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Cyanide Management



Why Is This Important?

Sodium cyanide is the most effective chemical known for the extraction of gold and silver from rock. The use and management of cyanide is an important part of Newmont's operational success. However, at high concentrations, sodium cyanide can be dangerous to human and animal health. Newmont is committed to the safe and responsible management of all chemicals used at our operations, including cyanide. This means that we have a responsibility to provide a safe work environment for our employees and contractors, and to protect the environment and surrounding communities.

Newmont's Approach

We are a signatory to the International Cyanide Management Code (the Code) and we use the Code as the framework for responsibly managing cyanide at our operations.

Newmont's approach to managing cyanide at all of its operations includes:

- Requiring that our suppliers of cyanide become signatories to the Code or demonstrate compliance with the Code via third-party audits.
- Requiring that our transporters are in compliance with the Code and through contractual agreements become signatories to the Code or demonstrate compliance with the Code through third-party audits.
- Implementing handling and storage control procedures for containment of both liquid and solid forms of cyanide.
- Implementing control procedures for use of cyanide in leaching and refining processes.

- Including cyanide-related components in our emergency response, worker safety, and training procedures.
- Including provisions within site closure plans for the decommissioning of all cyanide-related infrastructure.
- Engaging with local communities to provide information about Newmont's management of cyanide and providing opportunities for community members to raise questions or concerns.

2009 Overview

Newmont completed certification with third-party audits of all of its operations against the requirements of the Code in 2009, except Boddington, which will be certified in 2012. A summary of the certifications are provided below:

Operation	Date of Initial ICMC Certification	Date of Required Recertification
Lone Tree	February 2007	February 2010
Twin Creeks	April 2007	April 2010
Yanacocha	April 2008	April 2011
Ahafo	March 2008	March 2011
KCGM	September 2008	September 2011
Midas	September 2008	September 2011
Phoenix	December 2008	December 2011
Tanami	March 2009	March 2012
Jundee	March 2009	March 2012
Carlin	May 2009	May 2012
Waihi	November 2009	November 2012

Activities to maintain certification initiated in 2009 include:

1. Implemented a corporate Cyanide Code Plus Working Group for ensuring certification and compliance with the Code.
2. All certified operations have been provided a copy of the Cyanide Code Plus Working Group incident lessons learned review and are conducting internal reviews to evaluate cyanide incidents and design continual improvements to prevent these incidents from occurring.
3. All certified operations have multi-department Cyanide Code Compliance teams that meet regularly.
4. All certified operations are looking to map the Cyanide Code requirements to the ISO 14001 Environmental Management System requirements.
5. Regions are developing internal and outside auditing teams to review site compliance with the Cyanide Code between the three-year audit cycles.
6. Cyanide Code training programs are being evaluated and developed at the certified operations to support consistency and to develop the resources to sustain compliance.

7. Certified operations are having regular meetings with our cyanide suppliers to ensure compliance throughout the supply chain.
8. Recertification strategies are being developed and implemented at the certified operations. The Cyanide Code Plus working group is compiling the various recertification strategies developed at the site and regional levels to provide as a resource back to the Certified Operations.

Data

2009: 42.9 thousands tonnes NaCN (47.4 thousands tons) used

2008: 40.7 thousands tonnes NaCN (44.9 thousands tons) used

2007: 40.5 thousands tonnes NaCN (44.6 thousands tons) used

See the table at the bottom of this page for our Cyanide Code Reporting summary for 2009.

In October 2009, an overflow of process solution containing low concentrations of sodium cyanide occurred within the processing plant site at our Ahafo Mine in Ghana. For more information, please see the Environmental Incidents page.

For more information: Management of Cyanide at Newmont

Cyanide Code Reporting

	Total
Incidents of cyanide exposure resulting in hospitalization	0
Incidents where releases off the mine site required response or remediation	1
Incidents where releases on or off the mine site resulted in significant adverse effects to health	0
Incidents where releases on or off the mine site resulted in significant adverse effects to the environment	1
Incidents where a release on or off the mine site required reporting under applicable regulations ¹	29
Incidents where releases caused exceedances of applicable limits for cyanide	7

¹ Reporting Requirements differ between regulatory regimes.

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Management of Cyanide at Newmont



Newmont is a signatory to the International Cyanide Management Code (the Code) and is using the Code to provide the framework for responsibly managing cyanide at our operations. The following material describes in broad terms how Newmont's global operations manage cyanide.

Manufacturing

We are working with our cyanide producers to ensure they manufacture cyanide in compliance with the Code. We require suppliers of cyanide to become signatories to the Code or to demonstrate compliance with the Code via third-party audits.

Transportation

Cyanide is transported to Newmont operations in both solid and liquid form. We work with the transporters to ensure compliance with the Code and require transport companies to become signatories to the Code or to demonstrate compliance with the Code through third-party audits.

Handling and Storage

The following controls are in place at all Newmont operations that use liquid cyanide.

- Delivery is via specially designed trucks or containers;
- Storage tanks and delivery areas at the mine site are within specially designed impervious containment areas designed to hold 110 percent of the contents of the tanks in the event of spillage or tanks failure;
- Overfill protection is in place to prevent tanks from being overfilled;
- Monitoring equipment is in place to monitor gas levels and are set to alert workers in the event that gas levels reach a per-determined safety level.
- Solid cyanide that is delivered to operations is stored in buildings that are designed to exclude contact with rain or water, provide adequate ventilation to minimize gas build-up and restrict access to authorized personnel.

