

TABLE XIII

DISTRIBUTION OF CODELCO PRODUCTION
Distribution of production according to types of products metric tons:

| | 1989 | 1990 | 1991 |
|--------------|------------------|------------------|------------------|
| Electrolytic | 615,657 | 678,634 | 616,361 |
| Fire refined | 137,864 | 89,738 | 115,416 |
| Anodes | 110,366 | 124,539 | 153,647 |
| Blister | 75,444 | 85,034 | 7,721 |
| Concentrates | 304,104 | 217,377 | 232,333 |
| Total | 1,243,435 | 1,195,322 | 1,125,478 |

Total mineral treated - sulfides and oxides - was 110 million dry tons in 1991.

II.2.1.3 By-products.

In 1991 molybdenum production was 14,434 fine metric tons, compared to 13,830 the previous year. 7,087 tons of this production correspond to molybdenum trioxide and 7,347 tons correspond to molybdenum sulfide concentrates.

Production of metal doré was 196 tons; 70 tons of this production came from material outside the Corporation's companies. The previous year 218 tons of metal doré were obtained.

Sulfuric acid production was 593,863 tons, surpassing the previous year's production of 516,624 tons by 15%.

II.2.1.4 Chuquicamata Division.

The main mine of the Chuquicamata complex has reserves of 3 (3.029) billion tons of mineral with an average grade of 1.03% and deep open pit mineralization. 59 million of these reserves are oxides and 3 (2.970) billion are sulfurs. Chuqui Norte, has reserves of 1.9 (1.866) billion tons, 376 million of which are oxides and 1.5 billion (1.490) are sulfurs. The SurMine has total reserves of 235 million tons; all of which are oxide minerals. El Abra contributes with a total of 1.1 (1.122) billion tons, 406 million of which are oxides and 716 sulfurs. Average grades of these reserves are, in the main pit, 0.86%; Chuqui Norte 0.89%; Mina Sur 1.4% and El Abra 0.63%.

In 1991 Chuquicamata produced 641,429 tons of fine copper. A reduction of about 40,000 tons in its own production occurred in 1991, due to lower mineral grades and a strike that took place in the middle of the year.

The projects that have been developed in recent years have raised copper production capacity to 750,000 tpy. However, it is estimated that production will decrease gradually towards the year 2000, until it reaches 550,000 t. At that time mineral grades will be approximately 1% compared to 1.3% today. Expected concentrate grades are 30% compared to over 36% today. The pit will reach a depth of approximately 750 meters.

When the pit is deepened it will be necessary to extract more waste material from the back or sides to obtain the same amount of material. In addition, trucks and conveyor belts will have to cover longer distances with higher consumption of fuel and energy and, therefore, lower productivity. On the other hand, in the mine's amphitheater there is no more room for equipment which makes it difficult to increase the volumes of material extraction.

Chuquicamata has implemented an emergency action plan to transform a large section of the open pit into an underground mine. The danger lies on the western slope, the main production area, where the incline is so steep that its collapse is feared. Large cracks have appeared which threaten the slope's stability, as it has