

# 2012

## SUSTAINABILITY REPORT



### CLOSED SITES

in Honduras, Mexico, the United States and Canada





# GOLDCORP INC

## Closed Sites

### 2012 SUSTAINABILITY REPORT

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#### Further Information

*This report covers the reporting period 01 January 2011 to 31 December 2012*

**On the cover:** Reclaimed Palo Alto Open Pit - **San Martin**  
 Wild Lupin Growing on Reclaimed Mine Rock  
 Storage Area Cover - **Equity Silver Mine**

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## Introduction from the Closed Sites Managers

The 2012 Sustainability Report for Closed Sites is Goldcorp's continued effort to report on closed sites within the company that are not closely associated with operating sites. The closed sites sustainability report has been produced every two years starting in 2006. The last two reports (2010 & 2012) have included one closed site from Mexico and one closed site from Honduras along with the sites from the United States and Canada. For the last five years, the Goldcorp Inc sustainability report has been web based and the closed sites report has been linked into the main document. There will also be a limited number of copies of the 2012 closed sites report, in Spanish, French, and English, produced for distribution to our stakeholders near our closed sites.

The focus of this report is on Goldcorp's one closed site in Honduras (San Martin), one closed site in Mexico (Nukay in Guerrero), four closed sites in the United States (Dee and Daisy in Nevada, Rand in California, and Golden Reward in South Dakota) and three closed sites in Canada (Dona Lake in Ontario, and Equity Silver and Golden Bear in British Columbia). The report briefly outlines the history of the mining and reclamation activities along with a summary of the current status of each of the sites.

The nine closed sites mentioned in this report are actively managed by experienced senior Goldcorp employees to ensure compliance with our permits and to satisfy the expectations of our various stakeholders. Each of the closed sites have specific attributes that are unique to their surroundings and closure requirements. These sites are discussed at Goldcorp on a regular basis to allow the knowledge attained from the closed sites to be shared throughout the company. There is still much to be learned from our closed sites that can be used to assist with future mine designs and closure planning.

During the period 2011 and 2012, there was one lost time incident at the San Martin mine involving a laceration to an employee's hand from a machete while cutting food for cattle. There were no safety incidents at any of the other closed sites during this period. There were no environmental incidents at any of the closed sites in 2011 or 2012 and all of the closed sites remained in compliance with their environmental permits for that period.

We hope that you find this report on Goldcorp closed sites to be informative. We are always looking for ways to improve our communication with our stakeholders so please feel free to contact us with any comments on the closed sites or the report.



Mike Aziz  
Manager, Equity Silver Operations



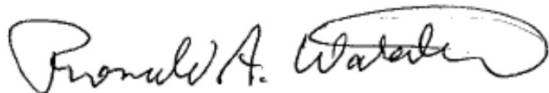
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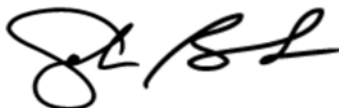
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Director Environment

# NUKAY MINE PLANT AND TAILING FACILITIES

Type of Mine	Open pit and underground operation
Where is it	Mezcala, Guerrero, Mexico
When mining started	1984
When it closed	August 2009
Why it closed	Los Filos Mine became an active operation
Current site status	Closure - advanced phase, earthworks

The Nukay plant area is located in the Nukay Mining District of Central Guerrero State, within the Sierra Madre del Sur physiographic province of southern Mexico. The district hosts several precious metal mines. The plant and tailings facilities are located in a mountainous region with elevations above 2,000 meters on the mountain tops and 500 meters in the valley bottoms. Valley slopes are steep and covered with hardwood forest while the valley bottoms are generally farmed.

The former Nukay plant and tailing facilities were in operation for a little over 20 years until Goldcorp decided to close down the Nukay milling operation and process the ore at the Los Filos site in 2009. The ore came from the claim block that was leased to Nukay Mining Company in 1983. The mining of the Nukay open pit deposit started in 1984. Front-end loaders were used to load the ore in 14 m3 trucks. The hauled ore was mined using a five-meter bench design. The mill initially consisted of a Merrill-Crowe operation capable of processing 100 metric tons per day, and then it was upgraded to process up to 400 metric tons per day over the years.

The Balsas River is the principal surface water body in the state and it is located north of the plant site. During the operating years the water supplied for the Nukay plant process was pumped from the Balsas River. Yearly rainfall reaches about 750 mm and evaporation averages 2,280 mm per year. Surrounding geology reflects alluvium deposits.

The facilities consisted of a cyanide preparation area, a crushing system that used three crushers, two mills, a number of tanks for the gold extraction, a refinery, and 6 tailing cells organized in three separated structures. While in operation the ore was hauled from the underground mines to the Nukay plant using a 15 km gravel road. The ore generated by the underground operations is currently being sent to Los Filos heap leach facility which is only 5 km away.



*Aerial View of Nukay Site and Los Filos camp*

In November 2003 Wheaton River (now Goldcorp) acquired the Nukay mines and the plant as well as the Los Filos gold deposit. The site was operating until 2009 when Goldcorp finished the construction of Los Filos facilities.

