



July 2011

## ICMI RECERTIFICATION SUMMARY AUDIT REPORT

### El Sauzal

**Submitted to:**  
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México

REPORT



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**Distribution:**

Goldcorp Reno 1 copy  
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## **1.0 SUMMARY AUDIT REPORT FOR GOLD MINING OPERATIONS**

**Name of Mine:** El Sauzal

**Name of Mine Owner:** Goldcorp

**Name of Mine Operator:** Minas De La Alta Pimeria S.A. de C.V

**Name of Responsible Manager:** Jorge Morales Aguirre

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## **2.0 LOCATION DETAIL AND DESCRIPTION OF OPERATION**

### **Location and Description of Operation**

The El Sauzal Mine (El Sauzal), operated by Goldcorp Inc.'s wholly owned subsidiary Goldcorp Mexico, is located in Chihuahua, Mexico approximately 250 kilometres southwest of the state capital Chihuahua City (Figure 1). The climate is semi-tropical with hot summers (as high as 42 degrees C) and mild winters (10-15 degrees C). The El Sauzal region is mountainous, forming part of the Sierra Madre mountain chain with elevations ranging above 2,000 meters in certain parts. The mine is accessed from the city of Los Moches located near the Pacific Coast at the intersection of Highways 15 and 23 to the City of Choix along Highway 23. El Sauzal has constructed an access road from Choix approximately 60 kilometres to the mine. El Sauzal receives approximately 800 millimetres of precipitation per year with most of the rainfall occurring during July and August. The maximum mean monthly precipitation occurs in July and is approximately 250 millimetres. Average annual evaporation is estimated at 2,400 millimetres per year.

The El Sauzal Mine is comprised of an open pit mine, waste rock storage areas, a cyanide leach process with carbon-in-pulp processing, tailings cyanide detoxification plant using both Caro's acid and INCO SO<sub>2</sub> processes, tailings dewatering filter press facility to develop dry tailings, and an Adsorption, Desorption and Recover (ADR) processing plant to recover gold and silver. The open pit has been developed by conventional mining methods using trucks and loaders to extract gold-bearing ore. The waste is transported by trucks to the storage area developed specifically for this purpose. Ore is processed through the milling and grinding circuit prior to leaching in process tanks. The process area is constructed within concrete secondary containments that cascade to the tailings detoxification plant and filter press with an emergency overflow to the Emergency Pond that provides storage capacity for extreme storms and drainage of the single largest process tank. The Emergency Pond is maintained empty with available cyanide detoxification chemical to use in case of emergencies. The tailings detoxification plant at El Sauzal treats the slurry from approximately 150 mg/L free cyanide to below 2 mg/L total cyanide. After the detoxification step, the tailings slurry is thickened and then pumped to filter presses for the removal of all free moisture. The dry tailings have a moisture content of approximately 13 percent. The detoxified dry tailings are conveyed from the filter presses to the Tailing Dry Stack. The dry stack facility is developed in an ephemeral drainage below the process facilities. The dry tailings are pushed and further compacted by dozers. No free water is associated with the dry stack tailings. The ephemeral drainage will be filled with dry stack tailings over an engineered underdrain system with upstream surface water controls. The dry stack is currently stabilized by a rockfill shell and as the facility advances across the ephemeral drainage it will be stabilized with a rockfill dam and with sedimentation control below the dam.



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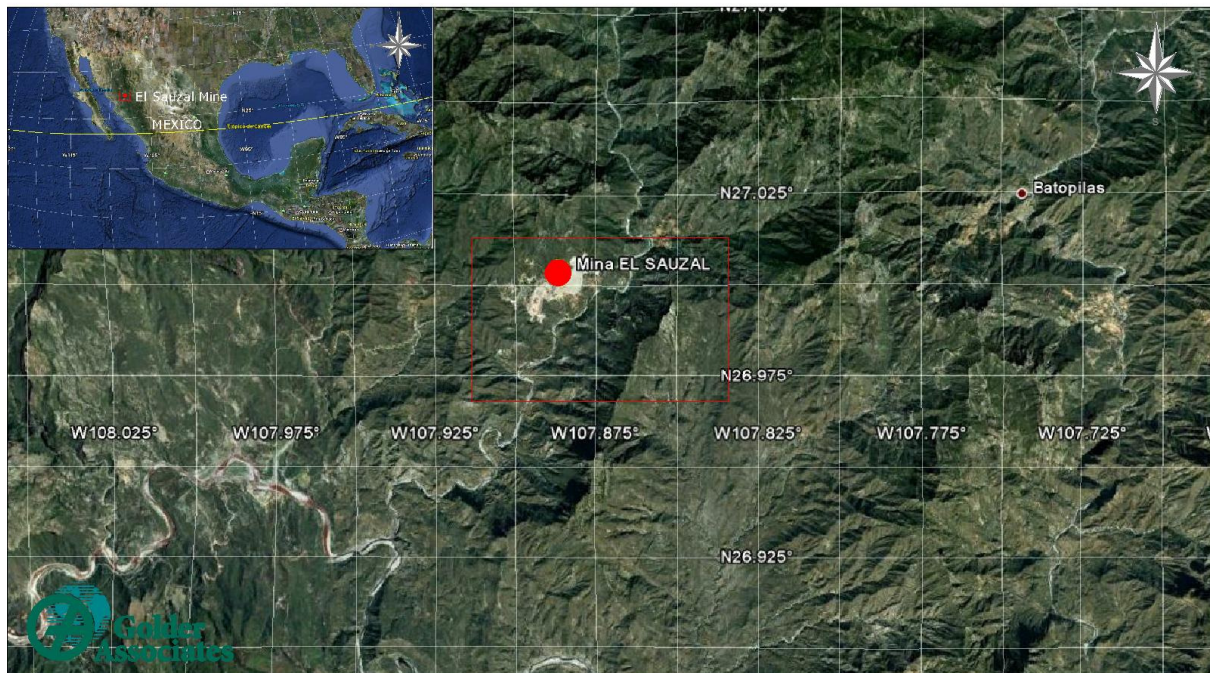


Figure 1: Regional Location Map

This sedimentation pond is maintained below the Dry Stack Tailings Facility to control sediment prior to ephemeral flow into the Rio Urique. Because El Sauzal employs dry stack tailings with no free process water and no water impoundment, the site has a very simplified water balance and water management strategy. Process water is added to the ore in the milling and grinding circuit. The process is entirely contained in tanks and pipelines. Process water is removed from the tailings prior to dry stacking and reused in the process. The secondary containments and Emergency Pond are sized and operated to collect and contain extreme storm events and or process spills.

