

The above Table of new projects has not considered some expansions of producing companies, like those mentioned for Chuquicamata (Chuqui Norte, Mansa Mina), Andina (Third Panel Project), El Soldado and Escondida.

In total more than 2.3 million tons of copper will be produced in Chile toward 1996, 1.5 million of which will be extracted from open pits, a figure which represents 69% of the total. Underground mining will account for the remaining 31%. Toward the year 2000, the figures could evolve to 66% and 34%, respectively.

II.2.13.1 Cerro Colorado - Rio Algom

Cerro Colorado is located in the First Region, 12 kilometers from Mamiña.

The Japanese explored the deposit in 1977. The property was bought later by Río Algom of Canada. Río Algom invested US\$ 6 million in the exploration and analysis of this project, together with Outokumpu Oy of Finland, which would purchase the concentrates. Subsequently Outokumpu withdrew. After a period of inactivity, Río Algom re-assessed the project and considered the possibility of open pit extraction with a 12,000 tpd capacity crushing plant and bacterial leaching with sulfuric acid. The proposed capacity would be 40,000 tpy of fine copper. Contemplated investment is US\$ 290 million. Production activities could start in 1994.

II.2.13.2 Quebrada Blanca - Cominco

Quebrada Blanca is a porphyry copper deposit located in the first Region, 170 km from Iquique, 4,200 meters above sea level. Its reserves are estimated at more than 1 billion tons with a grade of 0.6% to 1.4%.

Initially, the project has considered exploitable reserves of 85 million tons with a 1.35% copper grade, which will probably be exploited within 14 years.

After investing US\$ 10 million in this project, Compañía Minera Doña Inés de Collahuasi decided not to continue. The ore deposit was tendered by Enami in September - October 1989 to Minera Cominco Resources Chile Ltda., representing Cominco Resources International, both of Canada. At the end of November the signing of an agreement between Cominco, Enami and Compañía Minera Pudahuel Ltd. was announced, creating Compañía Minera Quebrada Blanca Inc., in which Enami has a 10% share, the Cominco group, 85%, and Sociedad Minera Pudahuel 5% and the right to receive another 5% for the use of its patented technology.

The Quebrada Blanca project represents an estimated investment of US\$ 360 million, including US\$ 26 million to be paid by Cominco to Enami for the right to participate in the Project. At the beginning of 1992 the Foreign Investment Committee approved a US\$ 499 million investment to develop this project.

Exploitation will be open pit. Approximately 35 million tons of waste material will have to be extracted to reach estimated annual production of 3.6 million tons of mineral as of 1994.

Metallurgical tests are being initiated with the installation of a pilot plant at the mine to begin the pre-feasibility study.

Production has been estimated at 75,000 tpy of copper cathodes.

Construction of the plant will take 37 months.

The deposit is a porphyritic copper mineral deposit. Reserves estimated to develop this project and start operations are 85 million tons with an average grade of 1.4% copper. This corresponds to the secondary enrichment area, whose main mineralization is chalcocite. There is also a primary enrichment area where the mineralization is chalcopyrite and bornite.

The exploitation of the mine will be open pit, with an initial removal of 23.5 million tons of sterile to continue with the exploitation of approximately 6 million tpy of mineral of 1.4% copper, which will mean production of 75,000 t of fine copper.

The sterile/mineral ratio will be 4.5 : 1.

The mineral extracted will be crushed and deposited in a place near the mine so that it can be heap leached. The leaching solutions with copper contents will pass to a solvent-extraction process and finally electrowinning to produce copper in the form of Grade A cathodes, freely marketable.

The project's useful life under these conditions has been estimated at 14 years, and start-up is expected in the second half of 1993.