Operations

Heap Leach - In heap leach operations, the cyanide solution is filtered through heaps of gold-bearing ore to extract the gold. The heaps have high-density polyethylene (HDPE) liners underneath them to capture the cyanide solution as it percolates through the ore. Underneath the liners are leak detection and collection systems to alert personnel to any leaks and to capture any cyanide solution and direct it to a central collection area. The cyanide solution containing the gold is collected in HDPE-lined drains and directed to centralized HDPE-lined ponds. The ponds also have leak detection and collection systems.

Carbon in Pulp (CIP) / Carbon in Leach (CIL) - With this type of gold extraction, the crushed gold-bearing ore, water, cyanide solution and fine-grained activated carbon are added to large extraction tanks. The tanks are within a contained area designed to capture any spills or leaks, which, if they occur, are collected in a central area and pumped back to the process tanks. The tanks also have overflow alarms. The gold and the cyanide form a very strong bond and are attracted to the carbon in the tanks, which is removed from the tanks and washed to separate the gold and cyanide into a concentrated gold/cyanide solution.

Gold Refining - Gold from the concentrated gold-bearing solution, from both the heap leach and CIP/CIL processes, is removed by either electrowinning or by using the zinc precipitation process. The resulting gold sludge is then placed into a small furnace where liquid gold/silver is formed and poured into ingots.

All solutions that have had gold extracted from them are recycled back into the process.

Disposal of 'Spent' Ore after the Extraction of Gold - In the heap leach process, the 'spent' ore is left on the pad and more gold-bearing ore is placed on top of it, and the filtration and leaching processes are repeated.

In the CIP/CIL processes, the gold-depleted ore slurry, a mixture of finely crushed ore, water and cyanide, is pumped to a tailings storage facility (TSF). These facilities are designed taking into consideration local seismic conditions, climate and groundwater regimes. Controls are implemented to manage any potential seepage from these facilities. As the crushed ore settles out in the tailings impoundment the solution on top of the facility is recycled back to the process.

All of Newmont's operations have in place environmental monitoring programs for surface and groundwater.

Emergency Response

Each of Newmont's operations has developed and implemented an emergency response plan. Operations have volunteer teams who train on a regular basis to respond to a variety of emergency situations. Where Newmont operations are located close to townships, training exercises are also conducted with the local emergency agencies.

Worker Safety/Training

Any person (employee or contractor) that will be working at any of our operations receives training in the safety, environmental and community aspects of that site. Part of this training covers the recognition, safe handling and hazards of cyanide. For people working in direct contact with cyanide there is further training with experienced employees before they are allowed to operate by themselves. Regular refresher training is conducted for all employees.

Employees receive emergency response and first aid training in how to respond to a release of cyanide or exposure of workers to cyanide.

Monitoring equipment is in place at different locations throughout a gold processing plant to monitor gas levels. These monitors are set to alarm at a pre-determined safety level to alert workers to wear personal protective equipment and evacuate the area. Workers also wear personal gas monitors to alert to them to gas concentrations that exceed this concentration.

Inspections are conducted daily of all delivery, storage and plant areas to maintain effective safe operation. Regular preventative maintenance of all plant equipment is conducted to guarantee good working order.

Decommissioning

All Newmont operations have a closure plan. Part of this plan addresses how the decommissioning of all cyanide related infrastructure will occur to ensure safe handling of cyanide and equipment that has come into contact with cyanide.

Dialogue with Community

Newmont believes it has an obligation to engage with local communities to communicate on how it manages cyanide and to allow communities to raise any questions or concerns.

Cyanide Summary Data

Site	Incidents of cyanide exposure resulting in hospitalization	Incidents where releases off the mine site required response or remediation	Incidents where releases on or off the mine site resulted in significant adverse effects to health
Ahafo	0	1	0
Batu Hijau	0	0	0
Boddington ²	0	0	0
Carlin	0	0	0
Granites	0	0	0
Jundee	0	0	0
KCGM	0	0	0
Lone Tree	0	0	0
Midas	0	0	0
Phoenix	0	0	0
Twin Creeks	0	0	0
Waihi	0	0	0
Yanacocha	0	0	0
Total	0	1	0

Cyanide Summary Data, Continued

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Site	Incidents where releases on or off the mine site resulted in significant adverse effects to the environment.	Incidents where a release on or off the mine site required reporting under applicable regulations. ¹	Incidents where releases caused exceedances of applicable limits for cyanide.
Ahafo	1	1	1
Batu Hijau	0	0	0
Boddington ²	0	0	0
Carlin	0	4	0
Granites	0	0	0
Jundee	0	0	0
KCGM	0	0	0
Lone Tree	0	1	0
Midas	0	1	1
Phoenix	0	2	2
Twin Creeks	0	0	0
Waihi	0	0	0
Yanacocha	0	0	0
Total	1	27	11

¹ Reporting requirements differ between regulatory regimes.

² Boddington is currently in construction phase.