The initial work to close the Nukay plant and tailings facilities started in 2010. This work consisted of the rinsing of the entire plant. The remaining cyanide containers were transported to the Los Filos Mine to be used in that operation. All hazardous wastes were collected and shipped to a proper final disposal facility within Mexico. Some materials used in the Refinery and the Laboratory, as well as non-hazardous refuse (paper, broken glass, cardboard, plastic bags, etc.) were disposed within the tailing cells to avoid the refuse being burned in the local landfill. All process pipes were removed from the plant and disposed of within the tailings facilities.



*Plant Area Before Reclamation*



*Filling Plant Area*



*Plant Area Covered With Waste Rock*



*Plant Site Before Reclamation*

All buildings were dismantled and the debris was hauled to the lower part of the plant floor area. The plant assets (crushers, mills, tanks, and some lab and refinery equipment) were sold to a local mining company. The assets that could be reused were installed in that operation. All tanks and metal parts were sold as scrap metal for recycling.

The plant area was graded and prepared to receive a cover layer that is designed to sustain native vegetation from the surrounding area.

Different studies had been completed to verify the water quality and structural stability of the tailing facilities. A geo-technical study was completed to identify the characteristics of the surrounding materials that could be used as a cover material for the tailings facilities. The study generated a cover design capable of hosting vegetation while acting as a barrier to water infiltration.



*Pipelines Before Reclamation*



*Tanks That Were Removed*



*Plant Site After Earth Works*

A stability study, was completed to analyze the tailings properties in order to determine the proper slope angle required during reclamation activities. A proper slope ratio will contribute to the stability of the tailings and will reduce the effect of the erosion caused by storm water runoff. Part of this study included a cone penetrometer survey of the tailings.

A geochemical study was performed to identify the chemical components from the tailings and to determine if any substances migrated from the tailings facilities to the natural ground. The study revealed that no migration occurred and that groundwater has not been impacted by the tailings.

Consultants have been involved in the closure of these facilities to supply information and expertise on aspects like surface grading and water management. A water management study was completed to determine the best storm water routing to minimize erosion and damage to the reclaimed areas. Silt fences will be installed, on the sloped areas, to help control the runoff and to reduce the erosion.

Earthworks are currently underway at Nukay. The slopes of the tailing facilities were surveyed. The survey indicates areas that will require fill and areas that should be cut down to achieve the desired final slope. Two excavators and 1 dozer are working along with two trucks to move the tailings to fill areas. The expected final result is to obtain a proper grade in the upper part of the facility to allow water to flow gently, resulting in reduced erosion gullies and minimal damage to the surface cover.

Upcoming activities include planting trees, shrubs and other plants to assist with the reclamation of these areas back to a more natural state. Also, plans will be developed to generate additional sustainable uses of this land to benefit the local population in the future.



*Mill Area After Earth Works*

# SAN MARTIN MINE

Type of Mine	Open pit, heap leach gold
Where is it	Located 100 km North-East from Tegucigalpa, Honduras, Central America
When mining started	2000
When it closed	2010
Why it closed	Depleted economic ore
Current site status	Care and Maintenance, Post- closure monitoring phase
Security in place	Security bond of US\$ 0.5 million

The San Martin Mine is a former open pit, heap leach gold mine located 100 km northeast of Tegucigalpa, Honduras, Central America. The property has an area of 1,500 ha of which the mine operations footprint is 300 ha. The nearest village is Palo Ralo located three km from the site. Prior to mining, the Palo Ralo village was located on the mine site. After an agreement was reached in 1999 the thirteen families were relocated to New Palo Ralo which now has 30 families. The nearest town, San Ignacio, is located 9 km from the site.

Construction of the mine started in 1999 with production commencing in 2000. The San Martin mine operated two open pits: Tajo Rosa (2000 – 2006) and Palo Alto (2004 – 2007). More than 53 million tons were mined from 2000 to 2007. Crushed ore was stacked on the heap leach pad until 2005 and then from 2006 to 2007 run of mine (not crushed) ore was placed on the heap leach pad. The heap leach facility had an area of 100 ha and 40 meters height (4 lifts). Leaching operations continued on the heap until January 2009. Approximately 36.3 million tons of ore were placed in the leach pad. Gold was recovered in an ADR process plant as gold concentrate (60% gold average). A total of 652,000 ounces of gold were recovered during the 10 years of operation at the San Martin mine.



*Reclaimed Discharge Pond now used as recreational lake*

The San Martin mine is the only gold mine in Central America that has been closed using a technical approach and with a Closure Plan reviewed and approved by the Government. Environmental personnel and communities from other operating mines have used the San Martin mine as a showcase for successful reclamation techniques.



*Reclaimed Palo Alto open pit*

Currently all facilities are considered reclaimed. This includes the two open pits (Rosa and Palo Alto), the waste rock storage area, the leach pad and the process ponds (converted to ET cells). All of the reclaimed structures successfully resisted record rain events during years 2009 and 2010.

