

THE MINERAL INDUSTRY OF GUATEMALA

By Pablo Velasco¹

Guatemala has pushed ahead with a number of ambitious economic reforms in the last several years. The band of external tariffs was narrowed and lowered to 5% to 20% as Guatemala established a free trade area with El Salvador and Honduras. The Government has recently liberalized most petroleum prices and planned to eliminate most electricity subsidies in 1994. The foreign exchange market has been reestablished. The Government concluded a preliminary agreement with the International Monetary Fund (IMF), which was expected to be converted into a formal standby agreement late in 1994, and was modernizing the financial sector with the assistance of the International Development Bank (IDB). The gross domestic product (GDP) growth was estimated by Government officials to be around 5% and the inflation rate below 9%. The GDP was estimated at \$12.1 billion² in current U.S. dollars, a 5% increase in real terms. The Government anticipated increased foreign investment in mining and petroleum during 1994. Economic growth could be stimulated by new investment in the mineral sector.

Only very limited mineral production was reported in 1994, including antimony and gold from mines located in the Huehuetenango District. Also produced were various industrial minerals, cement, and crude oil. Other minerals known to occur, but not currently worked commercially, included nickel and sulfur.

The Guatemalan Government invited mining companies to participate in the bidding process for the El Pato gold prospect identified by an exploration project of the United Nations Revolving Fund for Natural Resources Exploration (UNRFNRE). It has been estimated that the deposit contains about 2 million metric tons (Mmt) of ore grading 7 grams per metric ton (g/mt) of gold and to have attracted interest from several major international mining concerns.

Another project was to reassess the economic feasibility of reviving the former Exploraciones y Explotaciones Mineras Izabal, S.A./Inco Ltda. of Canada (Exmibal/Inco) nickel facility.

The controlling legislation for mining was Decree Law 69-85 of July 12, 1985, as modified by Decree Law No. 125-85. Small-scale mining was covered by Decree Law 55-90 of December 3, 1990. Both laws were reformed in conformity with Article 125 of the Guatemalan Political Constitution by Congressional Decree Law No. 41-93 of November 29, 1993. The petroleum activity was covered by the

Hydrocarbon Law, Decree Law 109-83, and associated regulations, especially Government Edicts 1034-83 and 203-84.

Guatemala maintains a welcoming attitude toward foreign investors and business. In fact, the Government was streamlining the registration process and otherwise producing a more attractive climate for foreign investors, exporters, and importers. Investment opportunities have been created, although there was still no investment code with the guarantees and incentives required by prospective foreign investors.

Since there is no law specifically covering a foreign investment in Guatemala, most of the restrictions and requirements typically found in such laws do not exist. However, restrictions on foreign investment in specific sectors do apply. The government has provided incentives for hydrocarbon investments by permitting a 100% deductible on all exploration and exploitation expenses. Petroleum investors were eligible for tax-free imports of certain goods for 5 years, suspension of duty without bond on items to be reexported, and were allowed to maintain foreign currency deposits outside the country. Mining operations were similarly allowed duty-free imports.

The U.S. Government was reviewing petitions claiming that Guatemala inadequately protects worker rights. If that review determines that the Government of Guatemala is not taking steps to improve the protection of worker rights, Guatemala could lose its access to programs under the Generalized System of Preference (GSP), Caribbean Basin Initiative (CBI), and the Overseas Private Investment Corp. (OPIC).

Procedural regulations to the mining law were enacted through Governmental Agreement (G.A.) No.1349-85, and modified by G.A. No 1211-85. Article 12 of Chapter II—Fundamental Dispositions and Mining Regimes Advising on Technical Assistance, established in section (e). The regulations required that the National Environmental Commission (CONAMA) give technical and administrative assistance to interested persons on how to acquire mining rights and on how to protect the environment. Article 27 of Chapter IV—Mining Exploitation—(Obligations), section (f) of the mining law also established that the owner of a mine or mineral deposit must present to CONAMA a copy of the Environmental Impact Study prior to the start of any

mining exploitation.

A grant for the equivalent of up to \$2 million from the Inter-American Development Bank's special funds will support the Guatemalan Government's consolidation of its national system of environmental management. Activities financed by the program will be carried out on five fronts: Institutional strengthening for CONAMA and other agencies active in the field; legislative and regulatory reform; formal and informal environmental education; sectoral investment planning; and overall resource allocation.

The International Finance Corporation's (IFC) Environmental Division conducted an environmental Assessment (EA) Executive Summary for the Guatemalan Basic Petroleum International Limited. The review of the project was made in two phases. The first phase of the environmental review involved building a 120-kilometer (km), 30-centimeter (12-inch) pipeline from the Xan Field in northeast Guatemala, the company's main producing field, to the La Libertad refinery. The second phase of the environmental review involves a capital expenditure program to develop and expand the company's existing reserves.

