

## 2005 Minerals Yearbook

## **CENTRAL AMERICA**

### THE MINERAL INDUSTRIES OF CENTRAL AMERICA

# Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama

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Central America's identified metallic mineralization occurs as follows: the northwestern part of the region contains deposits that are richer in lead and associated more with silver and zinc; the southern and eastern parts of the region contain relatively less lead but more copper and some associated gold and silver. In 2005, investment in the region's metals mining sector was mainly focused on discovering and developing gold deposits that lie mostly along the Central American Gold Belt (CAGB). The CAGB extends southeastward from at least western Guatemala (the Marlin deposit) across Guatemala (the Cerro Blanco deposit) and continues through central El Salvador and southern Honduras and Nicaragua and extends into western Costa Rica (the Crucitas deposit). Central America had limited resources of mineral fuels and required imports of petroleum (some at preferential prices from Mexico and Venezuela) to supply about 75% of apparent energy consumption in the region (Mining Journal, 2005; U.S. Energy Information Administration, 2006; Johansing, undated§¹).

In 2005, Central America's mineral industries produced a variety of metals, industrial minerals, and mineral fuels. In the metals mining sector, antimony, gold, iron ore, lead, silver, and zinc were produced. Production of nonprecious refined metals consisted almost exclusively of steel production in electric arc furnaces from imported material. Industrial minerals production included cement, clays, gypsum, limestone, marble, pozzolan, pumice, salt, and common sand and gravel. Primary production of mineral fuels consisted only of petroleum production in Guatemala and some petroleum produced during well-testing operations in Belize. Costa Rica, El Salvador, and Nicaragua produced petroleum refinery products from imported oil.<sup>2</sup> All the countries of Central America that are described in this chapter were part of the San José Pact, which enabled them to receive crude petroleum under preferential terms and pricing from Mexico and Venezuela; the actual distribution of shipments of subsidized oil among the countries during the year, however, was unclear. Venezuela also provided additional shipments of crude petroleum to some countries in the region according to the terms of the Caracas Energy Accord, and to Belize according to the terms of the PetroCaribe initiative (table 1; U.S. Energy Information Administration, 2006).

Although the economies of the region were expected to become more open to foreign direct investment (FDI) by companies based in the United States during the process of approval of the United States–Central America–Dominican Republic Free Trade Agreement (CAFTA-DR), FDI flows into the mineral industries of the Central American countries in 2005 remained slower than expected owing to uncertainties concerning country-specific mining and hydrocarbons laws, a lack of sufficient infrastructure in the most promising mineral resource areas, and public protests against nascent mineral development projects. CAFTA-DR was not expected to be ratified by the Government of Costa Rica until after elections at the end of 2006. The agreement was expected to come into effect in El Salvador, Guatemala, Honduras and Nicaragua sometime earlier in 2006, however (Kose and others, 2005, p. 17; U.S. Energy Information Administration, 2006; DesLauriers, 2005§).

During 2005, foreign company expenditures on mineral exploration in the region were concentrated in the countries with more favorable investment climates, such as Belize, El Salvador, Guatemala, Panama, and Nicaragua. The mining investment climate in Honduras appeared to suffer the most from anti-mining demonstrations, but reports of these types of public protests were more common throughout the region in 2005 compared with 2004 (table 3; Mining Journal, 2005; DesLauriers, 2005§).

Nonfuel mineral exploration efforts in the region were performed almost exclusively by junior or mid-tier mining companies, which accorded with a global trend of junior-company exploration budgets accounting for 63% of the overall \$1.34 billion increase in exploration allocations by all companies.<sup>3</sup> In 2005, juniors accounted for about 48% of the worldwide exploration budget, and the juniors involved in exploration for nonferrous metals in Central America were almost all based in Canada. Through the beginning of 2006, direct investment in further exploration and development continued to be left to juniors; the major companies that had invested in metals exploration in the region maintained any further investment in the region at a minimal level, if at all (table 3; Metals Economics Group, 2005).

Capacity to produce some crude steel or steel semimanufactures or both in Costa Rica, El Salvador, and Guatemala was established in the 1960s through an import-substitution policy that severely restricted imports of these steel products from outside the Central American Common Market (CACM). In 2005, however, the costs of importing iron ore, crude steel, scrap, and alloying or coating metals remained at near record levels for the region. The region's production was mostly limited to steel semimanufactures (primarily for

<sup>&</sup>lt;sup>1</sup>References that include a section mark (§) are found in the Internet References Cited sections.

<sup>&</sup>lt;sup>2</sup>Some production data from individual company sources are provided in the text of this chapter and are more recent than the aggregate data given in table 1. Therefore, summations of production figures published by individual companies operating in a country may differ from the country totals in table 1.

<sup>&</sup>lt;sup>3</sup>All values in this chapter are given in current (nominal) U.S. dollars unless otherwise noted.

construction) that were sold only within the CACM, where demand for locally produced steel products was decreasing as cheaper imports became more available. The opening of the U.S. market to Central America's exports of steel through CAFTA-DR could expand the export potential and possibly result in fuller utilization of existing production capacity; however, expected ratification of CAFTA-DR will also require the Governments of these producing countries to eliminate existing subsidies to the manufacturing sector, including the steel subsector (Kose and others, 2005, p. 16).

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Mining Journal, 2005, Central America's untapped potential: London, United Kingdom, Mining Communications Ltd., October 14, p. 18-21.

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#### **BELIZE**

Compared with 2004, the value of mine and quarry production in Belize increased by about 5.1% to \$10.3 million in 2005 but accounted for the same proportion of the gross domestic product (GDP) (0.5%). In real (adjusted for inflation) terms, the value of production by the mining sector increased by 2.5%, and the country's GDP increased by 3.5% during this same timeframe. In 2005, the country's GDP based on purchasing power parity was \$2.1 billion. The mineral industry of Belize included the production of industrial minerals, including clays, dolomite, gravel, limestone, marble, marl, and sand for use in construction and for export to nearby markets in the Caribbean region. In 2005, the demand for industrial minerals within the country was mostly accounted for by major infrastructure and real estate construction projects, including the Chalillo hydroelectric dam and a new road to the Spanish Lookout area as part of increased exploration and development of a crude petroleum reservoir there. All but the last of these projects were funded mostly by tax revenue from tourism, which was the leading sector of the Belizean economy. The agricultural sector also provided some domestic demand for dolomite and such other industrial minerals as fertilizers. Despite production of some of these minerals domestically, the country had to import approximately 100% of its apparent consumption of construction materials and petroleum refinery products, including significant imports

of cement and iron and steel semimanufactures from Mexico (table 1; Central Bank of Belize, 2006, p. 15, 19-20, 38, 48, 66-67, 71; International Monetary Fund, 2006§).