Post closure inspection and water quality monitoring continue with the Honduran government on a regular basis (every 2 months). During the inspections, samples of groundwater and surface water are taken and sent to a certified lab. Laboratory results have confirmed that the water quality remains good with no evidence of negative impacts on the water sources around the property.

The approved Closure Plan considered that the Government would continue with post monitoring inspections until year 2011, but an agreement was reached to extend the monitoring until year 2013.



*Evapo-transpiration cell on top of reclaimed Barren Pond*

Several post mining projects developed by the San Martin Foundation on the closed site facilities continue to show positive results in their commercial phase. In 2012: the Hotel received 6,179 visits, the Tilapia farm produced 6,792 pounds of fish, the egg farm produced 130,658 units, and the lemon plantation produced 382,856 units. In the years 2011-2012 five fawns were born on the deer wildlife preserve.

In 2012 a spa was constructed and opened to the public on the Agua Tibia creek, the creek receives hot water from the hot springs close to the reclaimed Rosa Pit. The Foundation continues to support communities with employment, health programs, education scholarships, and basic infrastructure construction.

# DAISY MINE

Type of Mine	Open pit, gold, run of mine heap leach
Where is it	Beatty, Nevada, United States
When mining started	1996
When it closed	December 1999
Why it closed	Depleted economic ore
Current site status	Post closure monitoring phase
Security in place	US \$89,000

Daisy mine is a former open pit heap leach gold mine located 5 miles southeast of the town of Beatty, Nevada. Mining operations commenced in 1996 and concluded in December 1999 after depleting the economic ore. During operations approximately 16 million tons of material were mined and heap leached to produce 300,000 ounces of gold. The mine's footprint encompasses approximately 275 acres and consists of two open pits, two lined heap leach facilities and three waste rock stockpiles.

The Daisy mine was closed and reclaimed in two years between January 2000 and March 2003. Waste rock from the site was used to partially backfill the open pit and cover the heap leach pads. Concurrent reclamation of the heap leach pads and rock stockpiles during active mine operations helped shorten the length of time to close the site. Using the Dee mine as a successful reclamation model, Daisy mine facilities were recontoured to soften and break up the straight line, engineered mine features. This was accomplished by re-sloping the heap leach facilities and waste rock storage to form non linear slopes that blend with the surrounding natural terrain.

The decommissioned heap leach facilities were re-contoured and capped with waste rock to form an exclusionary cover designed to shed precipitation rather than allowing infiltration into the pile. The waste rock cap was covered with topsoil and seeded. Wildlife friendly seed mixtures were used to reclaim the site. These successful revegetation efforts improved the site's post mining land use to support wildlife that frequent the area. Sage hen, chukkar partridge, and desert big horn sheep have been frequently sighted on the reclaimed areas of the mine.



*Secret Pass Reclaimed Heap Leach*

In order to meet the stringent water discharge permit criteria, Daisy mine constructed evapo-transpiration (ET) fields designed to achieve zero discharge of leach pad drain down fluids through the use of evaporation and plant transpiration. The ET fields were constructed within the closed, synthetic lined process ponds by filling the pond with selected waste rock, capping with topsoil and seeding with a high evapo-transpiration wetland seed mixture. Within one year after construction and to date, the ET cells remain highly successful and have performed as designed with no discharge to the environment.



*Reclaimed Heap Leach Facility*

In early 2008, a post closure monitoring permit was issued by mining regulators. The post-closure permit requires minimal quarterly water monitoring until 2013, at which time formal permit retirement and complete regulatory release will be requested. Daisy mine has also received State and industry recognition for progressive reclamation and closure efforts.



*Desert Big Horn Sheep*

# DEE MINE

Type of Mine	Open pit, gold, conventional mill & heap leach
Where is it	20 miles north of Carlin, Nevada, United States
When mining started	1984
When it closed	2001
Why it closed	Depleted economic ore
Current site status	Post closure monitoring phase
Security in place	US \$84,037

The Dee mine is a former open pit gold mine located 20 miles north of Carlin, Nevada. The mine is located on the northern extend of the world famous Carlin trend, one of the largest gold producing areas in North America. The mine opened in 1984, and following 18 years of operation closed in 2001, after depleting the economic ore. During operations approximately 89 million tons of material were mined and 15 million tons processed to produce 665,000 ounces of gold. The Dee mine consisted of one open pit, a 1,250 ton per day mill, two tailings facilities, and three heap leach facilities. The mine's footprint encompasses approximately 800 acres which includes the open pit.

In the closure phase (2002-2005) the waste rock stockpiles were re-designed to minimize the straight line engineered appearance and replaced with more natural lines and slopes that blended with the natural surroundings. Concurrent reclamation during development of the mining areas included the collection of topsoil from disturbed areas of the project. The topsoil was stockpiled and then reapplied to the waste rock stockpiles and heap leach facilities to provide a suitable growth medium for vegetation.



