the appropriate cyanide facilities and discuss process fluid stabilization, the process by which “contaminants in a material are bound or contained so as to prevent them from degrading waters of the state under the environmental conditions that may reasonably be expected to exist at a site”. Carlin has also prepared a standard operating procedure for closure of cyanide facilities that contains additional details on removal of residual cyanide solutions, triple-rinsing materials that have contacted cyanide, and disposal of cyanide-contaminated materials. Carlin has prepared separate Gantt charts showing the reclamation schedule for the North Area and the South Area, including demolition activities and process fluid stabilization. Regulations require that Carlin update the reclamation and closure plans at least every 3 years, and Carlin provided evidence of multiple updates since 2004 for both the North Area and South Area facilities. The auditors reviewed these plans and updates, as well as interviewed the Carlin staff responsible for them.

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

☒ in full compliance with

☐ in substantial compliance with    Standard of Practice 5.2

☐ not in compliance with

Summarize the basis for this finding:

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

Carlin has prepared reclamation cost estimates for both the North and South Areas using a state-wide “Standardized Reclamation Cost Estimator”, which has been validated by the Nevada Division of Environmental Protection and the Bureau of Land Management. The basis for the third party unit costs in the standardized spreadsheet is Bacon-Davis wage rates and local equipment rental rates. The spreadsheet assumes add-on percentages for third party administration, as well as add-on percentages for engineering design, contingency, insurance, performance bond, contractor profit, and agency indirect costs.
The most recent reclamation cost for the North Area is dated August 2011. The estimate includes the applicable cyanide facilities in the North Area (i.e., heap leach, ponds, CIC plant, and Mill 4/2 Tailings Storage Facility), as well as other non-cyanide facilities. The total estimated cost for decommissioning activities at the North Area is approximately $12M. Carlin has provided financial assurance of $27M for the North Area that was most recently approved by the Nevada Division of Environmental Protection in August 2011.

The most recent reclamation cost for the South Area is dated March 2012. The estimate includes the applicable cyanide facilities in the South Area (i.e., heap leach pads, ponds, Mill 5, Mill 6, CIC plant, and Mill 5/6 Tailings Storage Facility and West Expansion), as well as other non-cyanide facilities. The total estimated cost for decommissioning activities at the South Area is approximately $33M. Carlin has provided financial assurance of $108M for the South Area that was most recently approved by the US Bureau of Land Management in September 2011.

The Nevada Division of Environmental Protection and US Bureau of Land Management require that reclamation plans and cost estimates be updated every 3 years or more often if there are significant changes to the facilities. Carlin provided evidence of regular updates to the cost estimates from 2004 to present for both the North and South Areas. The auditors reviewed the cost estimates and updates, as well as letters from regulators showing that the financial sureties are in place.
9.0 PRINCIPLE 6 – WORKER SAFETY

9.1 Protect Workers’ Health and Safety from Exposure to Cyanide

Standard of Practice 6.1: Identify potential cyanide exposure scenarios and take measures as necessary to eliminated, reduce and control them.

☑ in full compliance with

Carlin is ☐ in substantial compliance with ☐ not in compliance with Standard of Practice 6.1

Summarize the basis for this finding:

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

Carlin has over 20 Standard Operating Procedures describing how cyanide-related tasks are to be performed to minimize worker exposure. These procedures describe requirements for personal protective equipment, operator responsibilities, procedures for using and handling cyanide, and documentation. In addition work orders for maintenance activities include details of cyanide safety instructions and requirements to test and write down HCN levels. The auditors reviewed these procedures.

Daily workplace inspections are carried out before every shift. These include inspecting work areas and equipment. The daily workplace inspections cards are kept by department supervisors. The auditors observed completed inspections from the recertification period.

Carlin uses the Newmont North America Change Management Procedure and standard forms. All management of change requires a risk assessment to be carried out to ensure all risks are appropriately removed or mitigated against. The risk assessment is carried out by representatives from all affected departments, as well as representatives from the health and safety and environmental departments. The auditors reviewed examples of completed Change Management forms and associated risk assessments for cyanide related activities undertaken during the recertification period.