In June 2005, Belize Natural Energy Limited (BNE) (together with exploration investment partners Aspect Energy LLC and CHx LLC of Denver, Colorado) discovered a deposit of crude petroleum, the development of which could provide a significant contribution to the country's economy. This site is located in the Spanish Lookout area, Cayo District, and was tested for flow and evaluated for financial viability throughout the year. At the end of the year, BNE estimated the proven reserves of the deposit to be about 6 million barrels (Mbbl). On December 5, 2005, BNE and its investment partners made a down payment toward the taxes and royalties on expected commercial production from this reservoir, with some actual production expected to begin in 2006. Such a downpayment of royalties during the testing phase was considered unusual, and was mostly symbolic of the company's commitment to its production-sharing agreement with the Government. The country's Geology and Petroleum Department (GPD) of the Ministry of Natural Resources, Local Government and the Environment stated that the expected increase in revenues from this agreement, however, would enable the Government to increase monitoring of all activities in the mineral industry of Belize (Ministry of Natural Resources, Local Government and the Environment, Belize, 2005; 2007, p. 4-6; Central Bank of Belize, 2006, p. 24, 53; Ysaguirre, 2005§).

In 2005, the head of the GPD functioned as the Inspector of Petroleum and the Inspector of Mines. In these roles, the GPD head administered the Petroleum Act and the Mines and Minerals Act, which were last revised in 2000 and are codified in chapters 225 and 226, respectively, of the Substantive Laws of Belize. The GPD has responsibility for all Government policy matters related to the development of petroleum and mineral resources in Belize (Geology and Petroleum Department, Belize, undated§).

In 2005, Erin Ventures Inc. produced an undisclosed amount of alluvial gold during bulk sampling operations in the Ceibo Chico Creek area of the Cayo District and reportedly sold the insignificant amount of gold produced on the domestic market. Quarries controlled by Belize Minerals Ltd. around Punta Gorda in the Toledo District accounted for almost all the dolomite produced in the country. This dolomite was used primarily as a fertilizer in agriculture and as a buffer in shrimp farms within Belize and was exported to other countries in the Caribbean for similar uses. Caribbean Investors Limited was a private investment company that controlled quarries around Georgeville in the Cayo District and produced almost all the limestone in the country. This limestone was reported to be of marble grade and was exported mostly as dimension stone (in tiles) rather than for use in cement production. The other principal domestic producers of industrial minerals used in construction, including aggregates, clays, and sand and gravel, were Belize Aggregates Ltd. and Maheias United Concrete & Supplies Ltd. (both private companies based in Belize City) and the National Sand and Gravel Company (a state-owned company located in Belmopan). These companies mined offshore gravel and sand; beach sand; and clays, gravel, and sand in the interior of the country (Belize

Minerals Ltd., 2005§; Erin Ventures Inc., 2005§; Geology and Petroleum Department, Belize, undated§).

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Ysaguirre, William, 2005 (August 5), Belize strikes oil, accessed January 8, 2006, at URL http://www.reporter.bz/index.php?option=content&task=view&id=540&Itemid=2.

#### **Major Source of Information**

Geology and Petroleum Department
Ministry of Natural Resources, Local Government and the
Environment
84-36 Unity Blvd.
Belmopan, Belize

#### **COSTA RICA**

In December 2005, Glencairn Gold Corporation of Toronto, Ontario, Canada, began commercial production of gold at its Bellavista Mine. Otherwise, the mineral industry of Costa Rica consisted of mine production of some industrial minerals (mostly aggregates for construction and limestone for cement manufacture) and some production of iron and steel semimanufactures for construction projects. The country was a major cement producer in the region and exported cement to, in decreasing order of total annual export value, Nicaragua, Guatemala, El Salvador, and Panama. Other than mineral raw materials for cement production, salt, and some other industrial minerals used in agriculture (diatomite) and other sectors of the economy (clay for the ceramics industry, for example), Costa Rica imported almost all its apparent mineral consumption. In 2005, the value of mine production in Costa Rica (about \$30 million<sup>4</sup>) increased by 27% compared with that of 2004, and this sector of the mineral industry contributed 0.15% of the GDP compared with 0.14% in 2004. The real value of mine

production increased by 7% and helped contribute to a real growth rate of 5.9% in the GDP. In 2005, the GDP of Costa Rica based on purchasing power parity was about \$45 billion (table 1; World Cement, 2004, p. 38, 47; Glencairn Gold Corporation, 2006, p. 3; International Monetary Fund, 2006§; Banco Central de Costa Rica, undated a§, b§).

In 2005, the Government of Costa Rica maintained a moratorium on new oil exploration activities, the opening of any new open pit mines, and any commercial-scale cyanide processing. This policy was approved in May 2002 and continued to deter investment in the mineral industry through 2005. Two notable gold projects, Bellavista and the Cerro Crucitas gold project owned by Vannessa Ventures Ltd. of Calgary, Alberta, Canada, were environmentally approved or in the process of approval before the moratorium was enacted in 2002. Although Bellavista was allowed to proceed to development, Vannessa was required to resubmit the environmental impact study (EIS) for Cerro Crucitas. Near the end of 2005, the Secretaría Técnica Nacional Ambiental approved the EIS for Cerro Crucitas, and Vannessa planned to proceed with developing the project (Seaward and Coates, 2006; 2006§; Vannessa Ventures Ltd., 2006).

In the mid-1980s, a mineral resource assessment for the Republic of Costa Rica was performed by the U.S. Geological Survey (USGS), Costa Rica's Dirección General de Geología, Minas e Hidrocarburos, and the Universidad de Costa Rica. Through 2005, almost none of the areas for further exploration that were identified during the 1980s had been fully explored or developed, and most of Costa Rica's mineral industry development potential has remained unchanged since that time. Gold and silver have been consistently mined since colonial times in Costa Rica, and gold occurs in both underground veins and placer (including alluvial) deposits. The mid-1980s assessment also reported metallic occurrences of aluminum, chromium, copper, iron-titanium bearing sands, lead, manganese, and zinc. Since the time of the assessment, at least three porphyry copper deposits with an average grade of between 0.15% and 2% copper content have been discovered (not by the USGS) along with three larger copper sulfide deposits with some associated zinc content. Occurrences of copper and lead-zinc skarns were also mentioned in the USGS assessment, as were many chromite deposits that had already been discovered but were estimated to be too small for economic mining development on an individual basis. Additionally, more than 90 very small deposits of manganese were reported as having been discovered, and more concealed deposits were estimated to exist. Multiple bauxite (aluminum mineral), placer iron (magnetite), polymetallic (three or more metals), and hotspring sulfur deposits are also mentioned in the assessment (U.S. Geological Survey and others, 1987, p. 1).