El Sauzal adds reagent strength cyanide in leach tanks to develop a pregnant leach solution. El Sauzal uses a CIP and ADR process to recover the gold and silver from the pregnant leach solution. El Sauzal has two secure cyanide storage areas: 1) solid sodium cyanide Flo-Bin® warehouse, and 2) liquid mixing and storage area within the process area. El Sauzal has developed and implemented a number of operational procedures for the safe storage, handling and mixing of solid sodium cyanide briquettes into reagent-strength cyanide solution. The cyanide storage mixing and storage tanks are located outside and within concrete containments with spill collection sumps. The area has appropriate venting from the mixing tank, hydrogen cyanide (HCN) monitoring at both the ground level and upper deck of the mixing equipment, and high-level alarms to prevent overfilling. pH levels are controlled by adding lime at the thickener tank prior to the milled ore entering the leach circuit. El Sauzal stores and manages sodium cyanide in engineered tanks, pipelines and a lined emergency pond constructed under appropriate quality control and quality assurance programs. All cyanide pipelines are colour coded to identify the content with the flow directions marked. El Sauzal employees are trained in cyanide hazards and first aid, first response, emergency response, and



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specific operational tasks. El Sauzal has site security and fencing to prevent wildlife, livestock and unauthorized personnel access to the property. Within the property, key facilities are fenced to preclude wildlife and livestock from entering cyanide process areas. El Sauzal employs comprehensive inspection and preventive maintenance programs to assure that all cyanide equipment and facilities are functioning as designed and to monitor process solutions. El Sauzal has developed concept level closure and reclamation plans and procedures to complete the appropriate management of cyanide solutions and solids, and the decontamination of cyanide pipelines and equipment. El Sauzal has developed conservative cost estimates to support third party decommissioning of the cyanide equipment and facilities. Goldcorp has provided information that indicates the company meets the financial tests for a corporate guarantee for the closure of the mine.

El Sauzal receives solid sodium cyanide from DuPont De Nemours & Co., Inc. (DuPont) delivered to the site in Flo-Bins® within transport containers. The DuPont sodium cyanide supply chain has been audited for due diligence and compliance with the ICMC by qualified Code auditors. The sodium cyanide supply chain is managed by DuPont, a signatory company to the Code and certified as compliant with the Code by third-party auditors. El Sauzal has sufficient warehouse storage capacity to limit the number of cyanide deliveries during the rainy season. El Sauzal has an emergency response team that is trained to respond to onsite fires, chemical spills and worker exposures to cyanide.

A handwritten signature in black ink, appearing to read "Alexia Calder".



## SUMMARY AUDIT REPORT

### Auditors Findings


This operation is:

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

with the International Cyanide Management Code. The site has been consistently in compliance with the Code since the previous certification audit. There has been no wildlife mortality reported in the past 3 years. However a bullock died after ingesting cyanide contaminated water on 12/12/2009. The incident report states that 70L of cyanide solution with a concentration of 10ppm was washed outside the secondary containment due to poor handling of a hose on 11/12/2009. This was not cleaned up and neutralized immediately due to other operational problems in the plant. The bullock entered the plant site the following day and drank the contaminated water dying shortly afterwards. A second cow was also affected but survived. The site has now stopped using process water as the wash down water supply and uses fresh water in its place. There have been no other cyanide related incidents that require disclosure under Standard of practice 9.3.3.

**Audit Company:** Golder Associates  
**Audit Team Leader:** Alistair Cadden, Lead Auditor and Technical Specialist  
**Email:** acadden@golder.com

### Name and Signatures of Other Auditors

| Name           | Position  |
|----------------|---|
| Bruno Pizzorni | Auditor<br> |

### Dates of Audit

The Certification Gold Mining Operations Verification Audit was undertaken within four days (eight person-days) between 6<sup>th</sup> and 10<sup>th</sup> March 2011.

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

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






## **PRINCIPLE 1 – PRODUCTION**

### **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**

The operation is

in substantial compliance with

**Production Practice 1.1**

not in compliance with

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

The operation is in full compliance with Standard of Practice 1.1, which requires that the site encourage responsible cyanide manufacturing by purchasing from manufacturers that operate in a safe and environmentally protective manner.

Minas de la Alta Pimeria S.A. de C.V., the operating company of El Sauzal Mine (El Sauzal), buys cyanide from E.I. DuPont De Nemours & Co., Inc. (DuPont).

This is the same supplier used by El Sauzal at the time of its original certification 27<sup>th</sup> March 2008.

The contract between El Sauzal and DuPont was renewed on January 1, 2009, and runs through to December 31, 2012. A copy of the contract between DuPont and El Sauzal was made available for the auditor to review. Clause 13 of the contract states the requirements with respect to compliance of the supplier with the International Cyanide Management Code (ICMC) requirements as a provision.



## **PRINCIPLE 2 – TRANSPORTATION**

### **Protect Communities and the Environment during Cyanide Transport**

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

**in full compliance with**

**The operation is**

in substantial compliance with

**Transport Practice 2.1**

not in compliance with

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

The operation is in full compliance with Standard of Practice 2.1 which requires that the site establish clear lines of responsibility for safety, security, release prevention, training and emergency response in written agreements with producers, distributors and transporters.

Minas de la Alta Pimeria S.A. de C.V., the operating company of El Sauzal Mine (El Sauzal), buys cyanide from E.I. DuPont De Nemours & Co., Inc. (DuPont) who are responsible for delivery of cyanide to the site.

The purchase contract was renewed 01 Jan 2009. Clause 13 (b) of this contract covers items (a)-(l) of this question.

Clauses 13 (a) and 18 of the cyanide supply contract state that the designated responsibilities extend to all parties in the cyanide supply chain.

**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**

**The operation is**

in substantial compliance with

**Transport Practice 2.2**

not in compliance with

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

The operation is in full compliance with the Standard of Practice 2.2 which requires the mine protect communities and the environment during cyanide transport.

This is the same supplier and supply chain used by El Sauzal at the time of its original certification 27<sup>th</sup> March 2008. Clause 13 of the cyanide supply contract, and in particular sub-clause 13(d), requires that all transporters are certified in accordance with the Code.