*Reclaimed Office & Mill Site*



*Reclaimed Heap Leach Pad*

The three heap leach facilities were closed concurrently during operations, as gold recovery concluded. The closed heap leach facilities were recontoured and capped with an exclusionary cover formed from open pit waste rock. The exclusionary cover was designed to shed precipitation off the heap leach and not allow infiltration into the pile. The contoured slopes were then covered with stockpiled topsoil and seeded with approved seed mixtures that stabilized the soil and limited weed development. Similar to Daisy mine, evapo-transpiration (ET) cells were constructed within the closed synthetic lined process ponds to capture drain down fluids. Drain down flow from the heap facilities is regularly monitored and indicates the encapsulation has been successful in preventing infiltration of precipitation and has helped with reducing the chemical constituents of the drain down solution.

Closure at the Dee minesite was completed with a wildlife end land use as one of the primary goals. The revegetation efforts on all parts of the site used approved wildlife friendly seed mixes that supply a variety of food plants for the local wildlife species. There was also a focus on completing surface water enhancement projects, such as protecting and re-vitalizing riparian zones along local drainages. Through these efforts the site has been able to provide habitat for the local wildlife including sage hen, chukkar partridge, bobcat, elk, deer, and antelope, as well as preparing the disturbed areas for a return to traditional grazing use.

The successful reclamation of the Dee mine has been recognized by the industry and government agencies through awards including the Dupont Environmental Leadership Award in 1993, for outstanding achievement in concurrent reclamation and environmental awareness, and the Nevada Excellence in Mine Reclamation award in 2001 and 2007 for overall mine reclamation.

In 2011, 100 percent of the mine's footprint achieved the revegetation success standard for revegetation and Goldcorp was released from all regulatory financial liability. The post closure permit (issued in 2009) requires quarterly water monitoring. By mid-2013, all Dee permits (including the post closure monitoring requirements) are expected to be transferred to a Barrick / Goldcorp joint venture called the South Arturo project. At that point Barrick will take the lead on the project that will be evaluating the expansion of the original open pit and a new discovery.



# GOLDEN REWARD MINE

Type of Mine	Open pit, heap leach gold
Where is it	8 km southwest of Deadwood, South Dakota, USA
When mining started	January 1989
When it closed	June 1996
Why it closed	Depleted economic ore
Current site status	Care and Maintenance - monitoring phase
Security in place	Post closure bond of US\$1.74 million

The Golden Reward Mine is a former open pit, heap leach gold mine located in western South Dakota, eight kilometers southwest of the historic town of Deadwood. The upper Midwest's premier downhill ski area, Terry Peak, is located immediately adjacent to the mine. The mine commenced operations in 1989 and went into a period of temporary cessation in 1996 when all economical ore within the permitted area had been depleted. At the time, no additional economical ores were identified in exploration programs, therefore the mine entered into full reclamation and closure in 2002.

Active reclamation was completed concurrently with mining on approximately 50% of the lands impacted by mining. The remaining impacted lands were fully reclaimed in 2002. The state required that reclaimed lands inside the mine permit boundary be visually and functionally compatible with the post mining land use of wildlife habitat. Reclamation efforts to date have successfully met or surpassed this rigorous criteria.

The former Detox Pond, utilized to destroy residual cyanide process fluid during operations, was backfilled and covered with a synthetic cap to alleviate water infiltration. In 1999 a small quantity of sulfide bearing overburden was placed into a portion of the former West Liberty Pit and capped with a synthetic liner to prevent potential acid rock drainage. A hydrology study including sulfate speciation analysis was completed and indicated elevated sulfates in one groundwater monitoring well may be associated with the West Liberty Pit backfill. In 2009 and 2010, tracer dye tests were conducted on the West Liberty capping system that indicated water was entering the backfill along one side of the capping system. Additional dye testing is being conducted in 2012 and 2013 to refine the plan that is being developed to mitigate the effects of this sulfide migration.



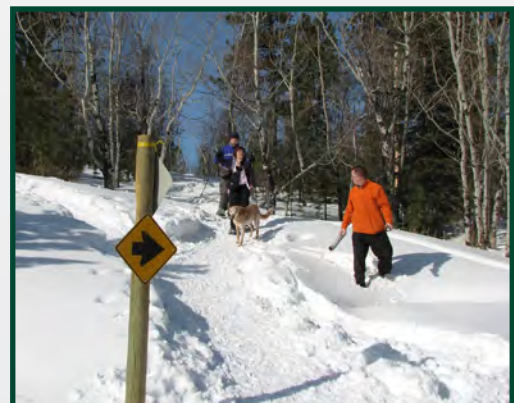
*Aerial View of Reclaimed Golden Reward*

Monitoring of the site continues with emphasis on groundwater and surface water quality. Storm water pollution prevention control systems were installed to prevent erosion and have proven to be highly effective. Sampling is completed throughout the year on schedules determined by State regulatory agencies. The site water quality has been very good since closure with the majority of water samples meeting South Dakota Water Quality Standards.