In 2005, Glencairn produced 307 kilograms (kg) of gold from preproduction operations during the first 11 months of the year and an additional 117 kg in December at the Bellavista Mine (although this data was not available in time for inclusion in table 1). Glencairn expected Bellavista to produce about 1,870 kilograms per year (kg/yr) of gold starting in 2006 and continuing through about 2012. During 2005, a Costa Rican investment group indicated that sporadic mining and processing

<sup>&</sup>lt;sup>4</sup>Where necessary, values have been converted from Costa Rican colones (C) to U.S. dollars (US\$) at an annual average exchange rate of C478.644=US\$1.00.

of gold had taken place from two veins in the Las Juntas mining district, which had been purchased from Inversiones Valle Columbia S.A. in 2004, but no production details were reported. Inversiones Valle Columbia still owned the rights to the suspended Chassoul Mine and did not report any changes during the year. Because almost all the country's silver production came from this mine in recent years and because no silver production was reported from the new Bellavista Mine, it was not clear if there was actually any silver production in the country in 2005. According to the International Iron and Steel Institute (IISI), production of steel semimanufactures from imports of raw materials in Costa Rica decreased by about 28% in 2005 compared with that of 2004 (Glencairn Gold Corporation, 2006, p. 3; International Iron and Steel Institute, 2006, p. 21, 47; Seaward and Coates, 2006§).

The expansion of Holcim Costa Rica S.A.'s plant to be able to produce 1.5 million metric tons per year (Mt/yr) of cement was completed in 2005; the expansion included installation of greater proportional capacities to include ferruginous sand from domestic deposits and a wider variety of fuels in the production process. Costa Rica's large-scale production of clays included some kaolin, but the proportion of kaolin in the total production of clays (common) was not reported. Some small clay deposits were mined by individuals to produce an unreported amount of clay that was used in the domestic ceramics industry. Diatomite was also mined from many small deposits and some of it was used domestically in agricultural production. Salt was produced by evaporation from the Gulf of Nicoya primarily for domestic consumption (table 1; Whitaker, 1983, p. 160; World Cement, 2004, p. 35, 38, 42, 47; Holcim Costa Rica S.A., 2005§).

In 2005, Refinadora Costarricense de Petróleo S.A. (RECOPE) had a listed capacity to refine 24,000 barrels per day (bbl/d) of petroleum in the city of Limon, but manufacturing petroleum refinery products was similar to the steel semimanufactures sector in that its production was dependent on a secure supply of mineral raw material. Unlike the producers in the country's steel sector, however, RECOPE was able to purchase sufficient imports of mineral raw material (crude petroleum) at discounted prices (in accordance with the San José Pact) to be able to produce close to its listed capacity (U.S. Energy Information Administration, 2006).

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#### **EL SALVADOR**

Mining has not played a prominent role in the Salvadoran economy since at least 1987, although the country has been identified as having significant deposits of copper, iron ore, lead, limestone, mercury, silver, sulfur, and zinc during various exploration surveys prior to 2005; of these, only limestone was estimated to have been produced in 2005. Besides cement and limestone, El Salvador was also estimated to have produced aluminum metal, fertilizer materials, gypsum, salt, and steel during the year. El Salvador hosts several major tectonic structures along which gold and silver mines have been developed over the past two centuries. In 2005, El Salvador's GDP based on purchasing power parity was about \$31 billion, and the country's real GDP grew by 2.8% compared with that of 2004. Although the real (adjusted for inflation) value of mine production of minerals in the country (\$31.4 million) accounted for only about 0.4% of the real GDP, that of the manufacturing sector (\$1,942.6 million) accounted for about 23% and included production of aluminum and steel semimanufactures, continuously-cast crude steel, and petroleum refinery products. In 2005, growth in the real value of the combined production of the manufacturing and mining sectors was 1.5% compared with that of 2004, but the growth rate for the mining sector alone was about 4.0% during this same timeframe, which was second only to the real growth rate for the combined agriculture, livestock, and fish production sector (5.8%) in El Salvador (Intrepid Minerals Corporation, 2006, p. 7; Jacobson and Ehrenthal, 1988§; Dirección de Hidrocarburos y Minas, El Salvador, 2005§; International Monetary Fund, 2006§; Banco Central de Reserva de El Salvador, undated b§).

No new changes to the mining law in El Salvador were being officially debated during 2005, and the Government did not make any additional revisions since upgrading the requirements for environmental impact studies (EISs) for mining exploration

projects in 2004. The mining law in El Salvador was thoroughly revised in 2001, and many parts of the law that addressed regulating mineral exploration and exploitation activities and enforcement issues were revised again in 2003. In 2005, this law helped support investment in exploration for coal, copper, gold, gypsum, mineral fertilizers, lime, limestone, pozzolan, new sand and gravel quarries, silver, and deposits of other metals and industrial minerals; the Banco Central de Reserva de El Salvador reported the first noticeable level of FDI in the mining sector of the mineral industry of El Salvador (\$1.5 million) and expected this figure to approach \$30 million in 2006. El Salvador was regarded as having one of the lowest risk profiles in all Latin America for investment in many sectors of the economy, including the mining sector, because of a stable political-economic climate and the use of the U.S. dollar as the country's standard currency (Curtis, 2005; Intrepid Minerals Corporation, 2006, p. 7; Banco Central de Reserva de El Salvador, undated a§).

According to IISI, production of continuously cast crude steel from imported mineral raw materials in 2005 was estimated to have decreased in El Salvador by 19% compared with that of 2004 (although this estimate was not available in time for inclusion in table 1 and a more conservative decrease of only about 14% was estimated). IISI also estimated that El Salvador's production of steel semimanufactures (that relied primarily on imported iron and steel) was estimated to have increased slightly by about 1% during this same timeframe, although preliminary estimates indicated that it was to have decreased slightly by about 3%. Since Guatemala and Panama closed their crude petroleum refineries in 2002, El Salvador has increased its exports of refinery products, especially to neighboring Guatemala. El Salvador also had already signed a bilateral free trade agreement (FTA) with Mexico by 2005, which helped ensure sufficient flows of crude petroleum into El Salvador for refining, reexporting, and domestic consumption. Very little petroleum was consumed for electricity generation, however, because El Salvador is Central America's leading producer of geothermal energy and about 44% of the country's electricity consumption was provided by domestic geothermal sources. The remainder of El Salvador's electricity demand was met by imports from Guatemala and Honduras (International Iron and Steel Institute, 2006, p. 21, 47; U.S. Energy Information Administration, 2006).

In 2005, the companies that made the largest investments in nonfuel mineral exploration were, in decreasing order of the amount invested during the year, Pacific Rim Mining Corp. of Vancouver, British Columbia, Canada; SilverCrest Mines Inc. of Vancouver, British Columbia, Canada; Intrepid Minerals Corporation of Toronto, Ontario, Canada; and Au Martinique Silver Inc. of Manotick, Ontario, Canada. In 2005, Cargill Incorporated of Minneapolis, Minnesota, began construction of a small ethanol plant at the Port of Acajutla, Sonsonate Department, on the Pacific Coast near the border with Guatemala. The plant was designed to have a production capacity of about 230,000 cubic meters per year and was scheduled to be completed near the end of 2006 (table 3; Curtis, 2005; U.S. Energy Information Administration, 2006).