Carlin solicits worker concerns and comments on safety issues through safety training and meetings, daily workplace inspections, through the use of a safety suggestion form and Planned Task Observations. A good example is the involvement of employees in producing a revised format for the daily workplace inspection form.

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

☑ in full compliance with

Carlin is ☐ in substantial compliance with ☐ not in compliance with Standard of Practice 6.2

Summarize the basis for this finding:

Carlin is in FULL COMPLIANCE with Standard of Practice 6.2 requiring that the site operate and monitor cyanide facilities to protect worker health and safety and periodically evaluate the effectiveness of health and safety measures.
Both the CIL Operating Procedure and the North Area Leach Training Manual state the appropriate pH for limiting the evolution of HCN gas. The auditors reviewed output from the Delta V software that showed that the average pH over the period was in the optimal pH range.

Carlin has both fixed and portable HCN monitors. Carlin has 26 fixed monitors to measure HCN concentrations at cyanide facilities. These fixed monitors are fitted with visible and audible alarms, in addition to being connected to the control panels in the plant control rooms. Two alarm levels have been established: a low-level alarm at 4.7 ppm and a high-level alarm at 10 ppm. Low-level alarms require investigation and high-level alarms require evacuation. The auditors observed a high level of signage reminding staff of the alarms and an action to be taken in the event of the alarm sounding. Carlin also has 36 ITX hand held cyanide monitors that are available for workers to use when operating mill equipment, in NAL, SAL, for maintenance work and for entry into confined spaces. The auditors observed all of the fixed monitors and several of the portable monitors.

Every year a HCN risk assessment is carried out by the Industrial Hygiene Department. One or two people from different areas (Process Maintenance, Mill 5/6 CIL operators, carbon handlers, and operators at NAL or SAL) are given an air sampling pump with sorbent tubes for the shift to ascertain the levels of HCN they are exposed to. The auditors reviewed results from 24 surveys carried out during the recertification period. No high levels of exposure were noted.

Carlin maintains, tests, and calibrates the pH meters, fixed HCN meters, and portable HCN meters on a monthly basis. The auditors reviewed records of these activities from the recertification period and determined that the span gas was in calibration at the time of the audit.

Carlin has a good level of signage warning that cyanide solutions may be present in all areas where cyanide solutions are found. Tanks and pipelines are labelled to indicate that cyanide is present and showing the direction of flow. Eating and smoking are only allowed in designated areas. The auditors observed these signs during the site visit.

Carlin has located low pressure shower/eyewash stations and fire extinguishers throughout Mill 5/6, NAL, SAL and at the cyanide offloading areas. The extinguishers are the dry powder type. These items are inspected monthly as evidenced by examples of completed inspections from the recertification period. The auditors randomly tested some of these stations and observed the fire extinguishers during the site visit.

Carlin makes Material Safety Data Sheets available to all staff in English via the mine intranet. An operator in SAL Control Room demonstrated how to find the MSDS without any issues. MSDS are also kept in well signed weather proof cabinets in remote critical locations, as observed by the auditors during the site visit.

The Carlin Emergency Response Plan details the procedures and actions to be followed in the event of an accident or incident. No cyanide exposure incidents occurred during the recertification period. In lieu of cyanide exposure incident investigations, Carlin provided examples of completed investigations into non-cyanide incidents that allowed the auditors to verify that the general program of incident investigation was implemented during the recertification period.

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

- in full compliance with
- in substantial compliance with
- not in compliance with

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Carlin Mine  
Name of Facility  
February 2013  
Project No. 113-92581  
February 13, 2013  
Date  
Signature of Lead Auditor  
Goldar Associates
Summarize the basis for this finding:

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

Carlin provides the necessary equipment for response to cyanide exposure and the communication means to coordinate their use. Carlin provides water via the eyewash stations and showers located throughout the mine and has 14 locations where amyl nitrite is stored. Carlin has three licensed ambulances. The auditors observed these items during the site visit. Carlin has a radio system for use during emergencies. The majority of staff have a radio and/or have access to landlines.