The 34th annual Black Hills Regional Ski for Light event took place January 20-25 at the Golden Reward Mine and at the Terry Peak Ski Area. Ski for Light is an organization that provides equipment, training, guides and expertise to individuals who are blind, visually impaired, mobility impaired and others that may otherwise not be able to experience winter recreational sports. Cross-country skiing events as well as snowshoeing events were scheduled for each day at the reclaimed Golden Reward Mine. These courses utilize former, and now reclaimed, mine pits, overburden piles, topsoil piles, water pipelines, exploration trails and former rail beds. A portion of the site is used in the winter as part of the South Dakota Black Hills Snowmobile trail system and used in the summer for horseback trail rides.



*Ski For Light - Cross Country*



*Ski For Light - Snowshoeing*

# RAND MINE

Type of Mine	Open pit, gold, run-of-mine heap leach
Where is it	Randsburg, California, United States
When mining started	1986
When it closed	2003
Why it closed	Depleted economic ore
Current site status	Post closure monitoring phase
Security in place	US \$123,000

The Rand mine is a former open pit gold mine located adjacent to the town of Randsburg, approximately 100 miles northeast of Los Angeles, California, within an historic mining district that has hosted mining for over 100 years. The Rand mine opened in 1986 and following 17 years of operation closed in January 2003 after depleting the economic ore. During operations approximately 160 million tons of material were mined and processed to produce more than 900,000 ounces of gold. The Rand mine consisted of three open pits and five heap leach facilities over a footprint of approximately 1050 acres.

The main components of the Rand mine closure included decommissioning and re-sloping the heap leach facilities, recontouring the waste rock stockpiles, and revegetation of the site's disturbance. The decommissioning of the heap leach material was completed concurrently with the operations as each heap was depleted of recoverable gold.



*Reclaimed Maintenance Shop Area*



*Reclaimed Process Pond*

After decommissioning, the heap leach facilities were resloped and reclaimed with methods tailored to the harsh desert environment. With minimal rainfall, extreme temperatures, and essentially no top soil the re-establishment of vegetation was challenging. The reclaimed surfaces were designed as an irregular pattern of shallow water catchment basins with loose, rough surfaces to take advantage of the low sporadic rainfall. The basins were not only designed to capture and retain all rainfall, but also provide a foothold for seed to germinate. Native seed that naturally accumulates and is adapted to survival in the desert is collected from area washes and sown directly into the catchment basins.



*Recontoured Waste Rock Storage to capture water*

Independent annual monitoring required by the regulatory agencies indicates that in some areas vegetation has re-established itself and the progressive reclamation efforts in this harsh desert setting have greatly reduced the disturbance footprint. The site remains on a post-closure monitoring status until the revegetation success standard is met.

# DONA LAKE MINE

Type of Mine	Underground with conventional mill, gold
Where is it	9 km south east of Pickle Lake, Ontario, Canada
When mining started	January 1989
When it closed	August 1994
Why it closed	Depleted economic ore
Current site status	Care and maintenance - monitoring phase
Security in place	Security bond of \$0.25 million CDN

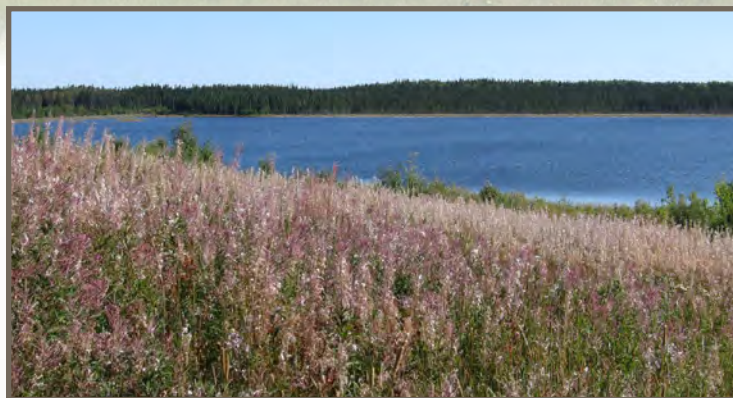
The Dona Lake mine is a former underground gold mine located in northwestern Ontario, nine kilometers southeast of the town of Pickle Lake. The mine opened in 1989 and closed in mid 1994, after depleting the economic ore. Site reclamation started in 1994 with the plant site, mine workings, and tailings impoundment. The major reclamation works were completed by 2004 resulting in a reclaimed site that has a flooded tailings impoundment, a covered plant site area and a backfilled mine portal. All of the underground waste rock was used to construct a dam (Dam C) across the north end of the tailings impoundment to flood the tailings after closure.

The tailings at Dona Lake have a high sulphide mineral content which can form acid rock drainage (ARD) if exposed to oxygen. The majority of the tailings are covered with water to reduce the exposure to oxygen. A small section of beached tailings has been covered with a cap that promotes water penetration to saturate the tailings and reduce the potential to form ARD.