The supply chain was determined to be fully compliant with the code through a third party code equivalent audit dated April 2007. The supply chain was then audited for code compliance in March 2010. Dupont's Mexico supply chain, which includes supply of cyanide to El Sauzal, was certified as fully compliant with the Code August 27, 2010.

El Sauzal maintains Purchase Orders written to DuPont identifying the final delivery point. The Purchase Orders include specific transportation instructions for notification and required documentation. The transportation company maintains copies of invoice/tax documentation that the mine site signs upon delivery.





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DuPont has provided a letter signed by Donald W Jeffery, Global Product Stewardship Manager – Cyanides, dated December 7, 2010, to Dan Purvance of Goldcorp that identifies all elements of the supply chain to El Sauzal.

A handwritten signature in black ink, appearing to read "Alexia Calder".



## **PRINCIPLE 3 – HANDLING AND STORAGE**

### **Protect Workers and the Environment during Cyanide Handling and Storage**

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

**in full compliance with**

**The operation is**  in substantial compliance with **Handling and Storage Practice 3.1**

not in compliance with

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

The operation is in full compliance with Handling and Storage 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.

The cyanide unloading, storage and mixing facilities are the same that were certified as fully compliant in March 2008. A visual inspection of the facilities shows them to have been maintained in a good condition in the intervening three years.

**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**

**The operation is**  in substantial compliance with **Handling and Storage Practice 3.2**

not in compliance with

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

The operation is in full compliance with Handling and Storage 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.

The procedure for dealing with empty cyanide containers (Flo-Bins) is the same as was certified as fully compliant in March 2008. El Sauzal has written procedures for the management and rinsing of the Flo-Bins and returns the Flo-Bins to the cyanide supplier for reuse. The auditors witnessed a cyanide mix and interviewed the process plant operator and it was seen that the procedures are followed correctly.



## **PRINCIPLE 4 – OPERATIONS**

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

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

**in full compliance with**

**The operation is**

in substantial compliance with

**Operations Practice 4.1**

not in compliance with

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

The operation is in full compliance with Standard of Practice 4.1, requiring that the operation implement management and operating systems designed to protect human health and the environment including contingency planning and inspection and preventive maintenance procedures.

There are written management plans and procedures which were certified as fully compliant in March 2008. They have been updated from time to time over the past 3 years. The specific design and operational parameters are the same as at the time of the original certification in March 2008 included in the procedures and are well understood at El Sauzal e.g cyanide mix controlled to pH of >12, cyanide addition in the leach circuit around 200 to 230ppm, cyanide detoxification of tailings prior to filtering to 2ppm.

The mine operates series of inspection procedures including inspections on each shift by operators recorded by the shift foreman in the shift log book. Observations by plant operators are used to raise corrective maintenance work orders as required. The environment department undertakes a weekly 'Green Eye' inspection of areas of the mine, including the process plant and associates facilities such, that all areas are covered monthly. These inspections can result in corrective maintenance work orders as required. El Sauzal operates a planned maintenance inspection system managed using a computerised system, Main-Boss. Examples of the planned maintenance schedules are inspection and calibration of instruments weekly; equipment monthly. NDT testing of tanks and pipes has been carried out to ensure that their integrity is maintained.

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

**in full compliance with**

**The operation is**

in substantial compliance with

**Operations Practice 4.2**

not in compliance with

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

The operation 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.

Bottle roll tests are performed on crushed ore and pulp to determine the required cyanide dosing rates in the plant.

Manual titrations to determine free cyanide content are undertaken in the plant to ensure sufficient cyanide is available for the leaching process. The technician takes sample from exits of tanks every 2 hrs to check CN concentration.



Cyanide concentration is managed by varying the addition rate from the dosing pump to get the right concentration in the process.

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

in full compliance with

The operation is

in substantial compliance with

**Operations Practice 4.3**

not in compliance with

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

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

El Sauzal has developed a comprehensive process flowsheet and water balance that is tracked and updated with actual process values on a monthly basis. This process water balance appropriately characterizes the water inflows including direct precipitation, ore moisture content and make up water; and water losses including moisture lost to the dry stack tailings. This is the same system that was found to be fully compliant in 2008. The same water balance as was certified as fully compliant in 2008 has been updated over the past three years with actual process data and meteorological data.

The operating procedures incorporate regular inspection and monitoring for the process circuit control and water balance to prevent unplanned discharge. This includes full time monitoring of the process circuit from the control room and recording of all process water inflows and conveyance quantities. Water use, water reuse and process volumes are recorded and were reviewed as part of this audit.

The Dry Stack Tailings Facility is an engineered structural fill that has daily construction activities, engineering oversight, and inspection and quality control measurements. The facility is surveyed on a monthly basis to document conformance with the filling plan and stability designs. El Sauzal has commissioned engineering stability reports by AMEC to document the facility operational performance at various stages.

The tailings facility is dry stack and as such has no freeboard requirement. The emergency discharge pond is kept dry at all times in readiness for an emergency discharge from the plant. If the emergency pond were to overtop it would flow into the valley where dry tailings are being stored which has sufficient freeboard to prevent an accidental release.

El Sauzal has a meteorological measuring station at the site's airport and an additional 2 rain gauges in the camp and 1 in the offices. Given the operation at El Sauzal uses dry stack tailings and leaching in tanks the impact of precipitation on the site water balance is minimal.

**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

The operation is

in substantial compliance with

**Operations Practice 4.4**

not in compliance with

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

The operation 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.



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The wild life and livestock protection measures are the same as were in place when the mine was certified as fully compliant in March 2008. The site visit confirmed that there are no ponds with process solutions >50mg/L WAD cyanide. Tailings are deposited as a dry stack. Site fencing appears in good condition.

The Emergency Pond has the potential to receive process solution or slurry overflow from the plant. There are procedures in place to either recover the solution or slurry within 24 hours or be detoxified using sodium hypochlorite. The pond was dry at the time of the site visit although it was reported to have been used from time to time in the past 3 years.

The site analyses samples of surface water in the dry stack area when present to check for any residual cyanide. Concentration of cyanide in puddles in the dry stack area were measured as follows: 14/08/10 0.0263 mg/L CN wad; 28/08/10 0.0104 mg/L. Concentration in emergency pond 06/06/10 11.4 mg/L.

