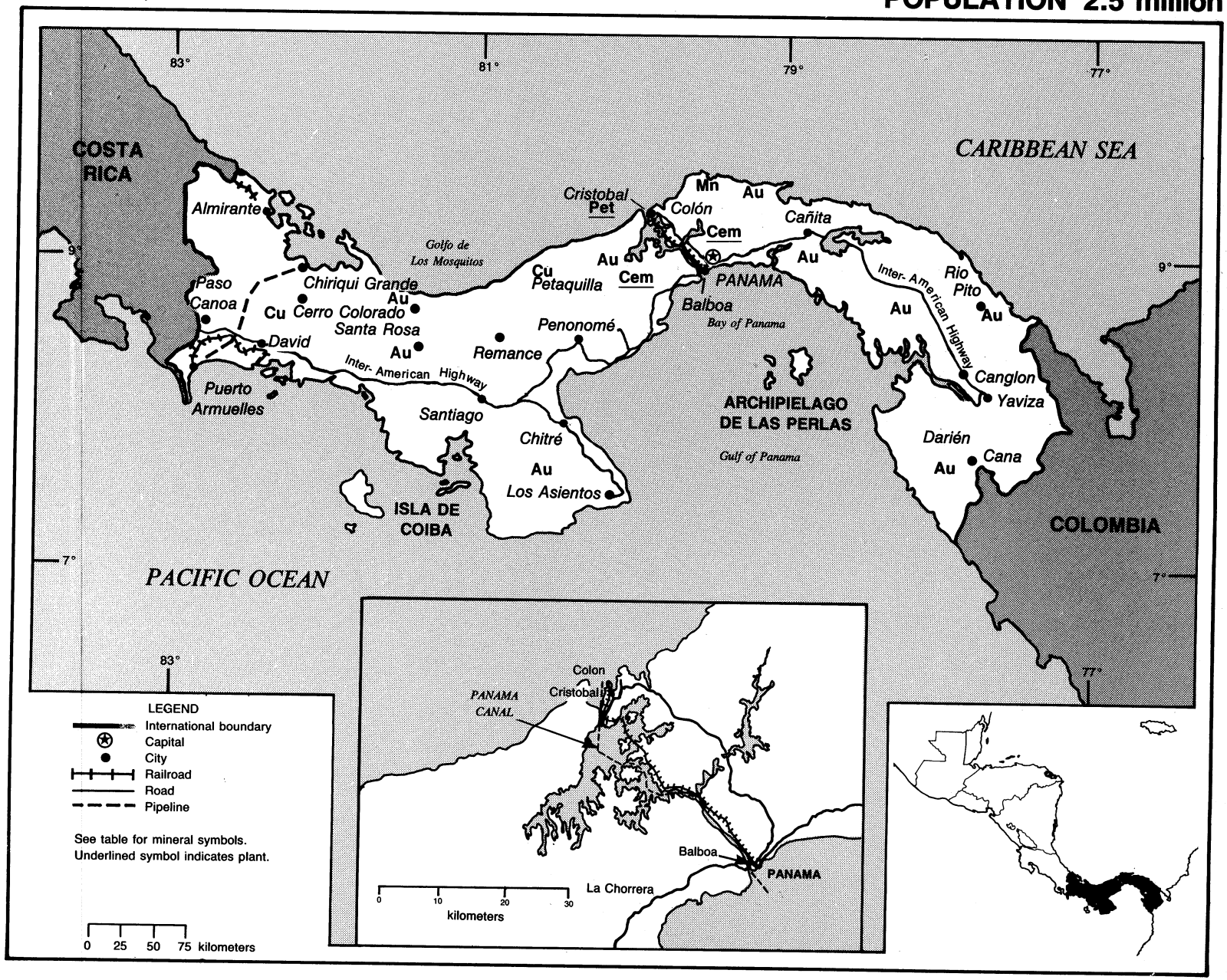
PANAMA

AREA 75,990 km²

POPULATION 2.5 million



THE MINERAL INDUSTRY OF

PANAMA[1]

By George A. Rabchevsky

The Republic of Panama is on the narrowest and lowest portion of the isthmus connecting North and South America. The country is bordered by Costa Rica to the west and Colombia to the east. The north coast is bordered by the Caribbean Sea and the south by the Pacific Ocean. Almost 70% of the country consists of volcanic rocks. Volcanic activity has made the soil very fertile, making agriculture important to the country's economy, accounting for about 15% of the gross domestic product (GDP). Panama's geographic location and configuration is often considered to be its principal natural resource. The Panama Canal, completed in 1914, dominates Panama's economy, generating approximately 25% of its GDP. Under the 1978 U.S.-Panama Treaty, the control of the canal will be turned over to Panama on December 31, 1999.

