

Ore & building materials extraction

Keywords

- > Copper
- > Molybdenum
- > Chile
- > Large-scale mining
- > Open pit mining

Introduction

Los Pelambres is an open pit copper mine located in the Andes, 3,600 metres (11,811 feet) above sea level. It is situated close to Los Caimanes community, 45 kilometres (28 miles) east of Salamanca, in Choapa, IV Coquimbo. The residents of Los Caimanes—threatened by the largest tailings dam in Latin America—have been defending their community relentlessly.

Project

The main shareholder of the mine is Antofagasta Holdings (60%), property of the Luksic group. The rest of the investments are Japanese: Nippon Mining and Metals Co. Ltd (15%), Marubeni Corp. (8.75%), Mitsui & Co. Ltd (1.25%), Mitsubishi Materials Corp. (10%), and Mitsubishi Corp. (5%) (Mining Technology, 2012). This large-scale copper and molybdenum operation began in 1999, with the expansion of a small-scale enterprise that existed for several years, producing less than 5,000 tons of material. Basic data of the Project is shown in Table 1.

Exploration efforts undertaken in 2008 to determine if it was possible to expand based on estimated reserves revealed that the mine had 1,900 million tons in additional reserves. In 2010, following an investment of USD 760 million, daily capacity increased from 132,000 tons to 159,000 tons. This investment included the installation of an infrastructure for transportation, milling and flotation of the material (Bechtel, 2012). Based on production and estimated reserves, Los Pelambres is considered the fifth largest copper mine in the world.

Since the Project began, all production has been exported as bulk concentrated copper, while the molybdenum is sold in Chile. The bulk concentrated copper is transported from the plant, located 45 kilometres (28 miles) east of Salamanca, through a 120-kilometre (74-mile) underground duct to Port Punta Chungo, Los Vilos, where the Los Pelambres-owned mechanized wharf is located. The mine earned a record income in 2006,

Reserves	3,000 metric tons of copper reserves at 0.65 percent and molybdenum at 0.014 percent
Production	322,800 tons of copper and 8,700 tons of molybdenum (2005)
Type of mining	Large scale open pit mining

*Table 1. Basic data of the mine.
Source: Mining Technology, 2012.*

thanks to the high price of the materials; operational benefits rose to USD 2,223.7 million.

The mine covers a 2.5 by 2.2 kilometre (1.4 by 1.6 mile) area, and obtains its water from three sources in three nearby mountains. Los Pelambres owns the El Mauro Reservoir that holds 1,700 million tons of tailings. After a controversial process of planning and authorisation, the construction of El Mauro concluded at the end of 2009, and it is currently operational.

Impacts

The dispute over water use rights and the risk of contamination of crops in the area linked to the tailings reservoir formed the basis of the protests against the mine (Technomine, 2007). The tailings reservoir likely contains arsenic, calcite, fluorspar, radioactive materials, cadmium, lead, mercury, hydrocarbon wastes, sulphuric acid or calcium, most of them toxic to human health and the environment.

The use of water sources for copper extraction is another problem brought on by the company. Regional residents confirm that the company has redirected the main water sources for its own use. The reservoir is located above the groundwater table that is the Caimanes community's only resource of potable water. Wastes generated by the company would contaminate the groundwater, and make it useless for human consumption, agriculture and livestock. The Pupio River Basin would be particularly affected.





Los Pelambres Mine, panoramic view of the concentrated copper process
Source: Bechtel Corporation (www.bechtel.com/los-pelambres-mine.html)



27 September 2010, eleven people initiate hunger strike to demand that the El Mauro dam be closed

Source: *El Ciudadano*. 2010a



El Mauro Dam

Source: portalchoapa.cl/detalle.php?seccion=noticias&id=191

In selecting a site to construct the tank and the El Mauro Reservoir, the company could have chosen other locations that would have caused less damage for the community; but those options cost more (La Nacion, 2006). If the reservoir overflowed, it would flood the nearby fields, affecting the Caimanes community.

Conflict and consequences

There are many social and judicial problems in the copper extraction process, and several instances of contamination have been already been proven. The men and women of Los Caimanes have continually protested the mine throughout the duration of the Project.