There is no open water body at the site and there has been no wildlife mortality reported in the past 3 years. The site used to carry out daily monitoring of wildlife but now carry out weekly. This changed in February 2010. However a bullock died after ingesting cyanide contaminated water on 12/12 2009. The incident report states that 70L of cyanide solution with a concentration of 10ppm was washed outside the secondary containment due to poor handling of a hose on 11/12/2009. This was not cleaned up and neutralized immediately due to other operational problems in the plant. The bullock entered the plant site the following day and drank the contaminated water dying shortly afterwards. A second cow was also affected but survived. The site has now stopped using process water as the wash down water supply and uses fresh water in its place.

El Sauzal uses a CIP to extract gold from ore, leaching system not a heap leach system.

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

in full compliance with

The operation is

in substantial compliance with

**Operations Practice 4.5**

not in compliance with

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

The operation 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.

On 13/07/2008 there was an environmental incident involving release of tailings solids from the dry stack into Rio Urique. Tailings solids washed from the downstream face of the dry stack towards the old PS-03 (lower level). PS-03 overflowed into the river. Now the downstream face of the dry stack is covered with rockfill to prevent erosion. The wall of PS-03 has been raised to over 10m to increase storage capacity.

P3 values 28/02/07 to 15/01/11 CN wad <0.005 mg/L (detection limit) except the following:

Jul–Aug 2009 three measurements detected values above detection limit: 0.031 mg/L, 0.028 mg/L, 0.006 mg/L;

Jan-Feb 2010 0.008 mg/L, 0.005 mg/L;

Jun 2010 0.011 mg/L.

These values were associated with large flows and/or overtopping of sedimentation pond PS03, downstream of the dry stack. The rockfill wall of sedimentation pond PS-03 was raised Sept 2010 to avoid this occurrence.

There are a number of monitoring points downstream of the dry stack in the Arroyo Guamuchilar (PS-02, PS-03 both are sedimentation ponds) and surface water monitoring points in the Rio Urique (P1 y P3 upstream and downstream respectively)



Raising rockfill wall for sedimentation pond PS-03 finished Sept 2010. Except for two isolated occasions associated with high rainfall, indirect discharges have not caused to elevated levels of cyanide in surface water. Actions have been taken to prevent such occurrences.

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

in full compliance with

The operation is

in substantial compliance with

**Operations Practice 4.6**

not in compliance with

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

The operation 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.

The El Sauzal project site is blasted out of bedrock on the side of steep valley above the Rio Urique. The process facilities have secondary containment to manage seepage. The tailings are being detoxified (to below 2 mg/kg total cyanide) and dewatered to eliminate the need for seepage control such as liners. The Dry Stack Tailings has been placed directly on the thin soils and bedrock of the valley side slope with plans to cross the arroyo and completely fill this small drainage. The Dry Stack Tailings is within an ephemeral arroyo that is founded in bedrock. Any seepage from the tailings area will migrate along the bedrock-soil contact to the bottom of the ephemeral arroyo channel. The arroyo channel has an engineered underdrain system along with upgradient surface controls as the Dry Stack Tailings is constructed across the arroyo. The underdrain collects shallow groundwater and the minor seepage from the tailings for conveyance to the sedimentation pond. The upgradient diversion collects and conveys stormwater from the watershed to minimize flow through the tailings and to the sedimentation pond.

As discussed above under Standard of Practice 4.5, the tailings do generate a small quantity of pore water that can migrate via storm water or by seepage to the sedimentation pond in the ephemeral arroyo. The sedimentation pond is a control point for the collection and monitoring of the combined storm water and seepage.

Groundwater resources in the vicinity of the El Sauzal project are located in the shallow alluvium adjacent to the Rio Urique. Groundwater pumping wells provide the water supply for the mine.

There are no groundwater resources on the steep valley slopes as the soil is shallow and daylight to bedrock in the arroyos. El Sauzal has no groundwater monitoring points and there are no established groundwater standards or compliance points. Groundwater monitoring results from mine water supply are below detection limits. The mine does not use mill tailings as underground backfill. El Sauzal has not caused cyanide concentrations in groundwater to rise above levels protective of beneficial use. Groundwater monitoring results from mine water supply are below detection limits.

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

in full compliance with

The operation is

in substantial compliance with

**Operations Practice 4.7**

not in compliance with

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

The operation 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.



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El Sauzal has spill prevention and containment measures for the two cyanide storage areas (warehouse for the cyanide Flo-Bins and the liquid storage tank) and CIP process areas. The measures include written procedures for the control of critical valves between the various containments and training of the operators on response to spills. El Sauzal has verified by survey that the Emergency Pond can contain at least 110% of the single largest tank. The largest tank within the process circuit has a capacity of 2,500 m<sup>3</sup>. The Emergency Pond has a capacity of 2,800 m<sup>3</sup> with a 0.5 m freeboard.

El Sauzal has automated the collection sumps in the containment areas. El Sauzal has procedures to address and evaluate potential scenarios where solution is collected in the Emergency Pond or secondary containments and provide contingency planning. All cyanide process tanks at El Sauzal have secondary containment.

El Sauzal has constructed all pipelines with spill prevention and containment measures to collect leaks and prevent releases. The pipelines outside the process plant containments are located on pipe rack trays or have half pipe containments. All trays and half pipes are angled to drain the spillage back to a concrete containment. El Sauzal has located facilities in areas that do not pose any undue risks to surface water that would require special protection.

All El Sauzal cyanide process tanks and pipelines are constructed with materials compatible with high pH cyanide solutions such as mild steel, stainless steel and HDPE.

**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

The operation is

in substantial compliance with

**Operations Practice 4.8**

not in compliance with

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

The operation 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.

The quality control measures were found to be fully compliant at the time of the initial certification audit in 2008. Since then the dry stack tailings facility has expanded. Quality control procedures are in place and include:

- Compaction measurement using sand replacement cone equipment
- Compaction in 50cm lifts
- Moisture content of tailings measured in plant

Compaction data shows >100% standard proctor density and moisture content around 11%.

The raising of the wall of sedimentation pond PS03 was controlled through screening of rockfill to 30cm nominal particle size and construction in 1m lifts; no moisture addition was required.

The design documentation prepared by AMEC, supplemented by annual site visits, addressed the suitability of compacted dry tailings and screened rockfill as a construction material.

Quality control records are maintained by the construction technicians on site. The AMEC inspection reports are also retained on site.

AMEC undertakes annual visits. The last one took place in August 2010, with the next scheduled for August 2011.



