

THE MINERAL INDUSTRY OF

URUGUAY

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Uruguay is a small, open-market economy that allows private ownership. It is largely agrarian, with a liberal foreign investment policy, political stability, a progressive Government, outstanding regional and international relations, and tremendous hydropower potential. The production of minerals is evolving from small-scale to more capital-intensive mining operations. The mining industry has attracted domestic and foreign investors, particularly from Argentina, Brazil, Canada, Italy, Japan, and the United States, to produce granite, gold, and semiprecious stones. The gross domestic product (GDP) grew by 2% to \$15 billion,² while the rate of inflation was 44% by yearend, representing a decrease from that of 1993, when it was 53%. The foreign debt increased by \$300 million to \$4.2 billion, unemployment reached 9.6%, and the country's international reserves were \$810 million.

The Government was seeking to increase exports by relaxing regulations on participation of foreign investors in the mineral industry and by requiring no tariffs for imports of equipment, machinery, tools, and accessories used in prospecting, exploring, mining, and processing of mineral commodities.

Uruguay's economic development strategy is based on the active involvement of the private sector within a competitive market economy. Monetary and exchange rate policy changes were aimed at curbing inflation. The Government appeared to have a tighter grip on public spending. The Treaty of Asunción, Paraguay, created the Southern Cone Common Market (MERCOSUR), which would establish a common market by January 1, 1995, and would bring economic and commercial benefits to Uruguay from a reduction of all tariff barriers on traded goods and services in the region.

Uruguay continued to maintain its liberal import policy and unrestricted foreign exchange market. Uruguay's market share of U.S. exports has excellent opportunities to increase in the 1990's. Uruguay benefits from the Generalized System of Preferences. Tariff exemptions exist for imports of capital goods, accelerated depreciation, and export financing. Restrictions on foreign investment in Uruguay were nonexistent. Uruguay's debt-equity swap program offers incentives for foreign investment, including no time restrictions on profits and capital repatriations. A growing number of companies took advantage of Uruguay's liberal foreign investment policies, resulting in increased mineral exploration activities.

Provisions of the 1972 Mining Code are as follows: a prospecting permit is issued for up to 1,000 square kilometers (km²) and a 2-year term; an exploration permit is for up to 10 km² and a 2-year term; and a mining concession is for a maximum of 5 km² and up to a 30-year term. Decree No. 516/990 of November 1990 authorized the Administración Nacional de Combustibles, Alcohol y Portland (ANCAP) to call for tenders from companies interested in offshore drilling.

Uruguay's mining and quarrying were for gold and construction minerals, such as clays, dimension stone, dolomite, granite, gypsum, limestone, marble, quartz, and sand and gravel. The Mahoma gold project, 60 kilometers (km) northwest of San José, came on-stream at an initial production of 1,250 kilograms per year (kg/a). Expansion plans would double gold production in late 1995. Dolomite was mined for use in the glass and construction industries, for steel, and in refractories. Limestone was produced principally for portland cement production. Various clays were mined for producing brick, pipe, tile, and whiteware. Talc was mined for use in the paper industry and in ceramics, cosmetics, insecticides, and pharmaceuticals. Feldspar was mined for the ceramics industries and glass. (*See table 1.*)

Uruguay reduced diesel and fuel oil export taxes and abolished import tariffs for raw materials and capital goods applicable to the mining sector. During 1994, the country had been running a hefty trade deficit, particularly with the United States, which amounted to about \$42 million. Uruguay's total exports and imports were \$1.8 billion and \$2.7 billion, respectively. The country exported clays, gravel, limestone, precious stones, sands, and chemical products valued at \$125 million. Imports of crude oil, lubricants, and petroleum products were estimated at \$300 million. ANCAP imported crude oil and refined petroleum from Argentina, Brazil, Colombia, Iran, Mexico, and Nigeria.

The mining sector imported from the United States ammonium phosphate for fertilizer, valued at \$20 million, and mineral products, sulfur, lubricants, and petroleum byproducts and chemicals, valued at \$65 million. Uruguay's exports to the United States were valued at \$255 million.