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#### **Major Source of Information**

Dirección de Recursos Minerales Avenida Norte No. 233 San Salvador, El Salvador

#### **GUATEMALA**

The geology of Guatemala is diverse, and many mineral deposits have been discovered, including deposits of antimony, barite, bentonite, cadmium, copper, gold, lead, limestone, marble, nickel, silver, zinc, and sulfur associated with both metal and mineral fuel deposits. In 2005, Guatemala's GDP based on purchasing power parity was about \$57 billion, and the annual growth rate of the real GDP was 3.2%. The real (adjusted for inflation) value of mineral industry production (including production of crude petroleum and natural gas) accounted for 0.48% of the real GDP compared with 0.50% in 2004, because the real value of production decreased by about 2.1% during this timeframe. In 2005, the total value of mine production was almost entirely accounted for by mine production of metals, especially gold from the Marlin Mine (which was owned and operated by Glamis Gold Ltd. of Reno, Nevada), but in 2004 it was almost entirely accounted for by mine and quarry production of industrial minerals. In 2005, the nominal value of mine production of metals increased to \$11.9 million compared with \$42,500 in 2004, and the nominal value of mine production of industrial minerals in the country decreased to \$4.3 million compared with \$8.4 million in 2004. Production of crude petroleum continued to dominate the mineral industry of Guatemala but accounted for only 84% of the real value of total mineral industry production in 2005 compared with 90%

in 2004. Although prices remained high in 2005, the real value of petroleum production decreased by 8.3% compared with that of 2004 owing to decreasing reserves at the country's existing oilfields in the Peten Department (Harben, 2005; Mining Journal, 2005; Ministerio de Energía y Minas, Guatemala, 2006; U.S. Energy Information Administration, 2006; International Monetary Fund, 2006§; Banco de Guatemala, undated a§, b§).

During the year, anti-mining demonstrations were of concern to investors and potential investors in the mineral industry of Guatemala, but the Government of Guatemala continued to implement its new (2004) mining law, which was designed to encourage investment in the sector. In 2005, the Dirección General de Minería of Guatemala (DIGEMIN) had a long list of metallic and industrial minerals for which deposits had been discovered and further investment in exploration and development was being encouraged. The potential metallic mineral prospects included deposits of the following: antimony, chromium, cobalt, copper, gold, iron ore, lead, manganese, mercury, nickel, silver, titanium, tungsten, uranium, and zinc. The potential industrial minerals included the following: andesite, volcanic ash, barite, basalt, bentonite, coal, common clays, diatomite, dolomite, feldspar, ferruginous clay, fluorite (fluorspar), garnet, graphite, hematite, jade, kaolin, limestone, magnesite, marble, mica, obsidian, opal and jasper, perlite, pumice, quartz, mineral salt, sand and gravel, sandstone, schist, serpentine and gypsum, silica sand, sulfur, and talc (Mining Journal, 2005; Dirección General de Minería, Guatemala, 2005§).

Glamis expected to produce about 7.9 metric tons (t) of gold and about 94 t of silver during the Marlin Mine's first full year of production in 2006. During the mine's expected life of 10 years, Glamis expected to produce about 7.8 metric tons per year (t/yr) of gold and between 93 and 124 t/yr of silver. In 2005, however, production and exploration operations at the Marlin Mine site continued to encounter resistance in the form of public demonstrations and disruptions of mining activities. Nonetheless, Glamis continued to expand its operations in Guatemala and devoted most of its exploration budget in the country to exploration of the Cerro Blanco property in 2005. Exploration activities at Cerro Blanco included beginning a feasibility study that was expected to be completed sometime in 2006. Silver is associated with the gold in the epithermal deposits underlying the Marlin Mine, and the mine's production of silver accounted for all the officially reported production in 2005 in the country. Antimony was the only other metal that was mined during the year in the country, and the country's production ranked second in the Western Hemisphere behind only that of Bolivia (tables 1-3; Glamis Gold Ltd., 2006, p. 6, 9, 23; Carlin, 2007; Harben, 2006§).

According to IISI, production of continuously cast crude steel from imported mineral raw materials in 2005 was estimated to have decreased in Guatemala by 11% compared with that of 2004, although preliminary estimates (which are included in table 1) indicated that the decrease would be closer to about 15%. Also, IISI estimated that production of steel semimanufactures from mostly imported iron and steel increased slightly by 4% during this same timeframe, although earlier estimates indicated a very slight decrease of less than 1% (International Iron and Steel Institute, 2006, p. 21, 47).

Jaguar Nickel Inc. of Toronto, Ontario, Canada, focused the company's exploration efforts on two nickel-cobalt laterite properties, Marichaj and Sechol, on the Buena Vista concession in eastern Guatemala, and continued to expand its licensed holdings in the area. At the end of 2005, however, BHP Billiton Limited purchased all Jaguar's nickel properties in Guatemala, and no further exploration or development efforts at Buena Vista were reported through 2006. The Buena Vista concession bordered on the property of the former Exploraciones y Explotaciones Mineras Izabal S.A. (Exmibal) nickel mine and smelter. In 2004, Skye Resources Inc. of Vancouver, British Columbia, Canada, acquired Inco Limited (of Toronto, Ontario, Canada)'s 70% share of Exmibal and renamed the property the Fenix nickel project. In 2005, Skye increased its share in Compañía Guatemalteca de Níquel S.A. (formerly Exmibal) to 90.9%. During 2005, Skye began a feasibility study for the Fenix project to produce ferronickel or an intermediate nickelcobalt product for sale or export without further processing. Ferronickel production at this site would require reactivation of Exmibal's powerplant and nickel processing plant, which had been closed for 21 years. Skye estimated that it could potentially produce between 13,500 and 24,500 t/yr of nickel content after updating and expanding the processing plant, but that this reactivation to produce ferronickel would take long enough to potentially miss out on the current (2005-06) run of elevated nickel prices. The company considered the installation of a lower-cost atmospheric leaching process that would use sulfuric acid to produce a nickel-cobalt compound and would have an estimated capacity to produce 20,000 t/yr of nickel content much earlier than either of the ferronickel reactivation plans. Inco retained various contingent claims in Skye and the Fenix project, which were dependent upon Skye's performance in meeting certain production criteria at the property (table 3; Mining Journal, 2005; Jaguar Nickel Inc., 2006; Skye Resources Inc., 2006).

A subsidiary of Perenco Plc of the United Kingdom was the leading producer of crude petroleum in the country. Guatemala exported almost all its crude petroleum production and imported almost all its refinery products for consumption since Guatemala closed its only petroleum refinery in 2002. In 2004, apparent consumption of petroleum refinery products in the country was greater than the requisite production of crude petroleum in Guatemala. The two additional blocks with proven reserves of crude petroleum in the Peten region that were expected to be awarded in 2005 were not expected to enter development until the end of 2006 (U.S. Energy Information Administration, 2006; Perenco Plc, 2005§; Dirección General de Hidrocarburos, Guatemala, 2006§; Harben, 2006§).