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**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

**The operation is**

in substantial compliance with

**Operations Practice 4.9**

not in compliance with

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

The operation 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.

The monitoring procedures in place at El Sauzal are those that were certified as fully compliant with the cyanide code in 2008.

(Procedimiento Plan de Monitoreo de Agua Superficial by Goldcorp Mexico,). This document is based on the requirements specified by the operating permit and is based technical guidance from the 2005 United States Geological Survey "National Field Manual for the Collection of Water Quality Data." El Sauzal used to use Laboratorio de Pruebas AGUALAB (AGUALAB) for all environmental analyses. The now use 2 different laboratories: Analitica del Noroeste, SA de CV, Hermosillo (detection limit 0.005mg/L CN wad) and SVL Analytical, Kellogg Idaho EEUU 06/06/2010 (detection limit 0.0029mg/L CN wad). The plan was originally developed during the Environmental Impact Study and has been periodically updated and approved by qualified environmental engineers. The recent update to the procedures have been completed by Manual Contreras, an environmental scientist with a Masters of Science degree. The document was reviewed by Jose Luis Sanchez, the Safety and Environmental Superintendent.

The water quality sampling procedure (Procedimiento Plan de Monitoreo de Agua Superficial" by Goldcorp Mexico, December, 2007) specifies the standard operating procedures for surface water, process water and groundwater including sample preservation requirements. Locations of sampling sites and sample parameter lists including cyanide species are also specified. Chain of Custody procedures are included. The plan includes frequency for sampling as well as analytical suites. There is a 10 day delay between sampling and analysis when sending to US. Chain of custody records are maintained and were observed with SVL comments on condition of sample on receipt. The environmental sampling team maintain a logbook while sampling (Bitacora del campo) This is used to record sampling conditions such as weather conditions, evidence of man-made disturbance e.g. vehicles driving through the river bed, livestock and wildlife. There are no direct discharges to surface water. Indirect discharges are possible due to seepage and run off from the dry stack tailings. El Sauzal monitors water quality downstream of the dry stack tailings at PS02 and PS03. The water quality in Rio Urquito is also monitored upstream and downstream of the confluence with the Arroyo Guamuchilar. Groundwater is monitored in the abstraction wells for the mine fresh water supply.

The mine operates a wildlife monitoring programme to check for mortalities associated with ingestion of cyanide. El Sauzal implements monitoring programs at frequencies adequate to characterize the surface water, groundwater, wildlife, and process solutions. Surface water for the sediment ponds and river are completed monthly. Groundwater samples are collected and analyzed on an annual basis. The wildlife monitoring is continuous while employees are outside on the property. Process solutions are monitored four times per shift, and in many cases, several times per day.





## **PRINCIPLE 5 – DECOMMISSIONING**

### **Protect Communities and the Environment from Cyanide through Development and Implementation of Decommissioning Plans for Cyanide Facilities.**

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

**in full compliance with**

**The operation is**

in substantial compliance with

**Decommissioning Practice 5.1**

not in compliance with

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

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

The site has a decommissioning plan that was initially developed in 2007 by SRK consulting and has subsequently been updated by Goldcorp. Annual updates of the asset retirement obligation (ARO) are undertaken. The decommissioning plan includes a schedule for decommissioning cyanide facilities which is updated annually. The decommissioning plan is reviewed from time to time (2007 and 2010). The ARO is updated annually.

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

**in full compliance with**

**The operation is**

in substantial compliance with

**Decommissioning Practice 5.2**

not in compliance with

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

The operation is in full compliance with the Standard of Practice 5.2 which requires that the site establish an assurance mechanism capable of fully funding cyanide related decommissioning activities.

The site has developed a detailed cost estimate to fully fund third party decommissioning of cyanide facilities. The cost estimate has been developed using the State of Nevada Site Rehabilitation Cost Estimator with Mexican cost data. Goldcorp get costs from contractors and based on contracts they let from time to time at their Mexican operation Los Filos.

The cost estimate is updated annually as part of the company's financial reporting obligations. In 2010 the amount estimated for decommissioning of cyanide facilities was USD 2,370,350. A financial mechanism is not required by the Mexican authorities.

The site uses self guarantee to finance closure obligations. El Sauzal provided documentation from a Chartered Accountant verifying Goldcorp Inc.'s compliance for a self-guarantee mechanism to cover the estimated costs for cyanide-related decommissioning activities. Deloitte & Touche LLP, in a letter report dated December 7, 2007, provided confirmation that Goldcorp Inc. meets the criteria for self guarantee without exception as defined in "Appendix A to Part 30 – Criteria Relating to Use of Financial Tests and Parent Company Guarantees for Providing Reasonable Assurance of Funds for Decommissioning".

Goldcorp's financial reporting accounting procedures (ARO Policy) require that mine closure liabilities be externally re-evaluated every year and Goldcorp's annual financial statements have been prepared by management in accordance with Canadian generally accepted accounting principles. Note 17 on page 44 of the financial statements summarizes the consolidated asset retirement obligation for Goldcorp. The net



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present value of the liability of \$298mat December 312010 is significantly less the company's cash balance (\$556.2m) and annual net earnings of \$1.5b.



## **PRINCIPLE 6 – WORKER SAFETY**

### **Protect Workers' Health and Safety from Exposure to Cyanide**

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

**in full compliance with**

**The operation is**

in substantial compliance with

**Worker Safety Practice 6.1**

not in compliance with

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

The operation is in full compliance with Standard of Practice 6.1 which requires that the site has developed procedures describing how cyanide-related tasks such as unloading, mixing plant operations, entry into confined spaces, and equipment decontamination prior to maintenance should be conducted to minimise worker exposure.

The operation maintains actualized the SOPs certified as fully compliant in March 2008, covering safety of the operation of the entire cyanide management facilities. The procedures and plans have been updated as needed and the process is revised to address any change in the process. Verification of the written procedures included review of the specific task standard operating procedures, plans and worker interviews. SOPs and pre-work inspections checklists include the personnel protective equipment (PPE) required and describes the work area job hazards that are appropriate for each task. Regarding pre-work inspections, these are part of the steps in every SOP. Procedures are detailed for the risk involved with each task and adequately describe safe work practices.