Inspections of first aid equipment are done daily, and monthly depending on the area. During the site visit the amyl nitrite was observed to be stored according to manufacturer’s recommendations.

Carlin has a well written Emergency Response Plan detailing how to respond to emergencies including cyanide exposure.

Carlin has emergency equipment and personnel to respond to cyanide emergencies including trained EMTs, First Responders, three licensed ambulances, two fire trucks and two HazMat trailers. The auditors inspected the emergency equipment during the site visit.

The Emergency Response Plan describes how to dispatch one of Carlin’s ambulances or the use of air evacuation (Summit Air) to transport exposed workers to off-site medical facilities. The auditors reviewed the plan and related procedures.

Carlin has a formalized arrangement with Northeastern Nevada Regional Hospital in Elko. The auditors reviewed correspondence between the mine and the hospital that show the hospital has adequate staff and equipment to handle cyanide emergencies.

Carlin has conducted five mock drills during the recertification period. The scenarios included both exposure and release. The auditors reviewed the Mock Drill documentation, which was of a high standard.
10.0 PRINCIPLE 7 – EMERGENCY RESPONSE

10.1 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.

- [X] in full compliance with

Carlin is  
- [ ] in substantial compliance with  
- [ ] not in compliance with  

Standard of Practice 7.1

Summarize the basis for this finding:

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

Carlin has developed an Emergency Response Plan to address potential accidental releases of cyanide. Included in the plan are the following sections ‘Emergency Communications, Emergency Notification and Call out Procedures, Evacuation Procedures, and a section on Leaks, Spills and Releases’. The Emergency Response Plan considers all reasonably foreseeable scenarios related to cyanide exposures and releases, including: hydrogen cyanide gas generation, transportation accidents, releases during unloading, fires/explosions, rupture of vessels and piping, overtopping of ponds, power outages, rapid seepage, and impoundment failure. The cyanide producer (Cyanco) and transporter (TransWood) are responsible for spills and releases up to the time of offloading. However, Carlin is prepared to provide the first response to transportation accidents on the mine site, pending contacting and arrival of Cyanco staff. The Emergency Response Plan addresses specific response actions, including evacuation, use of antidotes, release containment, and mitigation or cleanup. The Emergency Response Plan contains specific instructions on managing releases, including the following sections which detail actions to be taken: ‘Safety and Detection; Trace Source; Stop and Control; Emergency Notification; Secure Area; Contain; Product Recovery; Clean-Up; Disposal; Confirm Clean Up; Replace Used Equipment; Monitor’. The auditors reviewed the Emergency Response Plan and interviewed Carlin staff responsible for its preparation and implementation.

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

- [X] in full compliance with

Carlin is  
- [ ] in substantial compliance with  
- [ ] not in compliance with  

Standard of Practice 7.2

Summarize the basis for this finding:

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

Carlin’s staff is involved in cyanide emergency resource planning through weekly safety meetings and annual cyanide refresher training, where emergency response planning is discussed and employees are able to make comment. The workforce also takes part in discussions following mock drills.

Carlin has made business leaders and general public of the local community aware of potential risks associated with cyanide via community breakfasts, newspaper articles - ‘Newmont Notes’ in Elko Daily Free
Press, and tours. The Emergency Response Plan is periodically discussed at Quarterly Community Breakfasts held in Elko.

A representative from Carlin’s emergency response team attends monthly meetings at Elko County’s Local Emergency Planning Committee (LEPC). Through Carlin’s LEPC representation, in August 23, 2011, a number of Carlin’s emergency response personnel took part in a countywide cyanide related mock drill. This involved other local response agencies including Elko County Sheriff, Elko City Police, Elko Bomb Squad, Elko Ambulance, Elko Fire Department and Nevada National Guard.