Guatemala's mineral commodities that were major contributors to the total value of mineral production in 1994 were antimony, gold, and various industrial minerals, all primarily for domestic use. (*See table 1.*)

Guatemala continued as Central America's only crude oil producer. Oil production in the first 8 months of 1994 increased by 8% to 1.83 million barrels. Average daily output for the same period increased from about 6,900 to 7,600 barrels per day (bbl/d). The Energy and Mines Ministry reported that 80% of the country's oil comes from the Xan Field in Peten Province. Basic Resources International Ltd. reported that the fifth Xan well, recently completed, is producing oil at a rate of 2,000 bbl/d from a depth of 2,321 meters.

Guatemala became the 103d member of the General Agreement on Tariffs and Trade (GATT) when its Congress ratified the accession protocol in October.

The mineral industry, like the overall economy, was dominated by the private sector. The Government's involvement in the mineral sector was limited to promotion and regulation of the industry. Policy for the mineral sector, including required environmental impact assessments, was set by the Ministry of Energy and Mines. This ministry also formulated policies for the petroleum and energy industries. The Ministry of Economy was the agency in charge of approving U.S. capital investment projects submitted under the Agreement on U.S. Capital Investment Guarantees entered into between Guatemala and the United States.

Guatemala was the third largest producer of antimony in Latin America, after Bolivia and Mexico. Antimony ore and concentrate were produced by Minas de Guatemala S.A. from the Anabella, Los Lirios, and Clavito Mines at Ixtahuacán, near the Department of Huehuetenango in the western region of the country. In addition to the recovery of 94% of the

antimony values by flotation to produce antimony sulfide concentrates assaying an average of 65% antimony, the company reported it had recovered 65% arsenopyrite by gravity and flotation to produce a concentrate assaying an average 24% arsenic and 124 g/mt of gold. Output was exported mainly to Metaleurop Weser Blei GmbH (METALEUROP) in France. The company was considering the use of biotechnology methods to recover the maximum gold values from the mined ore.

The Government invited mining companies with the required technical and financial capacity to participate in the bidding process for the El Pato gold prospect identified by an exploration project of UNRFRNRE. It has been estimated that the deposit contains at least 2 Mmt of ore grading about 7 g/mt of gold and that daily production was likely to be about 1,000 metric tons (mt).

Because of falling prices, Inco Ltd. has again all but abandoned hopes that it will soon restart its Guatemalan mining affiliate. Since Inco commissioned a report last year to consider the economic viability of restarting the mothballed nickel mine, the nickel price has fallen from about \$6,000/mt to \$5,000/mt. Published reports about the study raised expectations in Guatemala that operations were about to restart, and a visit by engineers to inspect the mine, which once employed 800, brought prospective workers to the gates. But the caretaker's general manager for Exploraciones y Explotaciones mineras Izabel S.A. (Exmibal) stated that the studies so far were "very preliminary" and that the company "does not want to raise false hopes."

The plant, forced to close in late 1980 due to a slump in nickel prices and a coincident jump in oil prices, is in an ecologically sensitive area near Lake Izabel. Exmibal currently employs a skeleton staff of about 30 employees to maintain the kiln, generator, and other equipment. From 1978-80, the mine produced about 25 million metric tons per year (Mmt/a) of ore. Exmibal does, however, have several 40-year contracts to mine in the Lake Izabel area, the first of which expires in 2005.

The cement, ceramics, construction, and glass industries were the country's leading users of industrial minerals. Cement, clays, feldspar, gypsum, lime, and sand and gravel primarily were produced for the local market. Guatemala's Cementos Progreso, S.A. was the only cement producer in the country with two cement plants in operation, which together were capable of providing 1.4 Mmt/a of cement. Because cement consumption in the country was forecast to exceed the company's production capacity in coming years, Cementos Progreso decided to import cement in the short term in the range of 200,000 to 400,000 metric tons per year (mt/a). Because a suitable location could not be found for the new import terminal within Puerto Quetzal, the company chose to convey cement out of incoming ships directly into bulk road trucks. These trucks will then transport the cement from the port to a warehouse facility about 5 km away.

Northern Guatemala's Xan Field appears larger than first thought. Basic Petroleum International Ltd. has completed the 5 Xan well, producing about 2,000 bbl/d of American Petroleum Institute 17° gravity oil. New reserve estimates for Xan were expected to exceed its previous estimate of 351 million barrels (Mbbbl) as of yearend 1994. Basic expected 5 Xan to add significantly to its reserves. It planned to drill three more wells in the Xan Field in 1994.

