

includes the Churrumata, Tres Perlas, Socorro mines and others. The tender awarded to Placer also includes other Enami assets and rights, such as mining claims in the area surrounding the Andacollo district and outside it, other tailings claims, and studies of water supply.

ENAMI awarded the tender to Placer on the basis of technical reports made by the company and hired consultants.

Placer's project proposes the formation of a company in which ENAMI will have a 20% share. The mine will be an open pit operation, and the plant's estimated production will be 40,000 tons of concentrates with 26.5% copper and 6 g/t gold. It is estimated that the feasibility study will take a year, and the construction of the project will take another two years and two months. Start-up is estimated for 1996, and when the mine and plant are operating, they will provide work for 650 people.

The Placer project, which has been called Placer B-C, includes the exploitation of reserves of 224,200,000 tons of mineral, with pre-production of 32.6 million tons. The mine's useful life span would be 16 years, considering copper grades of approximately 0.64%. Investment would reach US\$ 350 million with an operating cost of US\$ 4.34 per ton. At the beginning of 1992 the Foreign Investment Committee approved a US\$ 130 million investment for this project. It was mentioned at that time that total investment could reach US\$ 600 million.

In July 1992, however, Placer announced that it will not continue with this project because of high mercury content expected in the concentrate, which makes it hard to market today.

### II 2.2.1 New Copper Smelters and Refineries.

Because of a forecasted increase in the availability of concentrates to more than 1.4 million tons and the concern of miners in the II, III and IV Regions, two refineries have been proposed with different locations and partners.

One of them was proposed for the Second Region with production capacity of 500,000 tpy of fine copper. Several companies were interested in this project originally. Among them were BHP-Utah of Australia; RTZ of England (both partners in La Escondida); Outokumpu of Finland; Billiton International Metals (subsidiary of Shell); Angloamerican and Codelco Chile. The first two companies later announced that they would not participate, and the project has not gone forward.

Another smelter is being proposed which has a better chance of success. It would have an annual production capacity of 600,000 tpy of copper concentrates and would require a US\$ 450 million investment within a four-year period. Enami is promoting the project, which would be made up of five companies with a 20% share each: ACEC Union Minière (Belgium); Compañía Minera El Indio, (subsidiary of Lac Minerals); Arbi Participações (Brazil); Sudamericana de Metales (Chile); and, Enami itself. These companies make up the Fundación y Refinería del Pacífico Inc. Codelco would not participate in this enterprise, but the partners are of the opinion that Andina's concentrates could be used to feed the plant, receiving second priority after the small-sized mining sector and the project's partners.

In August, 1991 the Minister of Mining announced the definitive feasibility study for this refinery. The cost of the study was US\$ 900,000, and it was awarded in September 1991 to Davy Mackee, which completed it in March, 1992. Among the aspects still to be defined is the location, which could be Taltal, Chañaral or another place in the IV Region. The refinery should be operating by the end of 1996.

Other similar initiatives are underway to increase the country's processing capacity. The expansion of the capacity of Ventanas and the Hernán Videla Lira Smelter has been suggested. Codelco would probably participate in Ventanas, while Paipote would look for a partnership with a private party, which could be Ojos del Salado or El Indio.

Refimet has also submitted a request to the II Region Authorities for the construction of a small smelter to treat 100 to 120 thousand tons of concentrates per year with an investment of US\$ 25 million.

Enami finished a study of a refinery to be located in the Fundación Hernán Videla Lira with capacity to produce between 80 and 130 thousand tons of cathodes per year, which would make it possible to refine all of that plant's fine copper production by electrolysis.

In addition, feasibility studies have been completed to define investment for a new refinery of 100-200 thousand tpy of anodes at Ventanas. Investment for this plant is estimated between US\$ 50 and 75 million.