Carlin’s Emergency Response personnel talk annually with Summit Air Ambulance and Cyanco. Carlin’s last mock drill in 2011 involved representatives from Cyanco and TransWood in a drill related to a possible release from a TransWood cyanide trailer.

Carlin has notified Northeastern Nevada Regional Hospital that the facility uses cyanide and that it may be necessary to transport a cyanide exposed patient to the hospital. The hospital has acknowledged the notification in writing.

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

- ☑ in full compliance with
- [ ] in substantial compliance with
- [ ] not in compliance with

**Summarize the basis for this finding:**

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

The Emergency Response Plan defines the individuals in charge of an emergency situation. It defines Newmont’s Rapid Response System and Responsibilities for the following people: all employees; site manager; manger/general foreman/supervisor; health and safety manager; security; emergency response coordinator; emergency response team captain and mine rescue team. The auditors reviewed the plan and completed inspection forms from the recertification period.

The Carlin Surface Mine Emergency Response Team Roster which is held by security details the four emergency response teams and contains 24-hour contact information for coordinators and response team members. The ‘Flow Sheets’ in the Appendix to the plan detail contact information for site management and off-site Newmont Management.

The auditors reviewed a letter from Northeastern Nevada Regional Hospital confirming that the hospital is aware of their role in the event of a cyanide emergency. Only Carlin staff will respond to on-site cyanide incidents, and Carlin ambulances will take patients to hospital or the Summit Air Ambulance will be called.

Carlin’s emergency response personnel meet annually with Summit Air Ambulance and their cyanide supplier, Cyanco. Carlin’s last mock drill involved both representatives from Cyanco and TransWood in a drill related to a possible release from a TransWood cyanide trailer.

In addition, through Carlin’s LEPC representation, Carlin staff have taken part in a countywide cyanide related mock drill which involved other local response agencies including Elko County Sheriff, Elko City Police, Elko Bomb Squad, Elko Ambulance, Elko Fire Department and Nevada National Guard (92nd Civil Support).
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<th>Standard of Practice 7.4:</th>
<th>Develop procedures for internal and external emergency notification and reporting.</th>
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Summarize the basis for this finding:

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

The Emergency Response Plan details that, in the event of an emergency, security is to be called by radio or landline. The communication flow sheets in the appendix to the plan show the procedures for notifying management, regulatory agencies and outside responders. Security keeps the Carlin Surface Mine Emergency Response Team roster which details the names of the four teams and their contact numbers. The Emergency Response Plan incorporates the Newmont Rapid Response System that includes provisions for notification of management, regulatory agencies, communities, the media, and outside response providers. The Emergency Call Out List includes telephone numbers for the Elko County Sheriff who would assist in contacting affected local communities.

<table>
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<tr>
<th>Standard of Practice 7.5:</th>
<th>Incorporate in response plans and remediation measures monitoring elements that account for the additional hazards of using cyanide treatment chemicals.</th>
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Summarize the basis for this finding:

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

The Emergency Response Plan describes specific measures to be taken in the event of sodium cyanide leaks, spills or releases. The measures include recovery by pumping, absorbing, or excavating. Cyanide contaminated materials are to be disposed of in heap leach facilities. Provision of an alternative drinking water supply is via bottled drinking water. The Emergency Response Plan prohibits the use of sodium hypochlorite, hydrogen peroxide, and ferrous sulfate when spills may reach flowing water. The Water Sampling and Monitoring Procedure details sampler duties, field quality control, field data, collection and preservation of samples, chain of custody procedures, well sampling equipment and data management. The clean-up threshold is defined as ≤0.2 ppm WAD cyanide. The auditors reviewed the Emergency Response Plan and Water Sampling and Monitoring Procedure.
Standard of Practice 7.6: Periodically evaluate response procedures and capabilities and revise them as needed.