The Los Caimanes community has been opposed to the presence of the mining company in the region since 1997. From 1999 onwards, when operations began, various negative impacts have been reported, such as environmental

damage, decrease in the quality and quantity of water that the community receives, and crop damage, among others.

In December 2000, Los Pelambres was subpoenaed by the Comisión Regional del Medio Ambiente—COREMA (Regional Commission of Environment—COREMA) from the Coquimbo Region, due to noncompliance with the EIA of the Punta Chungo Wharf, in which the company agreed to plant 70 hectares (170 acres) of eucalyptus.

Thereafter, the company had to pay a fine of 100 UTM (approximately USD 4,300) for violating regulations related to discharging the water used to transport concentrated copper to the Punta Chungo Wharf. The water was discharged in the Conchalí Lagoon area, at the Los Vilos resort.

In 2004, local water authorities approved the mining company's use of water sources. However, the community won

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1999	Large scale exploitation and demonstrations against the company begin
2000	Company is summoned to appear in court because of supposed noncompliance with the EIA. A fine is imposed
2006	Company generates record income
2008	Exploration for possible expansion is undertaken
2009	The El Mauro dam is built
2009	Wastes spill from the mine
2010	Project expansion (investment and production)

Chronology of Major Events



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the later appeal where their rights over water resources were recognised.

Various community organisations from the Pupio Valley—specifically from the Los Caimanes community in the Fourth Region—appealed to a tribunal to overturn the verdict issued by the Dirección General de Aguas (General Water Authority) on 30 November 2005 that authorised the company to start constructing the tailings dam. The tribunal established that the dam “affects the claimants’ right to water use”. The community chose the judicial channel and won, and the company had to pay compensation to the people; the redress reached USD 500,000.

In 2007, the judicial system passed a sentence against six claimants that required the suspension of the dam construction. Since its approval in 2004, the dam construction has been plagued with irregularities and problems. In 2009, there was a toxic spill from the mine, which was sanctioned by the administrative authority (COREMA).

In 2010, the struggle to oppose the construction and operation of the dam included an 81-day hunger strike (El Ciudadano, 2010) and roadblocks on the highways and roads that lead to the dam. The motive for the protests is that the company has yet to present a new EIA that would determine the amount of damages and related compensations. These protests resulted in the detention of 30 people (El Ciudadano, 2010b).

There were other protests in late 2011 that included the blockage of highways. Recently, the Los Pelambres Mining Company filed criminal charges for unlawful association and breach of trust against the lawyers of the Caimanes community and President of the Comité de Defensa del Poblado los Caimanes (Committee to Defend the Los Caimanes Community) (El Ciudadano, 2012).

While the Chilean press does not pay a lot of attention to this case, the UN Office of the High Commissioner for Human Rights issued two different written statements about this case in

2012 (A/HRC/20/NGO/62; A/HRC/21/NGO/76). The same year, the environmental department of the national police (Policía de Investigaciones) took unauthorised samples of the water in the tailing dam El Mauro, which pointed out high concentrations of Mercury, Cadmium, Manganese and even Lead. These results differ from the reports of the National Health Institute, which indicate that the water is safe and does not represent a risk for consumption.

More on this case:

- Mining Technology, Minera Los Pelambres, Chile. mining-technology.com/projects/minera_los/.
- Bechtel. Project archive: Los Pelambres Copper Mine. bechtel.com/los-pelambres-mine.html.
- Technomine, Los Pelambres and the Mauro Tailing Dam, 27 August 2007. technology.infomine.com/articles/1/1595/tailings.chile.pelambres/los.pelambres.and.aspx.
- El Ciudadano, La lucha de Caimanes y la cortina de humo montada por Los Pelambres, 2010a. elciudadano.cl/2012/06/08/53634/la-lucha-de-caimanes-la-cortina-de-humo-montada-por-los-pelambres/.
- El Ciudadano, Terminó Huelga de Hambre de pobladores de Caimanes, 2010b. elciudadano.cl/2010/12/17/30233/termino-huelga-de-hambre-en-caimanes/.
- El Ciudadano, Habitantes de Cuncumén cortan ruta en protesta contra Minera Los Pelambres. elciudadano.cl/2011/11/02/43481/habitantes-de-cuncumen-cortan-rutas-en-proteta-contra-minera-los-pelambres/