THE MINERAL INDUSTRY OF

COSTA RICA

By David B. Doan

The production of minerals in Costa Rica contributed less than 1% to that nation's gross domestic product (GDP), but there were signs that the mining contribution might improve. The country's GDP was projected to increase from $9.5 billion in 1997 to $9.9 billion in 1998, with an overall growth rate of about 4.5%. Total exports climbed from $3 billion in 1997 to about $3.4 billion in 1998, while imports likewise increased from $4.1 billion in 1997 to about $4.4 billion in 1998 (U.S. Department of State, 1998).

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 Direcccion de Geologia Minas e Hydrocarburos, 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 (World Oil, 1994). An "Environmental Action Plan," newly promulgated by the Government, included fines for violations of its management policies.

Production of gold, with silver as a byproduct, was primarily in the Abangares district of Guanacaste Province, from the Central Gold Belt of the Tilaran Cordillera in the northwest. The major gold producer was the Tres Hermanos Mine, a small underground operation 110 kilometers northwest of San Jose, operated by El Valiente Ascari S.A., a subsidiary of Ariel Resources Ltd. of Vancouver, Canada. Ariel also operated the San Martin underground mine and the Matapalo mill. The company reported that gold production should reach about 2.5 metric tons per year (80,000 ounces) by 2000 (Northern Miner, 1996). The El Recio deposit in the Abangares gold mining district, held by Greenstone Resources Ltd. of Canada, was sold to Ariel for shares of Ariel and a net-profits interest of 10%, expandable to 30% after certain conditions were met (Ariel Resources Ltd., 1995).

In the far northwest San Carlos Province, near the Nicaraguan border, Placer Dome Inc. of Canada, explored the Cerro Crucitas and Cerro Conchudita properties and conducted metallurgical tests. Late in the year, Lyon Lake Mines Ltd. (Canada) acquired the two properties from Placer Dome (Northern Miner, 1998). Meanwhile, in midyear, Lyon Lake announced the suspension of operations at its Beta Vargas Mine pending a recovery in gold prices (Metals Economics Group, 1998, p. 32).

Long regarded by many as the "Switzerland of Central America" because of its uninterrupted century of democracy, isolating itself from the wars and upheaval of neighboring countries, Costa Rica became one of the first targets for exploration by foreign companies. Beginning in the early 1990's, however, Costa Rica became a focal point for the international environmental movement, diminishing its attractiveness to mineral exploration and persuading some companies to put their development plans in abeyance (Mining Journal, 1997, p. 296). Gold exploration and development, in particular, were affected.

In November 1996, Ariel Resources received permission to begin open pit extraction at the San Martin Mine, subject to an early payment of a restoration deposit required by the Government. Minera Rayrock, however, was denied approval of its environmental impact statement submitted for the Bellavista gold project. Rayrock reportedly was disappointed with this action in that it had worked closely with the Government and addressed all its concerns (Mining Journal, 1996). Seeking to cut its losses, Rayrock sold the property to Wheaton River Minerals Ltd., who pressed ahead with exploration in 1998.

Industrial mineral production included cement, clays, diatomite, lime, pumice, salt, sand and gravel, and crushed stone. (See table 1.) Of 13 known diatomite deposits stretching 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, dimension stone, and lime. Cementfabrik Holderbank AG, a cement producer, based in Switzerland, 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, 1992). 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., the largest producer in Central America. Salt was produced by the solar evaporation of brine, primarily around the Golfo de Nicoya.

Crude oil for domestic refining was imported from Mexico and Venezuela, under the San Jose Petroleum Accords, as well as from Colombia, but 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.

Canadian and U.S. companies were involved in a number of gold and silver exploration and mining operations. (See table 2.) Foreign investors were encouraged to explore for gold, modernize old mines, 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

Northern Miner, 1996, Ariel reports boost in gold production: Northern Miner [Toronto], v. 82, no. 9, p. 12.