☒ in full compliance with

☐ in substantial compliance with Standard of Practice 7.6
☐ not in compliance with

Carlin is

Summarize the basis for this finding:

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

The Carlin Emergency Response Plan includes a section requiring periodic review and update of emergency response procedures. The auditor found there had been two updates of the plan during the recertification period and a further review was underway. The Emergency Response Plan calls for annual drills and the auditors reviewed the post-drill forms for five drills conducted during the recertification period. The drills have had different scenarios and have included both environmental releases and cyanide exposures. The most recent drill dated December 19, 2011 involved both TransWood and Cyanco in a scenario involving a cyanide trailer leaking liquid sodium cyanide solution and exposure of a Newmont employee.
11.0 PRINCIPLE 8 – TRAINING

11.1 Train Workers and Emergency Response Personnel to Manage Cyanide in a Safe and Environmentally Protective Manner

Standard of Practice 8.1: Train workers to understand the hazards associated with cyanide use.

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

Carlin is ________________

Standard of Practice 8.1

Summarize the basis for this finding:

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

All Carlin staff are trained in cyanide hazard recognition as part of their new hire employee training. Staff assigned to the Mill 5 NAL, or SAL, where cyanide is an integral part of the operation, are further trained on the safe use and handling of cyanide. The Carlin training uses presentations entitled ‘Cyanide Safety New Hire’ and ‘Mill 5, SAL and NAL Cyanide Safety’, which the auditors viewed. Staff knowledge of cyanide hazards is confirmed with a written test after the presentations. The presentations cover recognition of cyanide materials, poisoning symptoms, first aid procedures, and emergency response, among other topics.

Carlin provides annual refresher training on cyanide hazards using similar presentations and tests, as for the new hire employee training. Carlin retains the cyanide training records for the full term of employment for each staff. The auditors reviewed training records and post-training examinations from the recertification period, as well as interviewing staff, to verify that Carlin provided the new hire employee and refresher training.

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

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

Carlin is ________________

Standard of Practice 8.2

Summarize the basis for this finding:

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

Employees assigned to specific areas where cyanide is an integral part of the operation, such as unloading, processing, and maintenance activities and are trained on the safe use and handling of cyanide following the Eastern Nevada Process Operations Technicians System and Hourly Progression System. Training methods use on the job training, the process SOPs and instruction on the proper use of the equipment. The employee is required to take a competency knowledge check, involving a detailed written and oral examination, prior to being signed off on an individual task. Additionally, there is supervisor observation of workers with the supervisor signing a Planned Task Observation form. A record is maintained demonstrating the level of training the employee has received. Cyanide safety annual refresher training is given by the Industrial Hygiene department and supervisors. All new employees are required to attend the ‘Cyanide Safety New Hire’ class as part of the New Hire Employee Training. Also, employees who work in areas...
where cyanide is used are trained on cyanide safety and are required to pass a written and oral examination before working in the area. Carlin's employees are trained annually on hazards associated with cyanide. Additionally, training includes weekly safety meetings that periodically include instruction and training on cyanide safety. Carlin maintains records on training for each employee throughout the entire period of their employment. The auditors reviewed the complete training records for a number of members of staff. The auditors also interviewed two staff to ensure they had received training before performing cyanide-related tasks.

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

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

**Carlin is** Standard of Practice 8.3

**Summarize the basis for this finding:**

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

Employees assigned to a specific area where cyanide is an integral part of the process such as unloading, mill operations, and maintenance are trained on the safe use and handling of cyanide. The auditors reviewed training records from the recertification period. All employees working with cyanide receive training on elements of the Emergency Response Plan, including first aid procedures and locations of emergency response equipment. The rescue team receives a Cyanide Safety presentation that includes locations where cyanide is used, how to find the Material Safety Data Sheet, going through the sheet in detail, emergency response procedures and resources, Mayday procedures, cyanide exposure symptoms, and first aid treatment. A representative from Carlin’s rescue team attends meetings of the Elko County Local Emergency Planning Committee. Carlin staff receives annual refresher training that includes training on cyanide hazards and safety measures. The Emergency Response Plan requires a mock emergency drill once a year. Carlin has conducted five mock drills involving cyanide exposures and releases during the recertification period. The auditors observed that training records are retained documenting the employee training on cyanide use and safety.
12.0 PRINCIPLE 9 – DIALOGUE