In 1993, the GDP increased by 5.9%, following a growth of 8% in 1992. The inflation in 1993 was reported as 1.6% and the unemployment rate at 13%. About 5% of the country's economy was credited to mineral transportation and industrial mineral production.

Mining still accounted for less than 1/2% of Panama's GDP. Panama mined gold and silver. Industrial minerals were produced for domestic use including cement, clays, limestone, salt, and sand and gravel. However, a number of new mineral deposits have been discovered, the largest of which was the Cerro Colorado copper deposit in the Chiriqui Province near the Costa Rican border. Gold deposits are now being exploited—the Remance Project was already in production and others like Cerro Quema, Santa Rosa, and Petaquilla are to start in 1995-97.

GOVERNMENT POLICIES AND PROGRAMS

The controlling legislation for mining was The Code of Mineral Resources, Decree law No. 23 of August 22, 1963, as amended by Decree No. 125, July 21, 1964; Decree No. 126, August 21, 1964; Decree No. 142, August 31, 1964; Decree No. 26, August 21, 1969; Decree No. 404, December 29, 1970; law No. 55, July 10, 1973; law No. 70, August 22, 1973; law No. 89, October 4, 1973; law No. 109, October 8, 1973; law No. 9, January 8, 1974; law No. 33, November 8, 1984; law No. 20, December 30, 1985; and law No. 3, January 28, 1988. Law No. 109 regulates the exploration and extraction of industrial minerals.

The Ministry of Trade and Industry is the central administrative body responsible for developing and implementing Government policy on industry, trade, and the exploitation of mineral resources. The Mining law No. 3 was modified on February 8, 1988, to bring the code in line with the international free market and stimulate foreign and local investors within the mining field: (1) Foreign companies are allowed a 4-year concession to work deposits they discovered, with a 2-year extension; (2) Extraction concessions are granted for specific mineral classes for a period of 20 to 25 years, extendable; (3) The state is obligated to grant an extraction concession if exploration is successful; (4) The Government reduced the rate of tax on mines to 2% of gross production for base metals and 4% for placer precious-metals production; (5) The Government also waived import duties on capital equipment; and (6) All minerals produced in Panama may be exported freely and exempt from duties. There are no restrictions on foreign ownership or repatriation of capital, but there is a 10% withholding tax on dividends or interest payable to foreign shareholders.

To stimulate economic recovery, the Government drew up the National Strategy for Economic Development and Modernization, approved by Cabinet Council Resolution No. 17-A of March 14, 1991. The Resolution presented four major principles: (1) Further development of the market economy, (2) private sector responsibility for production, (3) integration of the Panamanian economy in the world economy, and (4) modernization of Government structure. The Panamanian Government also proposed to privatize state-owned companies, including its interest in a cement company, in its national telephone company, in certain port facilities, and in portions of the national electricity company.

ENVIRONMENTAL ISSUES

Panama is better known for its canal than for its mines, but a pollution risk is oil leaking from the ships to the canal. Silting of the canal from bank erosion and sediment built up from tributaries is a common problem and is easily taken care of by regular maintenance service. Gold panning presents some disturbances in the river channels, and the surface mining of the manganese ore uncovers and leaves scars on the topography. The mining of both is not considered large, so environmental problems are not as serious as when the country will uncover larger deposits. Limestone quarries are few and small and are scattered throughout the country, posing no environmental

problems to the local population and tourists.

PRODUCTION

Panama produced only two metals, gold and silver. At the time of writing this report the production numbers were not available, thus all output was estimated. The production of industrial minerals such as cement, limestone, and sand and gravel increased in 1993, reportedly, because of a boom in the construction industry. Petroleum products output rose slightly because of an increase in the tourist industry. (*See table 1.*)

TRADE

Panama's trade policy is regulated by the various laws governing the sector and executive programs of the Government institutions that execute that policy and form part of the Institutional Structure for Foreign Trade. Panama is basically an importing country. Panama imported almost all mineral requirements for its industrial base. Mineral-related exports consisted primarily of scrap metal and petroleum products. Panama imported about 70% of crude oil from Ecuador and about 22% from Venezuela under the San Jose Accord. Saudi Arabia supplied the balance of Panama's crude oil requirements.