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#### **Major Sources of Information**

Dirección General de Minería
Diagonal 17, 29-78, Zona 11
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Guatemala City, Guatemala
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

#### **HONDURAS**

According to the annual review by the Mining Journal, a number of industrial minerals, including gypsum and marble (mostly for export), and salt from the Choluteca District were produced in 2005 in Honduras. Honduras also had many opal prospects and mines, and any active mining of opal was apparently done almost exclusively by artisanal miners. These miners work mostly as individuals to extract opal from black basalt at the country's largest known opal deposit in Tablon, near Erandique, as well as andesite opals from Las Colinas deposit near Sosoal in the municipality of San Andres,

Department of Lempira. Deposits of gold, silver, copper, lead, zinc, iron ore, and antimony that had already been discovered in the country were suspected to be of some regional commercial significance for Central and North America and the Caribbean, but the mining sector remained underdeveloped during the year. Petroleum deposits had been discovered in the Rio Sula valley and offshore along the Caribbean coast, but very little investment was made to further explore the commercial viability of mineral deposits of either petroleum or metals through 2005 in the country. In 2005, the value of mine production of metals and industrial minerals was about \$128 million.<sup>5</sup> The real value of mine and quarry production of minerals in Honduras increased by 4% in 2005 compared with that of 2004, although is still accounted for about 1.5% of the real GDP in each year. This was the most significant percent contribution of the mining sector to the real GDP of any country in Central America. The GDP based on purchasing power parity was about \$21.7 billion (Harben, 2005, 2006§; Mining Journal, 2005; Secretaría de Integración Económica Centroamericana, 2006, p. 109; U.S. Energy Information Administration, 2006; DesLauriers, 2005§; International Monetary Fund, 2006§; Banco Central de Honduras, undated§).

On July 16, 2004, the Government decided to suspend granting of any new mineral concession licenses until a new mining law was negotiated that would set out revised conditions for awarding mineral concessions and a higher royalty rate on sales of mine production. Negotiations were reportedly completed before federal elections on November 26, 2005, but the new law was not actually voted on. Following these elections, the new Government advocated including a ban on all open pit mining for gold and silver in the country, which was expected to basically eliminate any further FDI in exploration or development of new mining projects. FDI flows into the sector had already almost completely ceased in 2005 because the Government had already effectively stopped approving any mining exploration or exploitation concession licenses in the country since mid-2004. Accordingly, investment in exploration and development of new capacity to mine metals was lower in Honduras during 2005 than in all other countries in Central America other than Belize (International Monetary Fund, 2005, p. 13, 23, 56; Mining Journal, 2005; U.S. Commercial Service, 2005, p. 13; DesLauriers, 2005§).

In 2005, company reports indicated that one polymetallic and two gold mines were in operation in Honduras. El Mochito lead-silver-zinc mine in western Honduras, which was the leading mine in Central America in the 1990s, was owned by Breakwater Resources Inc. of Toronto, Ontario, Canada. For 2005, this company's reported production of lead, silver, and zinc contained in concentrate at El Mochito accounted for all the reported production of these metals in the country at the time of this writing. The company expanded total mine production compared with that of 2004 and still managed to expand proven and probable reserves of lead and zinc through an exploration program that was completed in 2004. In 2005, Breakwater's investments in El Mochito were mostly targeted at environmental protection and included completion of a new

<sup>&</sup>lt;sup>5</sup>Where necessary, values have been converted from Honduran lempiras (L) to U.S. dollars (US\$) at an annual average exchange rate of L560=US\$1.00.

tailings facility in anticipation of more stringent environmental regulations in the new mining law being considered by the Government. For 2006, however, the company did plan to resume investment in exploration in the area around El Mochito for new deposits. As a result of a lack of new discoveries or extensions of currently mined deposits, reserves of silver at El Mochito decreased compared with those of 2004. Glamis produced 2,533 kg of gold compared with 3,177 kg in 2004 at its San Martin Mine and expected to continue encountering progressively lower grades there. Yamana Gold Inc. reported production of about 1,900 kg of gold at the San Andres Mine, and the company expected the mine to produce slightly less in 2006. RNC Gold Inc. of Toronto, Ontario, Canada, acquired San Andres in 2005, and Yamana began the acquisition of RNC on December 4, 2005, and completed it on February 28, 2006 (Breakwater Resources Ltd., 2006, p. 5, 8, 16, 21; Glamis Gold Ltd., 2006, p. 1, 8-9, 19; Yamana Gold Inc., 2006, p. 2-3, 15, 47,

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#### **NICARAGUA**

In 2005, gold was still the most significant (in terms of value) metallic mineral mined in Nicaragua. Small amounts of copper, lead, and tungsten have also been mined in Nicaragua in the past, and the country was estimated to have resources of

antimony, tungsten, and molybdenum that could be of regional significance. Nicaragua has deposits of industrial minerals that are also of regional significance. In 2005, calcium carbonate, gypsum, dimension limestone and limestone for cement manufacture, pumice, sand and gravel, and tuff were believed to have been mined or quarried, although even estimated data on actual production of some of these industrial minerals was not available at the time table 1 was created. Although last reported to the USGS by the Nicaraguan Government in 2002, some clays may continue to be produced and were suspected to include some bentonite and kaolin. Significant deposits of phosphates and zeolites had been discovered in Nicaragua, and production of these industrial minerals had been proposed although not reported through the end of 2005 (Ellis, 2005; Banco Central de Nicaragua, 2006, p. 60; Administración Nacional de Recursos Geológicos, Ministerio de Fomento, Industria, y Comercio, Nicaragua, 2007§).

The total value of mine production in the country was about \$56 million,<sup>6</sup> of which gold accounted for 87.5%; industrial minerals, 11.3%; and silver, 1.2%. The real value of total mine production accounted for about 1.1% of the real GDP in Nicaragua, although the real value of production by the mining sector decreased by about 5.7% compared with that of 2004. Nicaragua's real GDP grew by 4% and the real value of production of industrial minerals in the country increased by 12% during this same timeframe. The GDP based on purchasing power parity was \$21 billion (Banco Central de Nicaragua, 2006, p. 60; International Monetary Fund, 2006§; Administración Nacional de Recursos Geológicos, Ministerio de Fomento, Industria, y Comercio, Nicaragua, 2007§).