*Dam C at North End of Tailings Pond*

The main focus at the Dona Lake site continues to be monitoring of the water quality and geotechnical stability. Surface water quality is sampled monthly, during the ice-free months, starting at the tailings impoundment and down through the adjacent Sika and Zeltz Ponds. The water sampling and site inspections are completed by a local Mishkeegogamang contractor. Water quality from the site has been excellent since closure with the majority of water samples meeting the Ontario Provincial Water Quality Objectives.



*View of Tailings Pond from Drumlin*

Groundwater wells around the tailings impoundment and Sika Pond are sampled two to three times per year at seven piezometers. The majority of the groundwater data is good quality that is similar to background levels, but two piezometers south of the Dyke 3 beach show elevated levels of sulphate, conductivity, and alkalinity. The source of the elevated parameters is likely the tailings beach, but the piezometer within the tailings beach is not showing an increase in these parameters. In 2012, the Ministry of Environment requested that Goldcorp complete a ground water assessment, conducted by a qualified person, of the water quality from the piezometers around Dyke 3. The groundwater assessment was started in 2012 by Klohn Crippen Berger and will be completed prior to the due date of June 30, 2013.

The frost cracking along Dam C, that was first observed in 2002, continues to be monitored. The monitoring over the years has shown a consistent trend where the frost crack is wider during the frost months and decreases as the ground thaws. The frost cracking is considered to be superficial and does not impact the integrity of the dam.



*Erosion Protection Between Tailings Pond & Dyke 3 Beach*

In the near future Goldcorp Canada would like to return the Dona Lake property to the Ontario government in a process called 'voluntary surrender'. To be eligible for voluntary surrender the site must have good water quality and stable landforms. Goldcorp will continue to monitor the conditions at the site and near the end of the monitoring period a series of detailed environmental studies will be completed to verify that the onsite and downstream ecosystems are healthy.

# EQUITY SILVER MINE

Type of Mine	Open pit ,small underground, conventional mill (Au, Ag, Cu)
Where is it	40 km south of Houston, British Columbia, Canada
When mining started	1980
When it closed	Milling completed January 1994
Why it closed	Depleted economic ore
Current site status	ARD collection and treatment
Security in place	Security bond upgraded to \$56.291 million CDN in 2010

The Equity Silver mine is a former open pit and underground mine, located 35 kilometers southeast of Houston in north central British Columbia. The Equity Silver mine operated from 1980 to 1994 and then closed due to depletion of the economic ore. Mining took place in three open pits and a small underground mine. Copper, silver and gold were extracted through a conventional mill flotation circuit plus a cyanide leach circuit. Since closure there has been an average of four permanent employees at the site to take care of ongoing long term environmental issues.

The site has three open pits, two of which have been flooded and one that was backfilled with mined rock. There are three capped mine rock storage areas containing 85 million tonnes of rock that have been revegetated and a plant site area that has been dismantled and capped. The tailings impoundment, containing 35 million tonnes of tailings, was flooded during operations and remains flooded in closure.

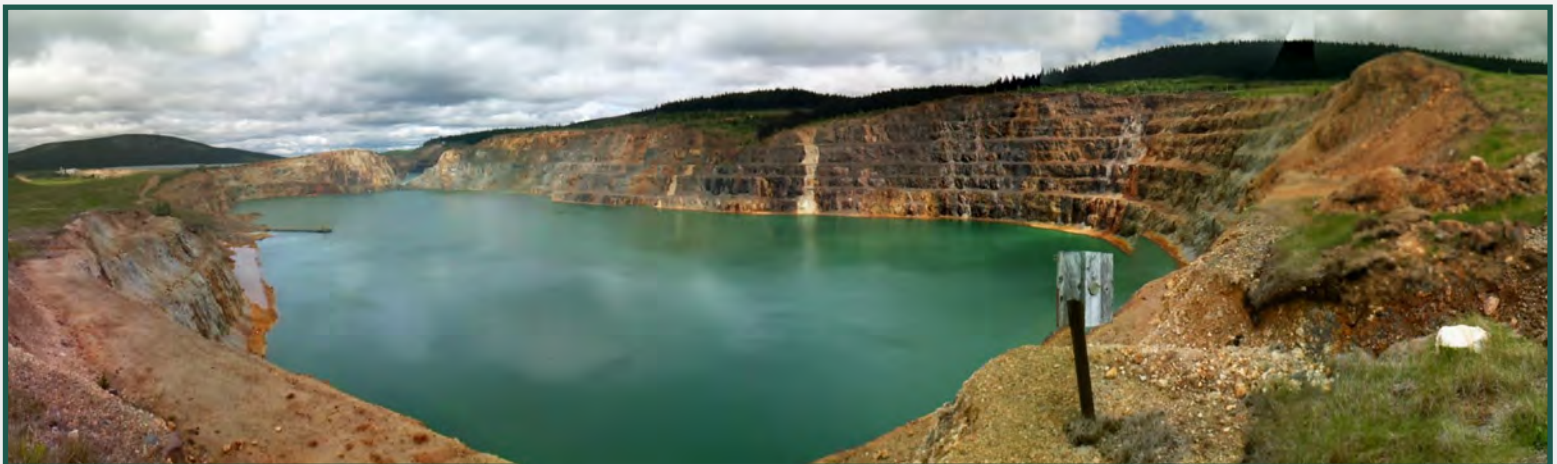
Shortly after the mine opened, acid rock drainage (ARD) was found to be occurring from the oxidization of sulphide minerals contained in the mined rock. The ARD from the mine site is collected and processed in one of two lime treatment plants to neutralize the acid and remove metals prior to discharging the treated water back to the environment. To reduce water infiltration and oxidation the mine rock storage areas were re-sloped and covered with a compacted clay cap at closure. The engineered cover reduced the volume of ARD produced from the mine rock storage areas, but there is still a significant volume of ARD produced annually that is being collected and treated.