Major Sources of Information

Instituto Costarricense de Electricidad
Sabana Norte, San Jose, Costa Rica
Telephone: (506) 20-7720
Fax: (506) 20-1555
Minera Nacional, S.A.
Apartado 5298, Zona 1000
San Jose, Costa Rica
Telephone: (506) 53-7555
Fax: (506) 57-0697
Ministerio de Recursos Naturales, Energia y Minas
Direccion de Geologia, Minas e Hidrocarburos
Apartado 10104, Zona 1000
San Jose, Costa Rica
Telephone: (506) 33-2360
Refinadora Costarricense de Petroleo S.A.
Apartado 4351, Zona 1000
San Jose, Costa Rica
Telephone: (506) 33-0333
Fax: (506) 23-2748

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)

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Cement</td>
<td>940,000</td>
<td>865,000</td>
<td>830,000</td>
<td>940,000</td>
<td>1,085,000</td>
</tr>
<tr>
<td>Clays, common</td>
<td>401,000</td>
<td>410,000</td>
<td>410,000</td>
<td>412,000</td>
<td>415,000</td>
</tr>
<tr>
<td>Diatomite</td>
<td>4,000 t/</td>
<td>2,000 t/</td>
<td>2,000 t/</td>
<td>1,194 t/</td>
<td>1,595 t/</td>
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<tr>
<td>Gold</td>
<td>358 3/</td>
<td>400</td>
<td>510</td>
<td>502 3/</td>
<td>483 3/</td>
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<tr>
<td>Iron and steel, semimanufactures</td>
<td>87,000</td>
<td>89,000</td>
<td>88,000</td>
<td>88,000</td>
<td>89,000</td>
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<tr>
<td>Lime</td>
<td>9,500</td>
<td>9,800</td>
<td>9,800</td>
<td>9,800</td>
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<td>Petroleum refinery products</td>
<td>4,000</td>
<td>4,400</td>
<td>4,500</td>
<td>4,500</td>
<td>4,500</td>
</tr>
<tr>
<td>Pumice</td>
<td>8,000</td>
<td>8,000</td>
<td>8,000</td>
<td>8,000</td>
<td>8,000</td>
</tr>
<tr>
<td>Salt, marine</td>
<td>31,700</td>
<td>32,200</td>
<td>37,000</td>
<td>37,000</td>
<td>37,000</td>
</tr>
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### TABLE 2
COSTA RICA: STRUCTURE OF THE MINERAL INDUSTRY IN 1998

(Thousand metric tons unless otherwise specified)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Major operating companies and major equity owners</th>
<th>Location of main facilities</th>
<th>Annual capacity 3/e</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement</td>
<td>Industria Nacional de Cemento S.A. (INCSA) (private, 100%)</td>
<td>Aguas Calientes, Cartago, Cartago Province</td>
<td>550</td>
</tr>
<tr>
<td>Do.</td>
<td>Cementos del Pacifico S.A. (CEMPASA) (subsidiary of Corporacion Costarricense de Desarrollo, S.A., Government, 100%)</td>
<td>Near Colorado, Guanacaste Province</td>
<td>545</td>
</tr>
<tr>
<td>Clays</td>
<td>CEMPASA</td>
<td>Tajo Finca, near Platanar, Guanacaste Province</td>
<td>100</td>
</tr>
<tr>
<td>Gold</td>
<td>kilogramms El Valiente Ascar, S.A. (Ariel Resources Ltd., Canada, 100%)</td>
<td>Tres Hermanos Mine, Las Juntas, Guanacaste Province</td>
<td>500</td>
</tr>
<tr>
<td>Do.</td>
<td>Lyon Lake Mines Ltd. (90%), Government of Costa Rica (10%).</td>
<td>Beta Vargas Mine, Guanacaste Province</td>
<td>160</td>
</tr>
<tr>
<td>Do.</td>
<td>Lyon Lake Mines Ltd.</td>
<td>Cerro Crucitas, Cerro Conchudita projects, San Carlos Province.</td>
<td>4,000</td>
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<tr>
<td>Limestone</td>
<td>INCSA</td>
<td>La Chilena Quarry, near Cartago, Cartago Province</td>
<td>550</td>
</tr>
<tr>
<td>Do.</td>
<td>CEMPASA</td>
<td>Cerro Pena Blanca Quarry, Guanacaste Province</td>
<td>300</td>
</tr>
<tr>
<td>Petroleum products</td>
<td>thousand 42-gallon barrels Refinadora Costarricense de Petroleo, S.A. (RECOPE)</td>
<td>Moin Refinery, Limon Province</td>
<td>5,760</td>
</tr>
</tbody>
</table>

1/ Estimated data are rounded to three significant digits or less.
2/ Table includes data available through April 1999.
3/ Reported figure.

e/ Estimated.