The National Institute of Mining and Geology of Uruguay delineated 14 areas with precious-metal and base-metal potential. Investment in prospecting and mining increased as a result of favorable legislation designed to relax regulations of foreign companies in the minerals sector. San José

Mining Co., a subsidiary of Canada's Bond International Gold Ltd. (BIG), and Steel S.A., a subsidiary of Brazil's Mineração e Participação, invested \$40 million in precious-metal and other metal exploration. American Resource Corp. (ARC) of Greenbrae, California, developed an initial 1,250-kg/a gold mine at Mahoma, 130 km from Montevideo. During 1994, 80% of its fuel energy requirements was refined by ANCAP at its Teja plant in Montevideo. Minas de Talco Narancio S.A. produced talc in Colonia and Lavelleja Departments for use in the paper industry and in ceramics, cosmetics, pharmaceuticals, and insecticides. Also, Gerdau of Brazil acquired an additional 43% of the Industria Nacional Laminadora S.A., including a 60,000 metric tons per year (mt/a) steel mill at Pando and a 100,000-mt/a rebar and wire mill in Montevideo. Gerdau controls the whole Uruguayan steel industry. (See table 2.)

Uruguay has provided ARC with exclusive rights to explore and develop Mahoma gold leases in San José Department. Gold ore produced from a series of high-grade open pits was processed in a conventional mill using gravity separation and carbon-in-leach recovery at a rate of 1,000 metric tons per day (mt/d). The final doré product will be exported for refining. Also, ARC continued to be active in the development of its \$30 million San Gregorio gold project, near the Mahoma gold mine. A U.S. company, Gold Standard Inc., of Salt Lake City, Utah, continued exploration at its San Juan Hills gold leases in the San José area of San José Department. Big Pony Gold Inc. of Salt Lake City, Utah, 50%-owned by Gold Standard, continued exploring a large tract in the southeast region of the country, locating several gold occurrences. Big Pony's subsidiary, Tormin S.A., continued exploring encouraging gold prospects near Montevideo.

The iron ore at Valentines in Florida and Treinta y Tres Departments, and at Zapucay in the northern Department of Durazno, were marginally viable. It was announced that a Uruguayan-Bolivian joint-venture iron production facility was to be built, possibly with Japanese technology, at the mouth of the Paraná River. Bolivia would supply iron ore from the Mutún deposit and natural gas to power the plant. Electricity would be supplied from Uruguayan hydroelectric plants. The projected output was about 2 million metric tons per year (Mmt/a) of high-quality iron worth \$300 million.

Uruguay's main quarrying and surface mining included production of clays, dimension stone, dolomite, granite, gypsum, limestone, quartz, sand and gravel, and particularly gold. Uruguay mined marble in Lavelleja, Maldonado, and Soriano Departments, which was exported to Western Europe and Canada. The country also is well known for its production of agate and amethyst from Artigas Department. Large reserves of dolomite occur at Lavelleja, 250 km east of Montevideo. About 19,000 mt/a of dolomite was mined in Lavelleja and Maldonado Departments for use in construction, glass, the steel industry, and refractories. ANCAP produced limestone in Cerro Largo, Lavelleja, Maldonado, and Paysandú Departments. Titanium-bearing sands suitable for the extraction of ilmenite and monazite

were surveyed, and a feasibility study continued in the Rocha Department. Corundum was produced for natural abrasive applications, although demand in the optical-lens grinding field still was limited.

In 1994, exploration did not delineate any oilfields of economic value, natural gas resources remained unquantified, and coal was of poor quality. In an effort to reduce its heavy dependence on crude oil imports, Uruguay maintained a well-developed hydroelectric power system and has the potential for alternative energy sources from small uranium deposits. ANCAP also has been seeking joint-venture partners interested in new exploration for oil in the River Plate area.

Uruguay's mineral reserves are modest compared with some other mineral-producing countries in Latin America. ARC reported developing a gold mine at Mahoma in Canelones Department, which contains 169,000 mt of proven and probable reserves grading 11.8 grams per metric ton (g/mt) of gold. Satellite deposits of Mahoma, Cerro San Carlos and Madre, contain 113,000 mt grading 8.4 g/mt of gold and 66,000 mt grading 6.7 g/mt of gold, respectively. ARC indicated that its San Gregorio gold project contained proven and probable reserves in excess of 5.7 million metric tons (Mmt) grading 2.4 g/mt. ARC also has remained active on its Santa Teresa property, 3 km west of San Gregorio. Uruguay has two iron ore deposits; each has proven reserves of 45 Mmt of 40% iron in Florida and Treinta y Tres Departments. In addition, the Zapucay deposit in the northern Department of Durazno includes 400 Mmt of iron ore containing 40% iron.