Panama signed bilateral agreements with countries in Central America whereby certain items may be imported from or exported to these countries without any customs duties being imposed. Panama was eligible for trade benefits under the U.S. Generalized System of Preferences and the Caribbean Basin Initiative. The United States was Panama's largest trading partner, and Panama was the third largest site of U.S. investment in Latin America after Mexico and Brazil. The major supplier of Panama's imports was the United States, followed by Asian manufacturers such as Japan, the Republic of Korea, and Taiwan and by Costa Rica and Germany. Panama exported raw materials and natural products primarily to the United States, and also to Costa Rica, France, Germany, Italy, Nicaragua, and the United Kingdom. (*See tables 2 and 3.*)

STRUCTURE OF THE MINERAL INDUSTRY

The Mineral Resources Department (MRD), a Division of the Ministry of Commerce and Industry (MCI), was established by Decree No. 404 in December 1970. It is responsible for carrying out the technical and administrative functions stipulated in the Code of Mineral Resources. Applications for mining permits are made directly to MRD. Exploration and mining concessions are granted by MCI. There are also a series of governmental, professional, and private organizations involved in the mining sector. MCI and MRD began stimulating the private investments in mineral exploration projects.

Private companies operated most of the mineral industry in Panama. The Government jointly owned the Empresa Estatal de Cemento "Bayano" and held a 40% interest in Petroterminal de Panama, S.A., the crude oil transshipment and pipeline activity. The Government and Rio Tinto Zinc Ltd. (RTZ), which held the remaining 49%, continued to maintain the project in caretaker status. The Government was again considering divesting itself of its interest in the cement company and its 51% interest in the Cerro Colorado copper project. (*See table 4.*)

COMMODITY REVIEW

Metals

Copper.—The Petaquilla property was first geologically mapped in 1968 and 1969 by a United Nations Development Program team, leading to the discovery of a number of copper porphyry mineralized zones. To date, two large copper deposits have been discovered, the Petaquilla and Botija. The Petaquilla deposit is currently the largest of these, with reserves of 444 Mmt of ore grading 0.74% copper, 5 g/mt silver, and 0.08 g/mt gold. Japan and Panama could not reach a development agreement for the Petaquilla deposit, and in May 1992 Adrian Resources Ltd. began exploration. In 1991, Minnova (Panama) Inc. optioned an 80% interest in the Petaquilla copper concession from Geo-Recursos International S.A. In 1992, Adrian Resources Ltd. optioned a 40% interest in Minnova. On July 13, 1993, Adrian acquired 100% of shares of Geo-Recursos. Adrian holds a 20% direct interest in the Petaquilla property and holds an option to acquire a further 32% interest from Metall Mining Corp. Core drilling continued in 1993 on the Botija and Petaquilla sites. Those sites are adjacent to the national park (Parque Nacional del Cope), so the project is particularly sensitive to the potential environmental damages. The final feasibility study may be completed by early 1995. Adrian also secured adjoining properties and is planning to explore other areas of the concession.

The Cerro Colorado copper deposit is considered one of the largest untapped deposits in the world, with proven reserves of 1.4 billion tons of ore grading 0.78% copper, 5.1 g/mt silver, and 0.08 g/mt gold. The Government is attempting to attract foreign investors to evaluate the deposit further. RTZ received an exploration permit in 1975 but later returned its 49% stake to the Government. Indian groups in Panama protested against starting mining. Initially RTZ proposed to mine out the entire deposit, but now the Government is proposing to extract 60 Mmt to conserve the resource and protect the environment. The Government planned to offer 60% of the project to foreign investors.

Gold.—Panama is part of the gold-producing circum-Pacific "ring of gold" and its geology offers optimal conditions for the formation of gold-rich deposits. Panama has 13 gold deposits. Gold mining in Panama also includes small-scale placer operations in the Darien Province, in the southeastern area of the country. Panama has a long history of gold production. Between 1559 and 1589,

the Spanish extracted more than 9 tons of gold from the Cocuyo District on the Atlantic coast. From 1680 to 1729, the Spanish recovered gold at the El Espirito Santo de Cana Mine in Darien Province.

The Panamanian company Transworld Exploration S.A. and the Peruvian company Minera Remance operated an underground gold mine, northeast of Santiago. Remance Mine is northwest of Santiago in the Veraguas Province. The mine was first exploited by Indians in the 19th century, followed by the Veraguas Mining Co. and then by the Panama Corp. in 1931. Minera Remance S.A. is now operating the underground mine. Reserves were estimated at 200,000 tons with a grade of 6.5 g/mt gold and 19 g/mt silver.