Any change in the process or work procedure is first evaluated by the pertinent chain of command including H&S and environmental staff and the general manager if necessary. The change must be communicated to all process and maintenance personnel before its implementation. The procedure for changes, as indicated in March 2008, provides the steps for assessing operational changes or the modifications proposed. The procedure requires hazards identification, environmental aspects and risk evaluation, instructions for following-up and monitoring in the field.

The operation receives workers representatives input during monthly meetings with the general manager reviewing technical, H&S and environmental improvement opportunities. The H&S committee reviews pending H&S issues, observed actions, incidents, accidents and hazards.

**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**

**The operation is**

in substantial compliance with

**Worker Safety Practice 6.2**

not in compliance with

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

The operation is in full compliance with Standard of Practice 6.2 which requires that the site operate and monitor cyanide facilities to protect worker health and safety and periodically evaluate the effectiveness of health and safety measures.

The objective operational safety pH is stated the SOP Cyanide Solution Preparation, indicating the necessary actions to maintain the safety pH for the process, monitoring points and reagents needed to maintain adequate pH conditions.

To monitor cyanide levels, El Sauzal has fixed cyanide detectors in the mixing and leaching areas. Portable detectors are used at the storage area, mixing and leaching, and for maintenance works. Detectors are set properly to monitor cyanide levels. Cyanide monitoring equipment is tested and calibrated on a regular basis, as demonstrated by calibration registers.



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The operation identified the areas and activities where potential high levels of cyanide may be present: warehouse, mixing area, leach tanks, detox reactor and metallurgical laboratory. Also the tasks activities involving cyanide: solution preparation, cyanide dilution, determining cyanide WAD, entering the SAG mill, pulp management in CIP cells, decontamination activities prior to equipment maintenance. Workers are alerted by signals about cyanide presence. Warnings are placed for not smoking, eating or drinking in this areas, the use of PPE where needed is indicated. Showers and low pressure eye wash stations are placed where cyanide exposure can occur; sodium bicarbonate fire extinguishers are located near these areas. Equipments are inspected regularly.

Tanks and piping containing cyanide are identified. Piping signals indicates the cyanide flow. Safety signals are in place, MSDS in local language are available at areas where cyanide is managed, as well as first aid procedures. The H&S procedures are in place at critical areas and describe the steps to follow to investigate, evaluate and report work incidents.

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

in full compliance with

**The operation is**  in substantial compliance with **Worker Safety Practice 6.3**  
 not in compliance with

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

El Sauzal is in full compliance with Standard of Practice 6.3 that requires that the site develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.

The operation showed portable oxygen tanks, first aid kits and cyanide antidotes at the exposed areas and medical facility. Inspections to these equipment are conducted regularly controlling parameters, caducity and storage conditions.

The Emergency Response Plan (ERP) addresses specific response plans against cyanide exposures. The operation has its own personnel trained in first aids to cyanide exposure and appropriate medical facilities. The PRE describes how to ask for a flying ambulance to transport injured labors to off-site medical facilities.

Agreements between El Sauzal and Fatima hand AGRA hospitals were reviewed, as well as hospital personnel training records. El Sauzal showed mock drill records on cyanide emergency, and incorporates the achieved experience from these mock drills to improve the emergency response plan, SOPs and training to the emergency response brigades.



## **PRINCIPLE 7 – EMERGENCY RESPONSE**

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

**Standard of Practice 7.1: Prepare detailed emergency response plans for potential cyanide releases.**

**in full compliance with**

**The operation is**  in substantial compliance with **Emergency Response Practice 7.1**

not in compliance with

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

El Sauzal is in full compliance with Standard of Practice 7.1 which requires that the site prepare detailed emergency response plans for potential cyanide releases.

The operation ERP identifies critical areas and address potential accidents of cyanide releases. El Sauzal safety work procedures (SOP) addresses the necessary emergency response actions for specific tasks dealing with cyanide management.

El Sauzal maintains and review the SOPs found in full compliance in March 2008 to prevent and control cyanide exposures and releases, such as Unloading Cyanide Briquettes, Detoxification of Sodium Cyanide Spills, Removal of Tailings Pulp and Solution from the Emergency Pond, Neutralization and Recovery of Cyanide and Tailings Pulp Spills from Secondary Containment Areas.

The ERP addresses response to cyanide emergencies for specific scenarios such as a: Flo-bins® management in the warehouse, Removing cyanide spills, Removing tailings or cyanide solution from de emergency pond, Tailings and cyanide solutions neutralization from the secondary containment, among others.

For its site-specific environmental and operating circumstances:

- a) Catastrophic release of hydrogen cyanide from storage or process facilities: storage conditions have not changed since the audit report from March 2008. El Sauzal stores solid sodium cyanide Flo-Bins inside a metallic structure warehouse where cyanide is maintained separately from incompatible chemicals, ventilation is regularly. Liquid sodium cyanide is stored outside with a venting system.. The cyanide mixing and storage areas have two fixed HCN the operators mixing cyanide wears a handheld HCN monitor during mixing.
- b) Transportation accidents: DuPont is El Sauzal's cyanide supplier. DuPont has contracted transporters and agents for the transportation of cyanide to El Sauzal. DuPont has a formal agreement with Goldcorp for the responsibility of the transportation to the El Sauzal Mine. The ERP details actions required for on-site and offsite transportation accidents.
- c) Releases during unloading and mixing: The ERP address solid and liquid cyanide spills at the operation. The procedure Unloading of Sodium Cyanide Briquettes describes solid cyanide clean up if required during unloading.
- d) Releases during fires and explosions: as found in 2008, El Sauzal's ERP addresses specific issues related to fire, explosions and spills.
- e) Pipe, valve and tank ruptures: these elements have secondary containment. The ERP describes how to handle spills in the containment to put the solution back into the process.
- f) Overtopping of ponds and impoundments: found the same condition as indicated in march 2008 audit report. El Sauzal does not have process ponds. Tailings are dry stacked and solution is not discharged to the tailings facilities or stored in tailings impoundments, it has a closed water circuit.
- g) Power outages and pump failures: El Sauzal has five emergency power generators that start automatically when the power goes down. The generators power emergency equipment necessary to maintain the containment and control of process solutions.
- h) Uncontrolled seepage: found the same conditions as March 2008 audit. Tailings at El Sauzal are dry stacked and solution is not discharged to the tailings therefore there is no mechanism for seepage.