Uruguay has an extensive and well-maintained infrastructure. Mineral production, including mineral fuels, is transported primarily by road and rail systems. In 1994, there was 49,900 km of roads, of which 6,700 km was paved, 3,000 km was gravel, and 40,200 km was dirt. There was 3,000 km of railroad in the country, all standard gauge (1.435-meter) and owned by the Government. The major ports are Montevideo and Punta del Este on the Atlantic Ocean, Colonia on the Río de la Plata, and Fray Bentos and Paysandú on the Uruguay River. Virtually all of Uruguay's industry and about 44% of the population are within the Montevideo Province.

In 1994, total installed electric power capacity was about 1,720 megawatts (MW), of which 32% was generated by thermal plants and 68% by hydroelectric plants. Uruguay's energy import problem was eased with the opening of the 1,890-MW-capacity Salto Grande hydroelectric plant, a cooperative project with Argentina, on the Uruguay River in Salto Department. Uruguay shared 32% of Salto Grande's production and 34% of the El Palmar powerplant in Salto Department.

Uruguay's mineral sector is expected to remain of minor importance to the economy. However, the country has a potential for producing a variety of minerals, particularly gold, which is projected to be highly profitable. Investors will have excellent opportunities to enter this sector through expansions of existing projects and prospects, although Uruguay's main mining activities still remained in the

production of construction materials, industrial minerals, and semiprecious stones. Most of the country's energy requirements will be supplied by hydroelectric plants, unless exploration reveals significant exploitable mineral fuel deposits. There is a real interest in foreign investment, and major commitments recently have been made in mining; some taxes were waived within the gold industry during the construction or investment phases. Expropriation is remote, and no changes in current Government policies can be foreseen.

For the benefit of the mineral industries of the region, MERCOSUR is planning to construct early in the 21st century a multibillion-dollar bridge that would connect Colonia, 140 km west of Montevideo, with Buenos Aires, across the River Plate. The 35-km-long bridge, currently undergoing a feasibility study, would make Uruguay the MERCOSUR transportation hub, cutting highway delivery times by up to one-third between Argentina, Brazil, and Chile. Another joint project would be the \$1 billion 2,750-km-long Paraná-Paraguay-Uruguay riverways that will interconnect Argentina, Brazil, Bolivia, Paraguay, and Uruguay to transport minerals and goods to Atlantic coast ports. Also, Argentina and Uruguay are considering construction of a pipeline between Buenos Aires and Montevideo to bring Argentine natural gas across the River Plate.

Uruguay's competitiveness should be enhanced by eliminating the value-added tax for imports of capital goods; by allowing deductions of financing costs for imports of machinery and equipment; by eliminating the tax on fuel oil

consumption; and by reducing the fiscal deficit through lower rates of inflation and unemployment.

¹Text prepared Apr. 1995.

²Where necessary, values have been converted from Uruguayan Pesos (\$) to U.S. dollars at the average market rate of \$4.47=US\$1.00.

Major Sources of Information

Administración Nacional de Combustibles, Alcohol y Portland
Montevideo, Uruguay
Ministerio de Industria y Energía
Montevideo, Uruguay
Instituto Geológico del Uruguay
Montevideo, Uruguay

Major Publications

Banco Central del Uruguay, Montevideo, Uruguay: Boletín Estadístico (annual report).
Instituto Latinoamericano del Fierro y el Acero, Santiago: Anuario Estadístico de la Siderúrgica y Minería del Hierro de América Latina, annual.
Siderurgia Latinoamericana, monthly.
Inter-American Development Bank, Washington, DC: Economic and Social Progress in Latin America, annual.
Latin American Mining Institute, Washington, DC: The South American Investment and Mining Guide, annual.