The field's four wells, including 5 Xan, can produce more crude than can be trucked. Basic Petroleum International Ltd., Paris, France laid a 120-km, \$13.75-million crude oil pipeline in Guatemala from its Xan oil field to its 4,000 bbl/d La Libertad asphalt refinery. It let a contract to Mexico's Lineas de Producción S.A. to lay the line, which when operational in mid-1995 is expected to save Basic more than \$2/bbl in transportation costs and help it boost field output, currently constrained by trucking capacity limits. Xan Field, discovered in 1985, produced more than 1.7 Mbbbl in 1993.

Crude oil production in Guatemala in the first 8 months of the year increased by 8% to 1.83 Mbbbl, of which 1.3 Mbbbl was exported through the Port of Santo Tomás de Castilla on the Caribbean Sea. Imports of crude oil and finished products increase by 8% on the same period to 3.75 Mbbbl, compared with that of 1993. Imports of crude from Venezuela under the San Jose accord totaled 1.76 Mbbbl in 1993. That year, Guatemala also imported petroleum from Argentina, Colombia, and Ecuador.

Basic Resources started up a 2,000-bbl/d refinery in the Peten area of Guatemala. The plant processes Guatemalan Xan crude and produces asphalt, naphtha, kerosene, diesel fuel, and distillate fuel oil. Previously, all asphalt consumed in the country had to be imported.

Guatemala had a moderately developed infrastructure. Crude oil was transported from oilfields and refineries to domestic consumption centers and neighboring countries by a network of 283 km of pipeline for crude oil. There are two pipelines in Guatemala. The longest (235 km) was from Rubelsanto in the southern Peten Oilfield to Puerto Barrios on the Caribbean coast, and a smaller pipeline (48 km), was from Puerto San José on the Pacific coast to Texaco's refinery at Escuintla. Together, they had a combined maximum capacity of 65,000 bbl/d, with the addition of supplemental pumping stations.

Two utilities supplied electric power in Guatemala: Instituto Nacional de Electrificación (INDE) and Empresa de Energía de Guatemala (EEG). INDE generated power for use in all but 3 of the Nation's 22 departments. EEG supplied electricity in the Guatemala, Escuintla, and Suchitepequez Departments. The country had an installed generating capacity of 803 megawatts (MW). Hydroelectric facilities, primarily the Chixoy plant, accounted for about 59% of this capacity. About 15 MW of geothermal power was generated at the Zumil Field, south of Quetzaltenango.

The country also had 260 km of inland waterways

available for year-round traffic; in addition, Guatemala had 730 km of inland waterways during the high-water season.

Mining activity should continue to grow from its current small base. Industrial mineral production may increase slightly if the construction industry persuades the Government to lower interest rates for new construction using funds generated by the 20% tax on housing construction. Peace talks between the Government and the guerrilla organization, Unidad Revolucionaria Nacional Guatemalteca (URNG), began in April 1994. Until peace terms are agreed upon, physical security problems in the northern part of the country are expected to continue to plague mineral exploration and production. The lack of adequate infrastructure also will need to be addressed.

¹Text prepared Apr. 1995.

²Where necessary, values have been converted from Guatemalan quetzals (Q) to U.S. dollars, at the rate of Q5.9=US\$1.00.

Major Sources of Information

Ministerio de Energía y Minas

Diagonal 17, entre 20 y 30 Calles, Zona 11

Guatemala City, Guatemala

Telephone: (502) (2) 76-0679 or 76-3091

Dirección General de Minería

Diagonal 17, 29-78, Zona 11

Apartado Postal 1421

Guatemala City, Guatemala

Dirección General de Hidrocarburos

Diagonal 17, 29-78, Zona 11

Guatemala City, Guatemala

Telephone: (502) (2) 76-2044

Facsimile: (502) (2) 76-3175

Major Publications

Instituto Latinoamericano Del Fierro y el Acero (ILAF), Santiago, Chile: Anuario Estadístico de la Siderurgia y Minería del Hierro de América Latina, annual.

Ministerio de Energía y Minas, Guatemala: Informe Estadístico de Energía y Minas, annual.

Ministerio de Energía y Minas, Guatemala: Memoria de Labores, annual.

Organización Latinoamericana de Energía (OLADE), Quito, Ecuador: Energía en Cifras, 1992 annual.

U.S. Central Intelligence Agency, Washington, DC: The World Factbook, 1994, annual.

U.S. Department of Commerce, International Trade Administration: Foreign Economic Trends and Their Implications for the United States, annual.

U.S. Department of the Interior, Geological Survey, Reston, Virginia: Geological Survey Circular 925, Earth and Water Resources and Hazards in Central America, 1984, 40 pp.