Greenstone Resources Ltd., Toronto, Canada, was working on the feasibility study for the Santa Rosa gold mine. The deposit is about 1 kilometer south of the town of Canazas, Veraguas Province. Gold mineralization at the Santa Rosa has been known since the late 1920's. A United Nations study in 1960 followed by governmental drilling confirmed economic occurrences. Freeport McMoRan Inc. drilled again in 1986-88 and sold its interest to a joint venture comprising Greenstone and Boliden International Ltd. in 1990. Greenstone acquired Boliden's interest in the property in January 1993, thus becoming the sole owner of the mine. The Santa Rosa concession encompasses a collapsed Miocene caldera having gold deposits on the northern rim. Hot fluids percolated through the faults, fissures, and porous tuffaceous rocks altering and mineralizing the rock with gold. The adjacent Alto de la Mina gold deposit occurs in an andesite stockwork. Proven and probable minable reserves were estimated at 9 Mmt grading 1.5 g/mt gold for the Santa Rosa deposit. Reportedly, this reserve contains 13,375 kg of gold. The ore will be mined by open pit methods and then heap leached. Startup will be phased in with initial production coming from the smaller Alto de la Mina pit in 1994. Production from the Santa Rosa pit would follow in 1995. Full capacity production of 1,850 g/a gold is expected to be reached in 1996. Mining will be conducted by a contract mining company. Greenstone also worked on two other wholly owned production concessions, in the area surrounding the Santa Rosa project, called Boca d'Hugui and Aquacatal. The company has four exploration concessions in other areas of Panama and continued looking for new opportunities.

Manganese.—Manganese deposits are known in five areas in Panama. They are Bahia de Mandinga, Bahia de Montijo, Calzada Larga, Nombre de Dios, and Rio Boqueron. The Nombre de Dios area on the north coast has been the most productive. A feasibility study was conducted in 1992 by the Caribbean Mining Company Inc. to reopen the open pit Cerro Viejo Mine northeast of Colon. The mine, scheduled to begin operations in January 1994, contains an estimated 600,000 tons of manganese ore reserves. The company received a 25-year manganese mining concession from the Government on August 5, 1992.

The second manganese deposit, "La Soledad," is also in the Colon Province, and exploration rights were granted also to the Caribbean Mining Company. The deposit is composed mostly of pyrolusite and psilomelane with a grade of more than 85% MnO_2 and reserves estimated at 1 Mmt of ore.

Industrial Minerals

Panama produced cement, clays, lime, limestone, marine salt, and sand and gravel in small operations. Cement was produced by the Empresa Estatal de Cemento "Bayano" at Calzada Larga near the canal and by the private company Cemento Panama, S.A. at Quebrancha, also near the Canal. Cement production in 1993 was at 50% capacity, in spite of the reportedly growing tourist trade. Volcanic rocks cover more than 70% of the island's surface, making potential igneous rock quarries and gangue minerals available to future explorations, including basalt, granite, pumice, and tuffas.

Mineral Fuels

In Panama, all crude oil was imported for the refining of its petroleum products. The country owed $131 million to Venezuela and $116 million to Mexico for crude oil imports, under the San Jose agreement. Reportedly, both countries stopped shipping oil to Panama in 1993. About 14.5 million barrels was imported from Ecuador and Saudi Arabia. Lacking funds, the Government offered to pay off Venezuela with milk, sugar, meat, and seafood.

Texaco Exploration Panama Inc. began its exploration for crude oil off the northwest coast in Bocas del Toro Province.

The enactment of Decree No. 29 on July 14, 1992, Decree No. 38 in September 1992, and Decree No. 26 on May 6, 1993, liberalized the status of the petroleum market and created the Petroleum Free Zones (PFZ). Within the PFZ, national or foreign corporations may perform multiple operations under a special tax regime. The activities permitted in the PFZ include all types of operations concerned with warehousing, pumping, transfer, distribution, trading, and refining of crude petroleum and petroleum products.

Geothermal energy sources have been located throughout Panama, with more than 20 thermal hot spring sites. Technical and economic assessments have been carried out at the following locations: Baru-Colorado Volcanic Complex at Chiriqui Province and Chitra-Calobre and El Valle at Cocle Province.

INFRASTRUCTURE

Roads in Panama were generally in good condition, especially in and around urban areas. The Pan-American Highway runs most of the length of the country along the Pacific coast. Paved highways accounted for 2,745 km of about 8,500 km of roads. There was only 238 km of railroad track in the country.