The real value of mine production of metals decreased by 11% in 2005 compared with that of 2004 and was led by a decrease of about 15% in the quantity of gold mined during the year. The real value of total mine production of metals was more generally affected by an extensive labor strike, the overall decrease in nonfuel mineral reserves in the country, and by lower grades of precious metals (gold and silver) in ores that were mined during the year. In 2005, the total nominal value of nonfuel mineral exports was \$44.7 million, which accounted for 5.2% of total exports, and the nominal value of exports of petroleum refinery products was \$12.4 million. The country's total exports during the year included 3,186 kg of gold, which was valued at \$42.45 million. Nicaragua also exports small amounts of silver in years when prices support mining and exporting the ore. Almost all imports of raw minerals were accounted for by imports of mineral fuels and refinery products, which totaled \$520.7 million and included about \$260 million spent on imports of crude petroleum. Therefore, the approximate nominal mineral trade balance for Nicaragua appears to have been -\$463.6 million (Banco Central de Nicaragua, 2006, p. 68, 146, 148; Administración Nacional de Recursos Geológicos, Ministerio de Fomento, Industria, y Comercio, Nicaragua,

Investment in the mining sector of the mineral industry increased to about \$54.15 million compared with \$22.45 million in 2004, and almost all these funds were accounted for by FDI.

<sup>&</sup>lt;sup>6</sup>Where necessary, values have been converted from Nicaraguan cordobas (C\$) to U.S. dollars (US\$) at an annual average exchange rate of C\$16.7=US\$1.00.

In 2005, investment in the metal mining subsector was \$33.17 million compared with \$13.25 in 2004, and it was \$20.97 million compared with \$9.2 in the industrial minerals subsector during the same timeframe. Most of the investment in the metallic mineral mining subsector was in exploration for new gold reserves, because existing reserves continued to decrease during the year. Most of the investment in the industrial minerals sector was to replace decreasing production of limestone and other minerals used in construction, which would minimize Nicaragua's imports of construction materials, including cement. According to data made briefly accessible by the country's Ministerio de Fomento Industria y Comercio (MIFIC), total production of limestone was about 291 cubic meters in 2003 but decreased to about 248 cubic meters in 2004. In 2005, investment in expansions at existing quarries helped increase the country's annual production of limestone to approximately 291 cubic meters again. In 2004, the nominal value of the country's imports of nonmetal mineral materials for construction had increased by about 48% to \$47.0 million compared with \$31.7 million in 2003, but increased by only another 7.9% to \$50.7 million in 2005. Costa Rica was the leading supplier of construction materials (both metallic and nonmetallic) to Nicaragua in each of these years and supplied about 26% of Nicaragua's total imports of construction materials in 2005 (Administración Nacional de Recursos Geológicos, Ministerio de Fomento, Industria, y Comercio, Nicaragua, 2007§; Banco Central de Nicaragua, undated a§, b§).

The leading investor in exploration and development of productive capacity to mine metals in Nicaragua was Meridian Gold Inc. of Reno, Nevada. Near the end of 2004, Meridian entered into a 60% earn-in option contract with Radius Gold Inc. of Vancouver, British Columbia, Canada, to explore for gold at Radius's El Pavon epithermal gold property, which Meridian renamed Natividad. To comply with the terms of this contract, Meridian planned to invest another \$1.1 million during 2006 in exploration and would be required to complete a feasibility study by the end of 2008. During the year, Glencairn was the second-ranked investor in the metal mining sector of the mineral industry of Nicaragua, and the company was investing in development of the Santa Pancha vein system in order to replace reserves that had been extracted from the Talavera deposit at its Limon gold mine. By sometime in 2007, the company expected to transfer all mining activities to exploitation of the Santa Pancha deposit at the Limon Mine, because reserves at the Talavera deposit were scheduled to be depleted by then. In May 2006, Glencairn also announced that it would acquire La Libertad gold mine from Yamana and planned to invest in exploration and development to expand the reserves at the property. Glencairn was expected to be the leading investor in nonfuel mineral exploration in 2006 in Nicaragua, but no timeline for potential expansions of gold reserves at La Libertad Mine was available at the time of this writing (table 3; Mining Journal, 2005; Glencairn Gold Corporation, 2006a, p. 3, 8-9; b; Meridian Gold, Inc., 2006, p. 23, 44; Ellis, 2006§).

According to data made available online by the Instituto Nicaragüense de Energía, Nicaragua consumed 8.99 Mbbl of petroleum refinery products and produced about 5.17 Mbbl in 2005. The only refinery products that Nicaragua produced in

excess of those consumed in the country were small quantities of kerosene-type fuel and asphalt. During the year, Venezuela was the source of approximately 55% of the nominal value of Nicaragua's imports of crude petroleum and refinery products, followed by Ecuador (20%), Mexico (9.7%), and the United States (5.3%). All the other countries that supplied significant quantities of mineral fuels to Nicaragua were located in Latin America. Nicaragua imported about 5.6 Mbbl of crude petroleum during the year (Instituto Nicaragüense de Energía, 2006§; Banco Central de Nicaragua, undated a§, b§).

In 2005, the country did not produce crude petroleum or natural gas, and exploration plans for private companies interested in the country's offshore mineral fuel resources remained on hold. The two large Atlantic autonomous regions in Nicaragua (north and south) contain a large estimated proportion of the country's mineral resources, including both onshore and offshore deposits of crude petroleum. The national Government declared that legislation that was approved in 2003 to give the Atlantic regional governments more control over their regional economies does not apply to offshore oil rights, but the Northern Atlantic Autonomous Regional government still persisted in attempting to block or benefit from offshore petroleum exploration concessions that the national Government had awarded to private companies. As of December 2005, none of the offshore concessions in either the Pacific or the Atlantic basins for which the Government had granted exploration licenses had yet been signed, and no actual exploration activities had yet been conducted by the private holders of those licenses. In March 2004, the Government granted Industrias Oklahoma Nicaragua S.A. (OKLANICSA) an onshore exploration concession that extended from about 40 km west of Managua to the Pacific coast and down the coast through the Rivas Department in the southwestern part of the country to the border with Costa Rica. In September 2004, the Government also awarded a 4,000-square-kilometer (km<sup>2</sup>) offshore exploration concession in the Caribbean Sea to MKJ Exploraciones S.A. of Metairie, Louisiana, as well as a 4,000km<sup>2</sup> concession and a 3,000-km<sup>2</sup> concession in the Caribbean Sea to Infinity Energy Resources Inc. of Chanute, Kansas. In April 2004, Norwood Resources Ltd. of Vancouver, British Columbia, Canada, acquired a 70% ownership interest in the concession through entering into a joint-venture contract with OKLANICSA, which stipulated that Norwood conduct and finance all exploration and development operations on the property (throughout 2005) until commencement of productive operations (McGettigan, 2004; Norwood Resources Ltd., 2006, p. 9; U.S. Commercial Service, 2006, p. 34, 40; U.S. Energy Information Administration, 2006).