12.1 Engage in Public Consultation and Disclosure

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

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

Carlin is

Standard of Practice 9.1

Summarize the basis for this finding:

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

Stakeholders and the public may contact Carlin via advertised phone numbers and e-mail addresses. Carlin hosts community breakfasts, mine tours, and open houses. Public meetings are held when required for new or renewing permits. Carlin maintains an issues register to ensure stakeholder and public concerns are tracked and answered. The auditors observed meeting sign-in sheets, a summary spreadsheet for tour logs and the Carlin issues register from the recertification period.

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

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

Carlin is

Standard of Practice 9.2

Summarize the basis for this finding:

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

Carlin hosts community breakfasts, mine tours, and open houses where cyanide-related information is disseminated orally and via handouts and presentations. Public meetings are held when required for new or renewing permits. Carlin also distributes cyanide-related information via its series of articles "Newmont Notes" in the Elko newspaper and via the "Beyond the Mine" website. The auditors observed meeting sign-in sheets, a summary spreadsheet for tours logs, newspaper clippings, and website content from the recertification period.

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

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

Carlin is

Standard of Practice 9.3
Summarize the basis for this finding:

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

Carlin has developed handouts, presentations, and videos that have been distributed to the public and stakeholders via meetings, tours, an open house, community breakfasts, and a website. In addition, fact sheets associated with Carlin’s Water Pollution Control Permits are available from the Nevada Division of Environmental Protection. Almost 90 percent of the local population has a high school education and is literate; nonetheless, Carlin distributes a video on how gold is produced that provides information visually and orally. Information is also presented orally during tours and meetings. Carlin makes information available regarding releases and exposures via the website “Beyond the Mine”.

Although Carlin reported 12 releases to regulatory authorities between 2Q 2009 and 1Q 2012, none constituted significant cyanide releases or exposures based on Carlin’s definition of a significant incident as one that affects a jurisdictional water, leaves the mine property, or results in exposure and medical treatment. The releases were process slurry (2), reclaim water (1), under drain water (1), pregnant solution (2), barren solution (1), and tailings (5). They occurred at different facilities throughout the mine, including SAL pads (1), SAL plant (1), Mill 5 (4), tailings underdrain pond (1), Mill 5/6 Booster Station (3), NAL ponds (1), and Mill 6 (1). The releases were due to a variety of reasons, including severe weather (2), worker error (1), equipment failure (7), inadequate inspections (1), and inadequate procedures (1). They were discovered in various ways, including round or shift inspections (4), automatic alarms (3), workers in the vicinity (4), and during maintenance (1).

In the auditors’ judgment, Carlin acted in good faith to control the releases, remediate the impacts, and implement preventative measures. In addition, Carlin acted in compliance with NDEP regulations and completed actions with NDEP approval. The corrective actions and remediation were completed in a timely manner, most of them quickly and all of them within a year. None of the releases posed an immediate or substantial risk to health, safety, or the environment given that all had WAD cyanide concentrations less than 50 mg/L except one (i.e., 65 mg/L).

In the auditors’ judgment, the releases were attributable to a number of underlying management systems, rather than a single system, and therefore do not reflect a breakdown in the underlying management systems. Most of the incidents were due to equipment failure, with several due extreme weather or inadequate inspections, one due to worker error, and one due to inadequate procedure. Most of the releases were noticed by operators on rounds or by maintenance staff during activities and some were noticed by control room operators via automatic alarms. None of these suggest an underlying inattentiveness to releases.
Report Signature Page

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Date: February 13, 2013
KJ/IA/SW/rt
At Golder Associates we strive to be the most respected global group of companies specialising in ground engineering and environmental services. Employee owned since our formation in 1960, we have created a unique culture with pride in ownership, resulting in long-term organisational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.