

THE MINERAL INDUSTRY OF

COSTA RICA

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The production of minerals in Costa Rica contributed somewhat less than 1% to that nation's gross domestic product (GDP). Any increase in the contribution by the mining sector should depend, in part, on favorable price movement in world gold prices. The country's GDP was projected to increase from \$9.9 billion in 1998 to about \$11 billion in 1999, with an overall growth rate of about 6.2%. Total exports were projected to climb from \$5.5 billion in 1998 to about \$6.5 billion in 1999, and imports were likewise projected to increase from \$6.23 billion in 1998 to about \$6.9 billion in 1999 (Latin America Monitor, 1999).

Mining was governed by law 6797 of 1982. The Ministerio de Recursos Naturales, Energia y Minas was responsible for the control and development of Costa Rica's mineral resources through the Direccion de Geologia, Minas e Hidrocarburos, the Minera Nacional, S.A. (MINASA), and the National Environmental Commission. MINASA coordinated mineral industry activities between Government agencies and the private sector.

The Government-owned Refinadora Costarricense de Petroleo, S.A. (RECOPE) controlled oil-refining operations, but exploration companies were mostly privately owned. A 1994 law promoted exploration and production of hydrocarbons through negotiated contracts, good for 3 years plus three 1-year renewal options. Nonrenewable production contracts could last for 20 years before expiration. An "Environmental Action Plan" that was promulgated by the Government included fines for violations of its management policies (World Oil, 1994, p. 32).

Costa Rica has been regarded as the "Switzerland of Central America" because of its uninterrupted century of democracy and its ability to remain neutral in the wars and upheavals of neighboring countries. Consequently, it became one of the first targets for exploration by foreign companies following hostilities during the past 25 or 30 years in Central American countries. Beginning in the early 1990's, however, Costa Rica became a focal point for the international environmental movement, which diminished its attractiveness to mineral exploration and persuaded some companies to put their development plans in abeyance (Mining Journal, 1997, p. 296). Gold exploration and development, in particular, were affected.

Canadian and U.S. companies were involved in a number of gold and silver exploration and mining operations (table 2). Production of gold, with silver as a byproduct, was from the Central Gold Belt of the Tilaran Cordillera in the northwest, primarily in the Abangares district of Guanacaste Province. The major gold producer was the Tres Hermanos Mine, which was a small underground operation 110 kilometers northwest of San Jose; it was operated by El Valiente Ascari, S.A., which was a subsidiary of Ariel Resources, Ltd. of Vancouver, Canada.

Ariel also operated the San Martin and El Recio mines and the Matapalo mill. San Martin, which had lower grade ore than the other two mines, was put on suspension in early 1999. The company reported "9,523 ounces" [about 296 kilograms (kg)] of gold was produced during the fiscal year ended September 30, or 22% less than the previous fiscal year (Ariel Resources, Ltd., October 6, 1999, Ariel Resources, Ltd. reports gold production, accessed October 6, 1999, at URL http://biz.yahoo.com/bw/991006/ariel_reso_1.html). This seemed to belie the company's prediction that it would produce about 2.5 metric tons per year (t/yr) (80,000 ounces per year) by 2000 (Northern Miner, 1996).

After acquiring the Cerro Crucitas and the Cerro Conchudita properties in the far northwest near the Nicaraguan border, Lyon Lake Mines Ltd. (Canada) applied for an exploitation permit on the Crucitas holdings, where Lyon Lake envisaged the production of 31.1 metric tons (1 million ounces) of gold during a period of 12 years. Late in the year, however, Lyon Lake suspended discussions on financing of a mine and mill at Crucitas (Northern Miner, 1999).

Wheaton River Minerals Ltd. pressed ahead with exploration of its Bellavista property after the completion of a positive feasibility study which concluded that an output of nearly 1.9 t/yr (60,000 ounces per year) could be achieved at a cost of \$179 per ounce. The company sought \$24 million in debt financing to get the project underway (Metal Bulletin, 1999).

Laguna Gold Company (Denver, Colorado), suspended operations at its Rio Chiquito gold mine and began further exploration and confirmation drilling to investigate discrepancies between expected gold grade and actual recovery, with previous projections thus acknowledged to be uncertain (Mining Magazine, 1999).

Industrial mineral production included cement, clays, diatomite, lime, pumice, salt, sand and gravel, and crushed stone (table 1). Of the 13 known diatomite deposits, which stretch from Liberia to Cartago, only the Loma Camastro deposit northeast of Liberia was being mined. About 20% of mined limestone was used to produce aggregate, lime, and dimension stone. Cementfabrik Holderbank AG, which was a Switzerland-based cement producer, was the largest shareholder (44%) in the Industria Nacional de Cemento, S.A. (INCSA), which had about 290 employees. Holderbank also had a 65% interest in the concrete producer Productos de Concreto S.A., San Jose, with 1,160 employees (Cementfabrik Holderbank AG, 1993). Limestone was quarried primarily for the use in the manufacture of cement by Cementos del Pacifico, S.A., and INCSA. Fertilizers were produced by Fertilizantes de Centro America S.A., which was the largest producer in Central America. Salt was produced, primarily around the Golfo de Nicoya, by the solar evaporation of brine.