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#### **Major Sources of Information**

Administración Nacional de Recursos Geológicos, Dirección de

Ministerio de Fomento, Industria y Comercio (MIFIC)

Del Sandy, Carretera a Masaya 1 Cuadra Arriba, Col. Los Robles

Managua, Nicaragua Telephone: (505) 267-1957 Fax: (505) 277-1957

Instituto Nicaragüense de Energía

Dirección General de Hidrocarburos

Apartado Postal 3226 Managua, Nicaragua Telephone: (505) 222-7817

Fax: (505) 228-1305

Internet: http://www.ine.gob.ni

#### **PANAMA**

In 2005, Panama's marketable mine production continued to consist of clays, gravel, limestone, salt, and sand, but there has been significant investment in exploration for base and precious metals since at least 1996, especially for copper and gold. Mine and quarry production of industrial minerals was almost entirely for the construction sector of the domestic economy, and the real (adjusted for inflation) value of mine production was closely

correlated with that of the construction sector. In 2003, the real value of mine production increased by 35.4% compared with 2002, and that of the construction sector increased by 32.5%; in 2004, these values increased by 12.7% and 13.9%, respectively, compared with those of 2003. In 2005, the construction boom in the country slowed down drastically and the real value of the construction sector production grew by only 1% compared with that of 2004. This slowdown had a corresponding impact on demand for domestic mine production of industrial minerals, and the real value of mine production increased by only 0.4% compared with that of 2004. In 2005, the nominal value of mine production in Panama was \$143.3 million, which accounted for about 1% of the nominal GDP, and there was no mining of metals in the country. The country's real GDP increased by 6.4% compared with that of 2004, but the levels of production of intermediate goods manufactured from industrial minerals decreased by 4.8%. In 2005, the GDP based on purchasing power parity was \$23.5 billion (Dirección de Análisis y Políticas Económicas, Ministerio de Economía y Finanzas, Panamá, 2006, p. 4-6, 10; Ellis and Redwood, 2006§; International Monetary Fund, 2006§).

The mainstay of the Panamanian economy was the country's control of the Panama Canal. Of the total tonnage shipped through the canal, nearly 18% more tonnage was shipped from the Atlantic Ocean to the Pacific Ocean than vice versa. In 2005, shipments of chemicals and petroleum chemicals, coal and coke (including petroleum coke), iron and steel manufactures, miscellaneous minerals, nitrates, ores and metals, petroleum and petroleum products, and phosphates and potash accounted for 46% of the total tonnage of commodities shipped through the Canal from the Atlantic to the Pacific Ocean and for about 41% of that shipped in the opposite direction through the Canal. During the year, nearly 10.7 million metric tons (Mt) more crude petroleum and petroleum refinery products, which ranked second only to shipments of grains, was shipped through the Canal from the Atlantic to the Pacific and accounted for about 19% of the total tonnage of all commodities shipped in this direction. Another significant set of commodities that was shipped through the canal toward the Pacific during the year consisted of about 8.4 Mt of nitrates, phosphates, and potash (which represented 8% of the total tonnage shipped in this direction). Crude petroleum and petroleum refinery products ranked as the leading group of commodities shipped from the Pacific to the Atlantic (9.1 Mt), and shipments of metals and ores ranked second (8.6 Mt). Miscellaneous minerals, including commodities used primarily as construction materials, were ranked third in tonnage (5.4 Mt) of shipments from the Pacific to the Atlantic and exceeded the tonnage of shipments of miscellaneous minerals in the opposite direction by about 5.3 Mt. About 5.2 Mt of coal and coke were shipped from the Pacific to the Atlantic, and about 4.2 Mt was shipped in the opposite direction. Panama closed its only crude petroleum refinery in 2002 and did not produce any mineral fuels in 2005 (Dirección de Análisis y Políticas Económicas, Ministerio de Economía y Finanzas, Panamá, 2006, p. 31; U.S. Energy Information Administration, 2006).

In 2005, investment in the mining sector was almost entirely targeted at exploration and development of gold properties.

Minera Petaquilla S.A. was a joint venture between Petaquilla Minerals Ltd. of Vancouver, British Columbia, Canada (52%), and Inmet Mining Corporation of Toronto, Ontario, Canada (48%). Minera Petaquilla was formed in 1997 to explore and develop the Cerro Petaquilla copper-gold porphery deposit and other metallic mineral deposits within the Ley Petaquilla property, which is a large concession area that extends south from the Caribbean coast approximately 100 km west of the Panama Canal. Teck Cominco Limited of Vancouver, British Columbia, Canada, had an option contract to earn a 50% ownership share in Petaquilla Minerals (26% share in Minera Petaquilla) if it continued to fund all Petaquilla Minerals' share (52%) of the exploration and development costs of the Cerro Petaquilla copper project; Inmet was expected to fund the other 48% of total expenditures in the project. In April 2005, however, Petaquilla Minerals and Inmet agreed to waive for 1 year Teck Cominco's obligation to make a final commitment to fund its share of the development of the project until production is achieved or until all three companies agree to terminate the project, and almost no investment was made in the copper project during the year. In June 2005, the shareholders in Minera Petaquilla agreed to separate their ownership interests in the gold deposits of the Ley Petaquilla property from those in the main copper deposit, and this agreement enabled Petaquilla Minerals to acquire 100% ownership of the Molejon epithermal gold deposit, where the company focused almost all its investment during the year through its new gold-properties subsidiary, Petaquilla Gold S.A. Teck Cominco and Inmet retained only royalty rights (at rates to be determined) on any eventual production from gold deposits located within the Ley Petaquilla property (Mining Journal, 2005; Petaquilla Minerals Ltd., 2006, p. 11-13).

In 2005, the nominal value of Panamanian imports of mineral fuels and petroleum refinery products increased to \$736.6 million compared with \$516.4 million in 2004, and accounted for 17.7% of the nominal value of the country's total imports compared with 14.4% in the previous year. The nominal value of annual production by the domestic construction sector increased by about 14% during the same timeframe, and the nominal value of imports of construction materials (including industrial mineral raw materials, industrial mineral intermediate products, and metallic manufactures) increased by about 8.2% to \$275.7 million. Although imports of petroleum refinery products continued to become more costly, the Government did not appear to be attracting much investment in exploration for mineral fuel reserves either onshore or offshore during 2005, and investment in this sector of the mineral industry was negligible. Global Energy Development PLC (Harken Energy Corporation of Southlake, Texas, 34%, and other private shareholders, 66%) of London, United Kingdom, was still negotiating an exploration contract with the Ministry of Commerce and Industry for the Republic of Panama after first gaining the rights to explore the onshore and offshore Garachine Block area in 2001 through the signing of a technical evaluation agreement (TEA) with the Government. Global Energy still expected that the contract would be approved sometime in 2006, however (Ellis, 2005; Dirección de Análisis y Políticas Económicas, Ministerio de Economía y Finanzas, Panamá,

2006, p. 27; Global Energy Development PLC, 2006, p. 8-9; Harken Energy Corporation, 2006, p. 14).

