

THE MINERAL INDUSTRY OF

PARAGUAY

By Pablo Velasco

The Republic of Paraguay, which is located northeast of Argentina in central South America, has an area of about 406,750 square kilometers (km²). The area supported a population of 5.4 million in 1999. The gross domestic product (GDP) was \$19.8 billion (1998 estimate) of purchasing power equivalent. The market economy had a large informal sector, that featured reexport of imported consumer goods to neighboring countries and the activities of thousands of microenterprises and urban street vendors. The formal sector was largely oriented toward services. A large percentage of the population derived their living from agricultural activity, often on a subsistence basis. Although the formal economy has grown by an average of 3% during the past 6 years, the GDP declined in 1998. The population has increased at about the same rate over the same period, thus leaving per capita income nearly stagnant (U.S. Central Intelligence Agency, 1999, World factbook 1999—Paraguay—Economy, accessed October 26, 1999, at URL <http://www.odci.gov/cia/publications/factbook/pa.html>).

The economy is dependent on exports of cattle, cotton, soybeans, timber, sugarcane, and yerba mate. The mineral industry of Paraguay accounted for less than 1% of its GDP and was concentrated in the manufacture of cement and the extraction of industrial materials. Mineral-related activities included production of pig iron and steel and petroleum refining, all derived from imported raw material.

Paraguay's continued integration into the Mercado Común del Cone Sur [Southern Cone Common Market (Mercosur)] offers great potential for growth and supports the move toward a Free Trade Area of the Americas in this century. In mid-1999, U.S.-based Yamana Resources Inc. secured a letter of intent with Newmont Mining Corp. whereby Newmont will conduct gold exploration on Yamana's properties in Paraguay. The agreement covered 35,000 km² and will focus on the large alkaline igneous rock districts. In 1999, Yamana reported the

discovery of the first recorded bedrock gold in Paraguay; it is associated with a breccia pipe within intrusive alkaline rocks (Mining Journal, 1999). Production of cement during the past few years has remained stable at 675,000 metric tons per year (t/yr), but expectations for 1999 are that output will rise to 730,000 t/yr, which is well above capacity limits. Paraguay had one cement producer—state-owned Industria Nacional del Cemento. The company operated three works with a total cement capacity of 675,000 t/yr—a clinker production plant at Itapucumi, a clinker grinding unit at Villeta, and the integrated works at Puerto Vallemi.

The country has one of the highest hydroelectric power potentials per person in the world, and its major hydroelectric powerplants more than satisfy the country's demand for electricity. According to the Administración Nacional de Electricidad (ANDE), the state electricity company, 51% of all households had access to electricity. Coverage was highest in the central region (which includes Asunción, the capital) where the rate was 81% and lowest in the rural region of Caazapa where it was only 17.5%. The most important source of Paraguay's hydroelectric power was the Itaipu Dam, which was a joint Paraguayan-Brazilian project on the Paraná River between Paraguay and Brazil. Paraguay and Argentina jointly operated the \$8.5 billion Entidad Binacional Yacyreta (EBY) hydroelectric project on the Paraná River between Paraguay and Argentina. EBY, the company that operates the dam has been facing financial and technical problems, because of the debt (\$10.5 million) it has amassed during the past several years.

Reference Cited

Mining Journal, 1999, Paraguay: Mining Annual Review, v. 333, no. 8542, December 3, p. A123.

TABLE 1
PARAGUAY: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/	1995	1996	1997	1998	1999 e/
Cement, hydraulic thousand tons	635	675 r/	675 r/	730 r/ e/	730
Clays:					
Kaolin	66,300	66,500	66,700 e/	66,700 e/	66,600
Other e/ thousand tons	1,900	1,900	2,000	2,000	2,000
Gypsum e/	4,500	4,500	4,500	4,500	4,300
Iron and steel:					
Pig iron	103,130	103,562	78,615	65,545 3/	66,000
Steel, crude	94,927	95,543	65,542	56,243 3/	56,300
Lime e/	100,000	100,000	100,000	90,000 r/	90,000
Petroleum, refinery products:					
Liquefied petroleum gas thousand 42-gallon barrels	--	7	7 e/	10 e/	10
Gasoline do.	288	223	255 e/	250 e/	250
Jet fuel do.	142	--	71 e/	110 e/	100
Kerosene do.	55	52	50 e/	50 e/	50
Distillate fuel oil do.	661	526	593 e/	600 e/	600
Residual fuel oil do.	489	354	422 e/	450 e/	450
Unspecified do.	40	29	35 e/	35 e/	37
Total do.	1,675	1,191	1,433 e/	1,505 e/	1,497
Pigments, mineral, natural, ocher e/	300	300	300	300	300
Sand, including glass sand e/ thousand tons	2,000	7,000	10,000	10,000	9,000
Stone: e/					
Dimension do.	70	70	70	70	70
Crushed and broken:					
Limestone (cement and lime) do.	600	600	600	600	600
Marble do.	750	750	750	750	750
Other do.	2,000	2,000	2,000	2,000	2,000
Talc, soapstone, pyrophyllite e/	200	200	200	200	200

e/ Estimated. r/ Revised. -- Zero.

1/ Includes data available through March 2000.

2/ In addition to commodities listed, construction materials (clays, gravel, miscellaneous rock, sand, and weathered tuffs) were presumably produced. Available information is inadequate to make reliable estimates of output levels of these commodities.

3/ Reported figure.