In 2012, the lime treatment plant used approximately 4,025 tonnes of lime to treat 1,065,257 m<sup>3</sup> of ARD. All treated water discharged from the site in 2012 was channelled through the flooded Main Zone pit. In 2012, approximately 2,383,750 m<sup>3</sup> of treated ARD, site runoff, and excess tailings pond water was discharged from the pit to the environment (see table below). All metals and other parameters were well below the permit requirements during the year. The precipitation in 2011 was the highest in the Equity Silver site records back to 1985, which resulted in well above average ARD flows during the freshet. The Emergency ARD Pond was utilized during the peak flows to store excess ARD over a six day period, which was then treated after the freshet.

ARD Treatment Statistics	2012	2011
Lime (tonnes)	4,025	6,315
ARD treated (m <sup>3</sup> )	1,065,257	1,506,377
Average ARD Acidity (mg/L)	6,527	9,084
Treatment sludge produced (m <sup>3</sup> )	69,945	104,641
Water discharged (m <sup>3</sup> )	2,383,750	3,448,244

All environmental aspects of the Equity Silver site have been the focus of the Equity Mine Public Advisory Committee (EMPAC). The EMPAC consists of members from the Ministry of Energy, Mines and Natural Gas, Ministry of Environment, District of Houston, Wet'Suwet'en First Nations, Federal Fisheries, Natural Resources Canada, local landowners, and Goldcorp Canada Ltd. The EMPAC discuss water quality trends, ARD collection and treatment upgrades and statistics, reclamation progress, security bonding, biological studies, and any other issues that may arise.

Financial security funded by Goldcorp Canada Ltd. is in place to provide sufficient funds for the long term operation of the site in the event that the company is no longer able to meet their financial obligations. The financial security has undergone four reviews by a technical committee since it was first established in 1991. In 2011 the financial security was increased by \$5.232 million to a total of \$56.291 million. The next scheduled review of the financial security is in 2015.



View of Main Zone Pit Looking North

In the summer of 2011, Equity Silver contracted Willowstick Technologies to complete a geophysical survey targeting potential groundwater sources east and northeast of the waste rock storage area. The goal was to identify, map, and model preferential groundwater sources and pathways that could lead to ARD production. The survey used electric current flows between electrodes (horizontal dipole) and generated a signature magnetic field that was measured on the ground surface along a grid. Seven surveys were completed. The results of the geophysical surveys identified two potential sources of groundwater infiltration: one originating near the north end of the backfilled Southern Tail pit and a second west of the water filled Main Zone pit.

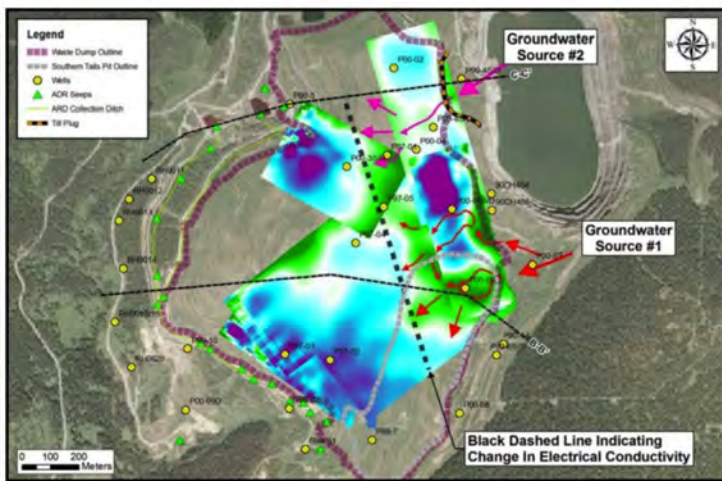


Figure 26 – Summary of where Groundwater Infiltrates the Waste Rock Dump

The main use of freshwater at the Equity Silver mine is for slaking (mixing) of lime for the treatment of ARD. The freshwater source is Lu Lake which is located approximately 1.5 km from the treatment plant. In 2011 it was identified that the Lu Lake spillway required some maintenance to remove heavy vegetation growth in the discharge channel that had potential to block the flow and pond against the dam. In the summer of 2011 when flow levels were very low the vegetation was removed and some over-steepened slopes were pulled back to a lower grade.



