

copper concentrates in Rungue, near Santiago. This plant specializes in the processing of concentrates with high arsenic content and produces arsenic trioxide as a by-product.

For the past 4 years Refimet has been processing concentrates from Compañía Minera El Indio, which have a 10% arsenic content, and dust from the Ventanas electrofilter with an arsenic content of approximately 3%. In August, 1988 Refimet completed the construction of its new smelter at La Negra in the Second Region with a US\$ 8 million investment.

Refimet's technology for concentrate treatment with high arsenic content was developed by the company itself, with the aid of the Centro de Investigaciones Minera y Metalúrgica, CIMM. The procedure used is roasting in a multistory furnace, especially designed for and owned by Refimet, in which the arsenic content is transformed into a stable element that is non-soluble in water and non-polluting. Clean, processed concentrates typically contain 0.25-0.4% arsenic which is acceptable in any normal smelter.

II.2.13.12 Quimet - Privately Owned.

Sociedad Química Metalúrgica de Tocopilla S.A., Quimet, a subsidiary of Compañía Minera Tocopilla, inaugurated a high - purity - copper - cathode processing plant in 1991.

The site, located one kilometer south of Tocopilla, processes 100 tons of cathodes per month and produces 99.98% pure electrolytic copper. It has a capacity of 6,000 tpy.

Sociedad Minera Tocopilla also extracts and processes sulfured and oxidized copper minerals and obtains concentrates which are sold to Enami.

At the beginning of 1990 the two companies merged, with a combined capital of \$ 1.3 (1.301) billion (US\$ 4.4 million), to increase productivity and reduce administrative costs.

II.3 Gold and Silver

In 1991 Chilean production of gold was 28,828 kilos, slightly more than in 1990, when 27,503 kilos were produced. Only a decade before it barely surpassed 3,000 kilos. This spectacular increase began at the end of the previous decade with the start-up of the El Indio mine.

Gold production in Chile comes from three major sources: gold mining in itself, copper mining, and mining of other metals like lead, zinc and silver. The first of these sources has been the most important one since El Indio started operating.

Gold mining may be classified as medium and small-sized mining.

In medium-sized mining there are producers like El Indio, La Coipa, El Bronce de Petorca, Choquelimpie and El Hueso. The production of these companies amounts to about 15,550 kilos per year. Several other companies are developing gold projects that will be classified in this group, including Angloamerican Chile, Cominor, Anaconda Chile, Minera Lac Chile, Chevron Minera Corporation, Inversiones Mineras del Inca, Compañía Minera Horus, Freeport Chile Exploration Company and Compañía Minera Millantún of Traiguén.

When all these projects start operations, the country's total production will increase to about 36,000 kilos according to various estimates.

Small-sized gold mining contributes about 2,000 kilos to the total, which come from many exploitations and the remnants of the Gold Plan promoted by the Empresa Nacional de Minería (ENAMI) between 1984 and 1988. An important part of this gold is traded informally, and is thus not included in the statistics.

Copper mining produces approximately 5,000 kilos of gold per year, as a by-product; 40% of this comes from the large mining sector - mainly from anodic slurries - 50% from the medium mining sector, and the rest from small copper miners who exploit high grade gold deposits. Large are 100.000 tpy of fine copper, or more).

Finally, an important contribution to the production of gold is made by silver producers (approximately 6%). This volume is more important if Compañía Minera Vilacollo and its Choquelimpie mine are included in this group.

Lead and zinc mining together produce a small amount of gold, which is not significant in the total.

Until the end of the 1970s Chile was a small gold producer, with a total of slightly more than 3,000 kilos per year. Since the discovery of El Indio and its start-up at the beginning of the 1980s, the country has been included in the group of the ten largest gold producers in the world with a total of about 28,000 kilos of gold in 1991.