Crude oil for domestic refining was imported from Mexico

and Venezuela under the San Jose Petroleum Accords, as well as from Colombia. Most petroleum products were imported from the Netherlands Antilles and the United States. RECOPE operated the country's oil refinery. Cement plants were owned by the Government and by private firms.

Foreign investors were encouraged to explore for gold, to modernize old mines, to open new mines, and to explore for petroleum. The Government expected to continue its improvement of infrastructure and environmental management, as well as divestment of several major state-owned companies.

References Cited

- Cementfabrik Holderbank AG, 1993, 1992 annual report: Cementfabrik Holderbank AG, 24 p.
- Latin America Monitor, 1999, Central America—Costa Rica economic outlook: Business Monitor International Ltd., v. 16, no. 4, April, p. 6.
- Metal Bulletin, 1999, Costa Rican gold mining—As one door shuts another opens: Metal Bulletin Newsletter, Metals and Minerals Latin America, v. 4, no. 24, p. 2.
- Mining Magazine, 1999, Exploration and development—Latin America: Mining Magazine, v. 181, no. 1, July, p. 81.
- Mining Journal, 1997, Mining in Central America: Mining Journal Central and South America (Supplement), v. 328, no. 8423, April 4, 22 p.
- Northern Miner, 1996, Ariel reports boost in gold production: Northern Miner, v. 82, no. 9, p. 12.
- 1999, Lyon Lake seeks permit for Crucitas: Northern Miner, v. 85, no. 44, December 12, p. 12.
- World Oil, 1994, Exploration in Costa Rica: World Oil, August, 92 p.

Major Sources of Information

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Major Publication

- Latin American Mining Institute, Washington, DC: Mexico and Central America Investment and Mining Guide, annual.

TABLE 1
COSTA RICA: ESTIMATED PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Commodity	1995	1996	1997	1998	1999
Cement	865,000 3/	830,000 3/	940,000 3/	1,085,000 3/	1,100,000
Clays, common	410,000	410,000	412,000	415,000	415,000
Diatomite	2,000 r/	2,000 r/	1,194 r/ 3/	1,595 3/	1,600
Gold kilograms	400	510	502 r/ 3/	483 r/ 3/	300
Iron and steel, semimanufactures	89,000	88,000	88,000	89,000	90,000
Lime	9,800	9,800	9,800	9,800	9,800
Petroleum refinery products thousand 42-gallon barrels	4,400	4,500	4,500	4,500	4,600
Pumice	8,000	8,000	8,000	8,000	8,000
Salt, marine	32,200	37,000	37,000	37,000	37,000
Silver kilograms	150 r/	200 r/	100 r/	69 r/ 3/	65
Stone, sand and gravel:					
Crushed rock and rough stone thousand tons	1,300	1,350	1,350	1,060 r/ 3/	1,100
Limestone and calcareous materials do.	1,500	1,500	1,500	1,600	1,600
Sand and gravel do.	1,500	1,400	1,400	1,640 r/ 3/	1,650
Sandstone	1,000 r/	2,000 r/	2,500 r/	3,262 r/ 3/	3,300

r/ Revised.

1/ Estimated data are rounded to no more than three significant digits.

2/ Table includes data available through April 15, 2000.

3/ Reported figure.

TABLE 2
COSTA RICA: STRUCTURE OF THE MINERAL INDUSTRY IN 1999

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity e/ 1/
Cement	Industria Nacional de Cemento, S.A. (INCSA) (Cementfabrik Holderbank AG, 44%, other private, 56%).	Aguas Calientes, Cartago, Cartago Province	550
Do.	Cementos del Pacifico, S.A. (CEMPASA)	Near Colorado, Guanacaste Province	850
Clays	CEMPASA (CEMEX 95.3%; Government 4.7%)	Tajo Finca, near Platanar, Guanacaste Province	100
Gold kilograms	El Valiente Ascari, S.A. (Ariel Resources, Ltd., Canada, 100%)	Tres Hermanos and El Recio mines, San Martin Mine, Matapalo mill Las Juntas, Guanacaste Province	500
Do.	do. Lyon Lake Mines Ltd. (90%), Government of Costa Rica (10%).	Beta Vargas Mine, Guanacaste Province	160
Do.	do. Lyon Lake Mines Ltd.	Cerro Crucitas and Cerro Conchudita projects, San Carlos Province	
Limestone	INCSA	La Chilena quarry, near Cartago, Cartago Province	550
Do.	CEMPASA	Cerro Pena Blanca quarry, Guanacaste Province	300
Petroleum produced 42-gallon barrels	Refinadora Costarricense de Petroleo, S.A.	Moin refinery, Limon Province	5,760

e/ Estimated.

1/ Because changes occur frequently, information relating to capacity may be revised yearly.