

Mining Methods

Most mines use cut and fill and shrinkage mining methods. The few open pits have been operated exclusively by the large companies. The majority of medium-sized mines are becoming more efficient. Jumbos and alimaks are gradually replacing jacklegs and stopers and some mines use raise borers. The majority of mines still uses rail equipment with 1 to 5 ton locomotives, but trackless equipment is becoming more popular. Backfill is usually waste rock, although hydraulic backfill is used in some mines. Blasting is done using gelatine dynamite with conventional fuses and detonators. Progressive mines are switching to more sophisticated explosives and electrical detonation.

Many qualified analysts suggest that after the US-owned Cerro Corporation was expropriated in the early 1970's, the clock stopped in terms of technological development. There are some private mines, however, which are at the forefront of technology and innovation using continuous mining systems, in-the-mine computers and sophisticated engineering. The ingenuity, quality and knowledge of miners here should not be underestimated.

RESULTS FOR 1990, OUTLOOK FOR 1991

The total value to the Peruvian economy of mining and mineral processing is roundly estimated at US\$4 billion annually, or about 13 percent of GDP. Mining exports represent about 50 percent of total Peruvian exports by value.

Copper, silver and iron production fell in 1990 by 13 percent, 15 percent and 20 percent respectively; lead and zinc output levels continued about even, but may conceivably be bedeviled by falling prices as 1991 begins. Production results for 1989 and 1990, broken down by leading producers, are displayed in Appendix I,

Copper Production:

National copper production, 317,706 fmt (fine metric tons) in 1989, is projected to rise by some 15 percent to 346,749 fmt in 1991 - this figure would still be 15 percent below 1987 production. Production in 1990 was down 13 percent from 1989.

The biggest copper producer is Southern Peru Copper Corporation (SPCC); the company's copper production in 1990 was an