TABLE 1
URUGUAY: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

| Commodity | 1990 | 1991e/ | 1992 | 1993 | 1994 |
|---|----------|-----------|-----------|---------|---------|
| METAL | | | | | |
| Aluminum, secondary | 42 | 42 | 42 | 42 | 50 |
| Barite | 15 | 15 | 15 | 15 | 15 |
| Cement, hydraulic | 500,000 | 500,000 | 500,000 | 500,000 | 600,000 |
| Clays, unspecified e/ | 150,000 | 150,000 | 150,000 | 150,000 | 150,000 |
| Coke, gashouse e/ | 8,000 | 8,000 | 8,000 | 8,000 | 8,000 |
| Corundum | 45 | 45 | 45 | 45 | 50 |
| Feldspar | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 |
| Gemstones, semiprecious: | | | | | |
| Agate | 100 | 100 | 100 | 100 | 100 |
| Amethyst | 80 | 80 | 80 | 80 | 100 |
| Gold kilograms | -- | -- | 300 | 300 | 300 |
| Gypsum | 145,000 | 145,000 | 145,000 | 145,000 | 145,000 |
| Iron and steel: | | | | | |
| Iron ore | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 |
| Metal: | | | | | |
| Ferroalloys: Electric-furnace ferrosilicon crust e/ | 250 | 250 | 250 | 250 | 250 |
| Steel, crude | 38,000 | 41,000 r/ | 55,000 r/ | 40,000 | 55,000 |
| Semimanufactures | 18,000 | 18,000 | 18,000 | 18,000 | 18,000 |
| Lime | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 |
| Petroleum refinery products: | | | | | |
| Liquefied petroleum gas thousand 42-gallon barrels | 698 2/ | 700 | 700 | 700 | 700 |
| Gasoline do. | 1,849 2/ | 1,850 | 1,850 | 1,850 | 2,000 |
| Jet fuel do. | 201 2/ | 200 | 200 | 200 | 300 |
| Kerosene do. | 409 2/ | 410 | 410 | 410 | 500 |
| Distillate fuel oil do. | 2,963 2/ | 2,970 | 2,970 | 2,970 | 3,500 |
| Lubricants do. | 60 2/ | 60 | 60 | 60 | 100 |
| Residual fuel oil do. | 2,573 2/ | 2,580 | 2,580 | 2,580 | 3,000 |
| Unspecified do. | 501 2/ | 500 | 500 | 500 | 500 |
| Refinery fuel and losses e/ do. | 29 2/ | 30 | 30 | 30 | 50 |
| Total do. | 9,283 2/ | 9,300 | 9,300 | 9,300 | 11,150 |
| Sand and gravel: | | | | | |
| Sand, common thousand metric tons | 1,500 | 1,500 | 1,500 | 1,500 | 1,500 |
| Gravel do. | 500 | 500 | 500 | 500 | 500 |
| Stone: e/ | | | | | |
| Dimension | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 |
| Crushed and broken: | | | | | |
| Alum schist | 8,000 | 8,000 | 8,000 | 8,000 | 10,000 |
| Dolomite | 19,000 | 19,000 | 19,000 | 19,000 | 20,000 |
| Limestone | 750,000 | 750,000 | 750,000 | 750,000 | 750,000 |
| Marble | 4,000 | 4,000 | 4,000 | 4,000 | 5,000 |
| Marl | 7,000 | 7,000 | 7,000 | 7,000 | 10,000 |
| Quartz | 300 | 300 | 300 | 300 | 500 |
| Other, including ballast thousand metric tons | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 |
| Sulfur, elemental, byproduct e/ | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 |
| Talc, soapstone, pyrophyllite e/ | 1,500 | 1,500 | 1,500 | 1,500 | 1,500 |
| Tuff: Tufa e/ | 3,500 | 3,500 | 3,500 | 3,500 | 3,500 |

e/ Estimated. r/ Revised.

1/ Includes data available through Mar. 15, 1995

2/ Reported figure.

TABLE 2
URUGUAY: STRUCTURE OF THE MINERAL INDUSTRY FOR 1994

(Thousand metric tons unless otherwise specified)

| Commodity | Major operating companies and major equity owners | Location of main facilities | Annual capacity |
|--------------------|---|--|--------------------|
| Cement | Administracion Nacional de Combustibles, Alcohol y Portland (Government, 100%) | Minas and Paysandu plants, Montevideo | 1,000 |
| Dolomite | do. | Lavalleja, 250 kilometers east of Montevideo | 30 |
| Gold | American Resource Corp. (private, 100%) | Mahoma, 130 kilometers from Montevideo | 930 |
| Do. | do. BIG Resources Management, Pty. Limited (private, 100%) | Mahoma Sur, San Jose Department | 1,800 |
| Do. | do. Stell S.A. (private, 100%) | Minas de Corrales, Rivera Department | 1,440 |
| Petroleum products | thousand 42-gallon barrels Administracion Nacional de Combustibles, Alcohol y Portland (Government, 100%) | Refineria de la Teja, Montevideo | 13,400 |
| Steel | Industria Nacional Laminadora S.A. (Government, 43%; private, 57%) | Planta Pandos and Barros Arana near Montevideo | 60 |
| Talc | tons Minas de Talco Narancio S.A. (private, 100%) | Minas de Talco in Colonia and Lavalleja Departments | 1,460 |