Proximity to both the Pacific Ocean and the Caribbean Sea make the 82 km Panama Canal very useful and profitable. About 60% of the ships using the canal are going from one U.S. port to another. Transportation of mineral products, shipped through the canal or sent through

the oil pipeline, has also been a significant facet of the minerals industry in Panama. Crude oil was transshipped through a 130-km pipeline extending from Puerto Armuelles on the Pacific coast to Chiriqui Grande on the Atlantic coast. The port of Bahia Las Minas in Colon, the site of the oil refinery of Rafineria Panama, S.A., handles and receives oil tankers and other vessels. Balboa, Cristobal, and certain other ports service regular oceangoing freighters and passenger ships.

Electricity in Panama was generated by the state-owned Instituto de Recursos Hidraulicos y Electrificacion. The electrical capacity was rated at 848 MW, 65% of which came from the hydroelectrical stations. Private companies donated about 265 MW to the country's total capacity. A geothermal energy region in southwestern Panama had an estimated potential of 400 MW.

OUTLOOK

Foreign investment in the precious-metals areas is expected to increase because of the incentives provided by law No. 3. New copper, gold, and manganese projects are expected to start in 2 to 3 years. Production of all the commodities is also expected to grow in 1994 because of the growing construction and tourist industries. The approval and funding of the 150-MW coal-fired generating plant would expedite the development of the country's coal reserves. Texaco Panama Inc. is exploring for oil off the northwest coast in Bocas del Toro Province, on the Pacific side. The reliance on all imported oil will decrease once the oil is found, and other companies will start exploration programs. Environmental studies are being considered to evaluate the extraction of gold and manganese ore.

[1]Text prepared May 19, 1994.

[2]Where necessary, values have been converted from Panamanian balboas (B) to U.S. dollars at the rate of B1.00=US$1.00 in 1993.

OTHER SOURCES OF INFORMATION

Agency

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TABLE 1
PANAMA: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity		1989	1990	1991	1992	1993e	Annual capacitye (Jan. 1994)
Cement		168,500	300,000	e300,000	e250,000	300,000	610,000
Clays:							
For cement		43,047	122,332	368,582	415,058	420,000	500,000
For products		e36,000	e90,000	75,343	72,849	72,850	90,000
Gold[2]	kilograms	—	85	194	250	255	350
Lime[e]		[3]2,000	3,000	1,320	1,500	1,500	3,000
Petroleum refinery products	thousand 42-gallon barrels	6,552	8,466	e8,000	e9,000	9,500	14,000
Salt, marine[e]		17,990	22,200	18,000	20,000	20,000	24,000
Silver	kilograms	—	41	91	162	165	200
Stone, sand and gravel:							
Limestone:							
For cement		181,304	315,955	289,855	665,720	670,000	800,000
For other uses		16,509	77,098	47,968	e50,000	55,000	80,000
Sand and gravel	thousand tons	e1,000	470	1,941	2,448	2,500	3,500
Sand, silica		e12,000	14,829	17,613	22,600	22,500	24,000

eEstimated. rRevised.

[1]Includes data available through May 16, 1994.

[2]An unquantifiable amount of gold was recovered from placer deposits in Darien Province during 1989.

[3]Reported figure.

TABLE 2

PANAMA: STRUCTURE OF THE MINERAL INDUSTRY FOR 1993

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement		Empresa Estatal de Cemento "Bayano" (Government, 50%; Private, 50%)	Calzada Larga, Panamá Province	300
Do.		Cemento Panamá, S.A. (Private, 100%)	Quebrancha, Panamá Province	310
Gold	kilograms	Minas Santa Rosa, S.A. [Greenstone Resources Ltd. (Canada), 100%]	Santa Rosa Mine, Veraguas Province	1,800
Do.	do.	Transworld Exploration, S.A. and Minera Remance (Peru)	Remance Mine, Veraguas Province	293
Do.	do.	Sociedad de Inversiones IXTAPA, S.A. (Private, 100%)	Espíritu Santo de Cana Mine, Darien Province	NA
Petroleum products	million 42-gallon barrels	Refinería Panamá, S.A. (Texaco Panama Inc. [U.S.], 100%)	Las Minas, Colón Province	14
Silver	kilograms	Transworld Exploration, S.A. and Minera Remance (Peru)	Remance Mine, Veraguas Province	200

NA Not available.