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- i) Failure of cyanide treatment, destruction or recovery systems: the ERP and SOPs address emergency response at cyanide treatment and destruction facilities.
- j) Failure of tailings impoundments, heap leach facilities and other cyanide facilities: if facilities to treat or destroy cyanide fail to operate, solution is diverted to the lined Emergency Pond, where solution then can be pumped back to the process circuit.

El Sauzal takes ownership of the cyanide at the mine site DuPont has a formal agreement with Goldcorp for the responsibility of the transportation to the El Sauzal, the mine provides escort from Choix for the trucks hauling the cyanide Flo-bins. The emergency response plan includes emergency procedures for the workers, near communities and environment. The plan details response for worker and environmental exposures at a sufficient level of detail for control of the cyanide release at the source, containment, assessment, and mitigation.

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

in full compliance with

The operation is  in substantial compliance with **Emergency Response Practice 7.2**  
 not in compliance with

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

El Sauzal is in full compliance with Standard of Practice 7.2 which requires that the site involve site personnel and stakeholders in the planning process.

The operation workforce is involved through the participation mechanisms of each area sub – committee and H&S committee where they review cyanide issues, including emergency response planning, observed actions, incidents, accidents and hazards as stated in items 6.1.3 and 6.1.4.

The mine has involved nearby communities in the cyanide emergency response planning process through presentations. Have community development programs, allowing communication and feedback between communities, stakeholders and the mine. The programs' objective is to maintain communication and to promote community participation and promote regional development. The programs provide information to local and regional authorities, residents' organizations, local schools, and Secretary of Health.

For local response agencies, El Sauzal notified Hospital Fatima and Hospital Agraz, requesting their support to provide treatment for personnel who may be exposed to cyanide. On-site doctors received training in cyanide exposure first aid and medical treatment by DuPont. DuPont also provided training to nurses and doctors of the Fatima and AGRA hospitals. Mock drills completed have involved local and federal authorities.

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

in full compliance with

The operation is  in substantial compliance with **Emergency Response Practice 7.3**  
 not in compliance with

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

El Sauzal 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 ERP lists the succession command with authority to commit the necessary resources in case of the absence of the mine's Operation Superintendent: Plant Superintendent, then Mine Superintendent, and continues in descending categories.

- a) The ERP identifies the emergency response team by name, training received, working area, telephone number and radio frequency.



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- b) The ERP states that all employees attending a chemical emergency must have an actualized training certification in chemical emergencies.
- c) Page 6 of the ERP indicates 24 hours, 7 days a week emergency number.
- d) The ERP specifically indicates the responsibilities and roles of the emergency response team. The shift supervisor will be the first responsible to manage the emergency, until the general manager assumes the command as the incident commander, specifies its duties and responsibilities.
- e) The ERP shows equipment list for emergencies responses. Detailed information is for emergency mobile equipment, ambulance check list, first aids equipment and for medical installations, emergency room checklist, trauma bag checklist, firefighting equipment, rescue equipment, spill containment and cleanup equipment.
- f) El Sauzal safety department demonstrated to conduct emergency equipment and first aid supplies monthly. Inspection records for the first aid and antidote kits were reviewed.

El Sauzal does not use offsite responders for onsite emergencies.

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

in full compliance with

The operation is  in substantial compliance with **Emergency Response Practice 7.4**  
 not in compliance with

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

El Sauzal 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 ERP has a contact list with the telephone numbers for emergency and regulatory agencies, mine's administrative personnel, aerial services, Dupont services and emergency activation, emergency response team. The Plan includes communication procedures and contact information for community representatives in the nearby areas. The Community Relations Coordinator is responsible for notifying the communities through the community leaders. The ERP includes typical notification to the media in case of cyanide and chemicals spillages and accidents.

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

in full compliance with

The operation is  in substantial compliance with **Emergency Response Practice 7.5**  
 not in compliance with

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

El Sauzal 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 (ERP) indicates for:

- a) Recovery or neutralization of solutions or solids: if a spill occurs in a wet area, it should be monitored for HCN gas, must spread lime or caustic soda on the solution to increase the pH to reduce the risk of HCN vapor emission. If a spill occurs in a dry area, staff must use the appropriate PPE and carefully place



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- material in a dry container for transport to an approved process component. Sodium hypochlorite is to be used only in cases where the solution is contained and will not enter waterways.
- b) Decontamination of soils or other contaminated media: cyanide contaminated soils must be excavated to the dry front. Contaminated soils to be disposed of in the mill process circuit.
  - c) Management and/or disposal of spill clean-up debris: PPE used in the contingency and pollution should be handled as hazardous waste and sent to temporary confinement until its ultimate disposal site. Spill clean-up materials such as gloves, Tyvek suits and other equipment are to be disposed separately from the soils, stored in drums in the designated locked hazardous material shed and ultimately taken off site by a certified hazardous waste carrier.
  - d) Provision of an alternate drinking water supply: the operation has on-site water treatment facility to bottle water for its mine site drinking water supply. The water source is up gradient from all process activities. There are no community or resident water supplies that would be at risk and potentially require an alternative water supply.

The ERP prohibits the use of chemicals such as sodium hypochlorite, ferrous sulfate and hydrogen peroxide for the treatment of cyanide spilled into surface waters (rivers, wells). Surface water and ground water wells will be sampled in the event of a cyanide release, samples to be analyzed by an external certified laboratory. Monitoring plan includes descriptions of sampling methodologies, parameters and sample handling requirements.

**Standard of Practice 7.6: Periodically evaluate response procedures and capabilities and revise them as needed.**

in full compliance with

The operation is

in substantial compliance with

**Emergency Response Practice 7.6**

not in compliance with

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

El Sauzal is in full compliance with Standard of Practice 7.6 which requires that the site periodically evaluate response procedures and capabilities and revises them as needed.

El Sauzal reviews the ERP in a regular basis, incorporating the mock drills improvement opportunities, incidents investigations, changes in the process, transportation or storage of hazardous substances. Mock drills realized in 2010 and 2011 were reviewed. On 2010's mock drill, they simulated a worker exposure to cyanide with environmental release, found that communication plan needed improvement. On 2011's exercise, the operation simulated an emergency a cyanide spill with HCN generation in the cyanide preparation area at the Process Plant due to a broken seal of the feed pump for the TK-80 tank.

Cyanide related incidents are registered and investigated, correction actions established, responsible for its implementation are assigned and due dates consigned until closing the incident report. The SOPs are reviewed periodically.