ARD Storage Pond at High Level in 2011



Canada Geese and Young on Tailings Pond



Wild Lupin Growing on Reclaimed Mine Rock Storage Area Cover



Stream Flow Measurement on Upper Buck Creek

Goldcorp Canada participates in several tours and presentations of the Equity Silver site each year to share the experiences and knowledge acquired from dealing with ARD at the site for over 25 years. In most years there will be well over 100 people touring the site from local schools, colleges, government, and industry.

### Energy Use and Greenhouse Gas Emissions at Equity Silver site

At the Equity Silver site the collection and treatment of the ARD requires the use of electricity for operating the pumps and lime treatment plants. Below are tables showing the use of energy at the site and the indirect and direct greenhouse gas (GHG) emissions related to the energy use for 2011 and 2012.

Energy Use	2012	2011
Electric power (MWh)	3,064	3,872
Diesel fuel (litres)	22,086	19,545
Gasoline (litres)	11,248	12,565
Natural gas (Gj)	1,087	1,214
Propane (litres)	0	1,097

GHG Emissions (tonnes CO <sub>2</sub> )	2012	2011
From electric power	77.0	39.0
From diesel fuel	59.3	54.9
From gasoline	26.2	29.4
From natural gas	61.1	68.2
From propane	0	1.8
Total	223.6	193.3

# GOLDEN BEAR MINE

Type of Mine	Underground and open pit, heap leach gold
Where is it	150 km West of Dease Lake, British Columbia, Canada
When mining started	Underground 1990, open pit 1994, heap leach 1997
When it closed	Underground and open pit 2000, heap leach 2001
Why it closed	Depletion of economic ore
Current site status	Care and maintenance – monitoring phase
Security in place	Security bond of \$0.225 million CDN

The Golden Bear mine is a closed underground and open pit heap leach gold mine located in the extreme northwest corner of British Columbia, 100 kilometers west of the town of Dease Lake. The site is situated in the Tahltan Highland Ecoregion which is a transitional area lying between the coastal mountains and the interior plateaus. Mining activities occurred in sub-boreal forest through to alpine environments with elevations ranging from 957 meters to 2,614 meters.

Mining first began at the Golden Bear mine in 1989 by Chevron Minerals and Homestake Mining as an underground and open pit operation with a small mill and gold leach circuit. The operation shut down in 1994 and then re-opened in 1997, as a seasonal heap leach operation operated by North American Metals Corp (part of Wheaton River Minerals). A combination of open pit and underground ore was used to build two heap leach facilities that continued to produce gold until 2001. Mining at the Golden Bear mine was completed in 2000 when the economic ore was depleted. The site became a Goldcorp site in 2005 following a merger between Wheaton Minerals and Goldcorp Inc.



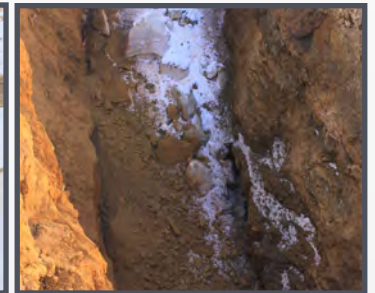
*Aerial View of Tailings*

The site has three small open pits, two underground portals, two heap leach facilities, five waste rock storage areas, one tailings impoundment, and a reclaimed camp and mill area. The waste rock storage areas were re-contoured to stabilize the slopes. The tailings impoundment was covered with one metre of alluvial gravel and soil. The exploration and site access roads were deactivated and seeded to reduce erosion. The camp, mill, and heap leach plants were demolished and removed from the site. The camp and mill areas were covered in till and revegetated. The mining areas, waste rock storage areas, and heap leach facilities were not revegetated because they are located at high altitudes where vegetation is restricted due to the harsh environment.

During the 2011 helicopter flight over the site a small subsidence was noted to the southeast of the Kodiak A open pit. The subsidence appears to be connected to the Kodiak B Zone underground workings. During the 2012 site visit there was still snow cover around the sinkhole, but the extent of the affected area was easier to observe than in 2011. The sinkhole area did not appear to be getting any larger in 2012 and it was observed that the sinkhole was filling slowly with snow, ice, and rock from the uphill side of the sinkhole. The sinkhole will be checked again in 2013 to determine the progress of the filling.



*Sinkhole by Kodiak B underground*



*Sinkhole filling with snow, ice and rock*

Water monitoring at the site in 2011 and 2012 confirmed the water quality remained good and was well below the criteria listed in the permit. During the 2012 site visit, a large herd of Stone sheep (~ 31) were observed along the east facing ridge between the Fleece Bowl heap leach and Totem heap leach. A pair of mountain goats were also observed near the Sam Creek sample station (SAM-2). A cow and calf moose pair were observed in the swampy area of Bearskin Creek just southeast of the F3 sample location. Wildlife is often observed during the site visits, but this was the largest number of Stone sheep observed in a number of years.



*Herd of Stone Sheep at Site*



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To access electronic versions of this report and other sustainability reports, please visit Goldcorp's website at [www.goldcorp.com](http://www.goldcorp.com)

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