

II.1.1.2 Underground mines.

In copper the main underground mines are El Teniente, Salvador and Andina of Codelco; El Soldado of Disputada de Las Condes; and, Mantos Blancos of Angloamerican. There are other smaller ones like Punta del Cobre of ENAMI, some private ones like La Cascada of Minera Pudahuel and other smaller exploitations.

In general they are traditional exploitations which have inherited the methods that were predominant during the first half of the century. It is not appropriate to transform them into open pit operations, but when the ground allows it open pit mining is preferred. This explains why their adjacent deposits are exploited in this way.

TABLE X
COPPER ANNUAL PRODUCTION

El Teniente (Codelco)	330,000 tons of fine copper
Salvador (Codelco)	65,000
Andina (Codelco)	65,000
El Soldado	70,000
Mantos Blancos (Angloamerican)	36,000
Small- sized mining sector	15,000
TOTAL	581,000

Except for Chuquicamata, Codelco Divisions have traditionally been underground mines: El Salvador, El Teniente and Andina. However, they have evolved.

In 1989 Salvador also initiated the exploitation of a nearby deposit called Quebrada M by means of open pit. At present Quebrada M produces 24% of the mineral extraction of the Salvador Division.

In 1983 Andina developed an open pit which currently supplies half of its total production which is 120,000 tpy of fine copper contained in concentrates.

II.2 Copper

II.2.1. Codelco-Chile.

The most important Chilean State-owned company is the Corporación del Cobre (Codelco), made up of five productive Divisions: Chuquicamata, El Teniente, Salvador, Andina and Tocopilla. The first four are copper producers and the last one produces electricity, mainly to supply the Chuquicamata complex.

Codelco's main office is in Santiago from where it coordinates all production, supply, and sales activities.

Codelco's annual production is 1.1 million tons of fine copper, more than half of which is obtained from the open pit mine of Chuquicamata. The Corporation accounts for eighty per cent of Chile's copper production - a figure which is decreasing due to new mining investments - and almost fifty per cent of the country's export revenues. Codelco's sales are approximately US\$ 4 billion per year, and its authorized investment for 1992 is US\$ 430 million. Its importance as a consumer of all kinds of capital goods, inputs and services justifies a more thorough analysis of its structure and projects.

In the long term, it is estimated that Codelco's production will decrease from 1.1 million tons in 1991 to approximately 800,000 tons toward the end of 2010. Average grades will fall from 1.3% in 1990 to 1% as of the year 2000.