**PRINCIPLE 8 – TRAINING**

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

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

**in full compliance with**

**The operation is**

in substantial compliance with

**Training Practice 8.1**

not in compliance with

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

El Sauzal 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.

Since the certification audit in March 2008, the operation showed to be complying with its annual training program for cyanide related works. All new employees and contractors who may be performing cyanide use-related tasks are required to complete new hire training, including cyanide training. The target audiences are the workers identified by areas, including contractors. The mine demonstrated training material and attendance records.

El Sauzal requires all employees to have annual refresher on general training and 6-month refresher on cyanide-related training (e.g., safe management of sodium cyanide). During the past 3 years, the operation has been tracking employees training by means of a Training Matrix where refresher trainings are consigned as RE. Refresher training records were reviewed. Continuing with the practice showed in last certification audit, El Sauzal maintains the training records at the employee work area.

**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**

**The operation is**

in substantial compliance with

**Training Practice 8.2**

not in compliance with

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

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

The operation continues delivering training to his personnel to minimize cyanide exposure in his normal production tasks, as found on the audit from March 2008. The evidence was obtained through personnel interviews, instruction records and instruction material review. As mentioned in 2008’s audit: “All personnel in job positions that involve the use of cyanide and cyanide management receive training on how to perform their assigned tasks with minimum risk to worker health and safety. Individual training is provided for each specific task an operator will perform related to cyanide management. The operator will be observed by his supervisor, who evaluates his work performance”.

As stated by the personnel interviews, training is provided by experienced workers in each area due to its knowledge, experience, and training abilities. The Training Program indicates the trainer for each event El Sauzal has provided evidence that training is provided effectively by the Plant Superintendent, Supervisors, medical personnel and Dupont, the cyanide provider. In the past 3 years DuPont provided training in first aid



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related to cyanide intoxication. Training is provided in safe operational procedures for plant and detoxification areas. Since last audit, the operation showed to be consistently training his new workers prior to do any job. Every worker receives induction training in cyanide management before being able to do any specific work related to cyanide, then must receive specific training in the corresponding task. Refresher training on cyanide related safety work procedures is provided on a six month based program.

As reported in last certification audit, El Sauzal continues with the practice of written tests to ensure knowledge, results are retained and were reviewed. In addition, operators who perform cyanide-related tasks are observed by their supervisors to evaluate their performance. Records of individual's employment training are consolidated in the Training Matrix.

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

in full compliance with

The operation is

in substantial compliance with

**Training Practice 8.3**

not in compliance with

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

El Sauzal is in full compliance with Standard of Practice 8.3 which requires that the site train appropriate workers and personnel to respond to worker exposures and environmental releases of cyanide.

As found in the last certification audit, all personnel responsible for cyanide unloading, mixing, production and maintenance, is trained in an emergency response for cyanide release. Verification included review of training records and interviews with operators.

The operation has trained personnel in procedures to follow for decontamination and first aids in every area where cyanide is managed. Personnel responsible for cyanide unloading, mixing, production and maintenance are trained in task specific SOPs, contingency plan, environmental management plans and emergency response plan. Verification included review of training records and interviews with process operators. First responders showed evidence they received training in fire-fighting, HAZMAT, confined spaces, medical recognition, cyanide antidote kit and cyanide management.

El Sauzal continues in contact with authorities from communities of the surroundings as police, fire fighting's, hospitals and environmental authorities to coordinate actions for an emergency response, as found in certification audit of March 2008.

Workers with responsibilities managing cyanide are trained every six months, as scheduled in the training program and demonstrated through training records. Workers assigned to first response in cyanide emergencies receives monthly training in rescue and inspections, bi-monthly training in rescue and fire fighting and quarterly training in spills, natural disasters, evacuation, and team competences.

The operation realizes mock drills in a regular basis. Mock drills realized in 2010 and 2011 were reviewed. On 2010's mock drill, they simulated a worker exposure to cyanide with environmental release, found that communication plan needed improvement. On 2011's exercise, the operation simulated an emergency a cyanide spill with HCN generation in the cyanide preparation area. Emergency drills are performed on a regular basis and improvement opportunities are incorporated into the Emergency response Plan and SOPs.

El Sauzal continues with the practice found during last certification audit to provide refresher training in cyanide intoxication treatment to all First Responders. A new ambulance was acquired to replace the old one. In addition, a new radio frequency was created to be used only by First Responders and only during an emergency. The operation maintains records of the emergencies response team and evaluates the personnel understanding, demonstrated training records given by Dupont.



## **PRINCIPLE 9 – DIALOGUE**

### **Engage in Public Consultation and Disclosure**

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

**in full compliance with**

**The operation is**

in substantial compliance with

**Dialogue Practice 9.1**

not in compliance with

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

El Sauzal is in full compliance with Standard of Practice 9.1 which requires that the operation provide stakeholders the opportunity to communicate issues of concern.

The operation is in full compliance with Standard of Practice 9.1.

Surrounding communities are attended by El Sauzal's community development program. The objective is to maintain communication and to promote community participation and promote regional development. Verification was by interview with the Coordinator of Community Relations. Additionally, reports and records of communication meetings were reviewed.

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

**in full compliance with**

**The operation is**

in substantial compliance with

**Dialogue Practice 9.2**

not in compliance with

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

El Sauzal is in full compliance with Standard of Practice 9.2 which requires that the site initiate dialogue describing cyanide management procedures and responsively address identified concerns.

The operation is in full compliance with Standard of Practice 9.2. El Sauzal has permanent dialogue with stakeholders where they inform about cyanide management procedures and responsively address identified concerns.

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

**in full compliance with**

**The operation is**

in substantial compliance with

**Dialogue Practice 9.3**

not in compliance with

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

El Sauzal 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.

The operation is in full compliance with Standard of Practice 9.3;

El Sauzal has not developed written descriptions of how their activities are conducted but make great effort communicating verbally with stake holders by means of meetings and conferences. The operation showed presentation materials at the community meetings, communicates and records of dialogues with communities and schools. Interviews El Sauzal Community Relations personnel, confirmed the work.

The operation continually communicates verbally with the local population in a 230 km radius because there is significant percentage of population being illiterate. Attendance lists were reviewed.



## Report Signature Page

Alistair Cadden  
Principal

Principal

Date: 15<sup>th</sup> July 2011

AC/MM/ml

AC/MM/ml

Marcelo Martinez  
Associate

Associate

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