TABLE 1
GUATEMALA: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Commodity	1990	1991	1992	1993 e/	1994 e/
METALS					
Antimony:					
Mine output, Sb content	1,070	609	582	600	600
Trioxide	--	41	23	30	30
Gold kilograms	62	31	32	30	30
Iron and steel:					
Iron ore, gross weight	6,370	5,100	1,450	3,300	3,000
Steel, crude	20,700	23,000	24,500 r/ e/	58,400 r/	56,300
Steel, semimanufactures	64,200	79,300	105,000 r/ e/	90,000 r/	90,000
Lead metal, including secondary	110	28	49	50	50
INDUSTRIAL MINERALS					
Barite	421	--	1,720	1,500	1,000
Cement thousand tons	1,680	1,440	1,400 e/	1,400	1,450
Clays:					
Bentonite	9,000	12,000	12,600	12,300	12,000
Kaolin	2,050	3,280	2,860	3,000	3,000
Unspecified	1,260	1,640	1,600	1,600	1,600
Feldspar	11,900	6,960	8,050	7,500	7,500
Gypsum	65,600	51,500	67,600	60,000	61,000
Lime e/	75,000	72,000	70,000	70,000	70,000
Pumice and related materials:					
Pumice cubic meters	5,000 e/	6,130	6,590	6,300	6,000
Volcanic ash e/ do.	2,400	2,480 3/	2,400	2,400	2,400
Volcanic sand e/	110,000 3/	100,000	100,000	100,000	100,000
Volcanic scoria cubic meters	2,280	9,500	9,980	9,500	9,600
Volcanic tuff	610	2,480	2,600	1,900	2,000
Salt e/	181,000 3/	100,000	100,000	100,000	100,000
Stone, sand, and gravel:					
Dolomite	14,900	8,320	9,310	10,000	10,000
Limestone thousand tons	1,420	1,440	1,760	1,500	1,000
Marble:					
Block e/	6,260 3/	9,000	9,000	7,000	7,100
Chips and fragments	8,260	1,850	1,750	1,800	1,750
Sand and gravel thousand tons	1,090	1,010	758	950	900
Schist e/	260,000 3/	250,000	250,000	250,000	251,000
Silica sand	30,000 3/	17,300	33,700	27,000	27,000
Stone, crushed e/ thousand tons	1,300	1,000	1,000	1,000	1,100
Talc	545	861	1,320	800	800
MINERAL FUELS AND RELATED MATERIALS					
Gas, natural, gross e/ thousand cubic meters	10,000	10,000	10,000	10,000	10,000
Petroleum:					
Crude thousand 42-gallon barrels	1,440	1,350	2,050	1,700	1,650
Refinery products do.	4,000 e/	4,640	5,700	5,000	5,100

e/ Estimated. r/ Revised.

1/ Previously published and 1994 data are rounded by the U.S. Bureau of Mines to three significant digits.

2/ Table includes data available through Apr. 15, 1995.

3/ Reported figure.

TABLE 2
GUATEMALA: STRUCTURE OF THE MINERAL INDUSTRY FOR 1994

(Thousand metric tons unless otherwise specified)

Commodity		Major operating company and major equity owners	Location of main facilities	Annual capacity
Antimony		Minas de Guatemala, S.A. (private, 100%)	Los Lirios and Anabella Mines, Ixtahuacan, Huehuetenango Department	1.9
Cement		Cementos Progreso, S.A. (Lambert Freres et Cie. 69.8%; other 30.2%)	San Miguel Plant, Sanarate, El Progreso Department, and La Pedrera Plant, Guatemala City	1,800
Nickel		Exploraciones y Explotaciones Mineras Izabal, S.A. [(Exmibal) (Inco, 70%; and Government, 30%) ¹]	Mine and processing plant near El Estor, Izabal Department ²	9
Iron and steel (semimanufactures)		Hornos, S.A.	Guatemala City	80
Petroleum:				
Crude	thousand 42-gallon barrels	Basic Resources International, S.A. [(Basic) (private, 100%)]	Rubelsanto, West Chinaja Fields, Alta Verapaz Department, and Caribe, Tierra Blanca and Xan Fiels, Peten Department	2,000
Products	do.	Texas Petroleum Co. (Texaco Inc., 100%)	Refinery at Escuintla, Escuintla Department	6,200
Do.	do.	Basic (private, 100%)	Refinery near Santa Elena, El Naranjo, Peten Department ³	720

^{1/} Ownership equity change in 1991.

^{2/} Mine and processing plant closed Sept. 1990.

^{3/} Construction complete. Undergoing startup trials.