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#### **Major Source of Information**

Dirección General de Recursos Minerales Ministerio de Comercio e Industrias Apartado Postal 8515, Zona 5 Viejo Veranillo, detrás del Instituto Tomi Guardia Panamá 5, Panamá Telephone: (507) 236-1825; 3173

Fax: (507) 260-9578

#### Outlook

In 2005, some of the countries of Central America succeeded in attracting greater investment in mineral property exploration and development than in 2004, and a few timelines for potential production from some of these projects began to become evident (table 3). In other countries of the region, however, political (tax and policy) risk remained high relative to their estimated mineral resources. As reforms of mining and hydrocarbon laws in the countries of Central America come into affect and as their Governments proceed to ratify CAFTA-DR, this type of uncertainty will decrease somewhat. Greater FDI flows into the mineral industries of the countries where these political goals are accomplished can be expected (especially from United States-based mineral companies) (Ávila, 2005, p. 7, 15-16, 19-20; Economic Commission for Latin America and the Caribbean, 2006a, p. 38, 57, 69; 2006b, p. 22-24, 45, 53, 102, 104; 2007, p. 12-14, 36-45, 57-60).

In 2005, public demonstrations and protests still appeared to have some negative influence on investment decisions in

the mineral industries of Central America, and the higher costs associated with public relations and use of the most environmentally friendly technologies may still deter some investment in the more marginal (economically) mineral development projects. Even with successful development of the projects that are listed in table 3, the percent contribution of production by the mineral industries to the GDPs of these countries is expected to remain small, and any new production is likely to be of significance only to North and Central America and the Caribbean region, at best. Successful development of these projects can alleviate some of the dependence of these economies on imports of mineral raw materials, however, and can improve the tax bases of the Governments of these countries to possibly promote wider economic reforms, economic development, and greater economic integration within the region.

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 ${\bf TABLE~1}$  CENTRAL AMERICA: PRODUCTION OF MINERAL COMMODITIES  $^{1,\,2}$ 

(Metric tons unless otherwise specified)

Country and commo	odity	2001	2002	2003 <sup>e</sup>	2004 <sup>e</sup>	2005 <sup>e</sup>
BELIZE						
Clays <sup>3</sup>	thousand metric tons	557	487	413 4	571 <sup>4</sup>	570
Dolomite		4,525	5,500	6,319 4	3,288 4	3,300
Gold	grams	715		4	4	
Lime <sup>e</sup>		1,200	1,200	1,200	1,200	1,200
Limestone, including marl <sup>5</sup>	thousand metric tons	1,140	358	881 4	571	600
Quartz sand (silica)	cubic meters	23,078	38,000 <sup>e</sup>	30,631 4	27,763 4	28,000
Sand and gravel	thousand cubic meters	165	109 <sup>e</sup>	109 4	162 4	160
Sand, including silt and mud (offshore)	do.	264	95	82 4	250 4	250
COSTA RICA <sup>6</sup>	i 					
Cement <sup>e</sup>	thousand metric tons	1,200	1,200	1,600	1,900	2,000
Clays, common <sup>e</sup>		420,000	420,000	419,000	420,000	420,000
Diatomite		26,350	26,400 e	26,450 4	26,500	26,000
Gold <sup>e</sup>	kilograms	100	100	110	150 <sup>r</sup>	150
Iron and steel, semimanufactures <sup>e</sup>		61,000 <sup>r</sup>	72,000 <sup>r</sup>	102,000 <sup>r</sup>	165,000 <sup>r</sup>	170,000
Lime <sup>e</sup>		9,000	9,900	9,900	9,900	9,900
• •	thousand 42-gallon barrels	5,500	5,500	5,450	5,400	5,400
Pumice <sup>e</sup>		8,000	8,000	8,000	8,000	8,000
Salt, marine <sup>e</sup>		20,000 <sup>r</sup>	20,000 <sup>r</sup>	20,000 <sup>r</sup>	20,000 <sup>r</sup>	20,000
Silver <sup>e</sup>	kilograms	100	100	110	110	110
Stone, sand and gravel: <sup>e</sup>						
Crushed rock and rough stone	thousand metric tons	200	200	200	200	200
Limestone and calcareous materials	do.	900	900	920	920	920
Sand and gravel	do.	1,500	1,500	1,550	1,550	1,550
Sandstone	do.	3,300	3,300	3,250	3,250	3,250
EL SALVADOR						
Aluminum, metal, including alloys and ser	nimanufactures <sup>e</sup>	2,650	2,650	2,600	2,600	2,600
Cement, hydraulic		1,174	1,318	1,390	1,256 4	1,250
Fertilizer materials: <sup>e</sup>						
Phosphatic		13,600	13,600	13,600	13,600	13,600
Other mixed materials		56,500	56,500	56,000	56,000	56,000
Gypsum <sup>e</sup>		5,600	5,600	5,600	5,600	5,600
Iron and steel, metal:				56,000	50,000	51.000
Steel, crude		38,502	48,832	56,900	59,000	51,000
Semimanufactures <sup>e</sup>		66,000 <sup>r</sup>	76,000 <sup>r</sup>	92,000 <sup>r</sup>	88,000 <sup>r</sup>	85,000
Lead, metal, secondary		7,000	8,000	8,000	10,000	10,000
Limestone	thousand metric tons	1,425	1,631	1,194 4	1,161 4	1,150
	thousand 42-gallon barrels	6,300	6,300	6,300	6,300	6,300
Pozzolan	cubic meters	365,458	279,389	294,871 4	222,826 4	223,000
Salt, marine		31,610	31,552	31,366 4	31,400	31,400
GUATEMALA				r	4	4
Antimony		8,162 r	4,010 r	2,000 °	2,686 4	1,007 4
Basalt	cubic meters	243,109	317,558	935,849 4	1,050,340 4	512,000
Of which, andesite	do.	22,197	99,941	100	110 <sup>4</sup> 70 <sup>4</sup>	100 181 <sup>4</sup>
Barite		700	100 e	100		
Cement, hydraulic <sup>e</sup>	thousand metric tons	2,000	2,000 <sup>r</sup>	2,000 <sup>r</sup>	2,200 <sup>r</sup>	2,400
Clays:		10 460 f	10 415 1	6 120 4	01 (00 4	125 451 4
Bentonite		18,469 <sup>r</sup>	12,415 <sup>r</sup>	6,438 <sup>4</sup> 64,700 <sup>r</sup>	81,688 <sup>4</sup> 54,293 <sup>4</sup>	135,451 <sup>4</sup> 90,237 <sup>4</sup>
Ferruginous  Evaluate agenth (attenualists)		73,268 <sup>r</sup>	64,683 <sup>r</sup>	9	9 4	90,237
Fuller's earth (attapulgite)		40	10	1,497 4		4,107 4
Kaolin		227 <sup>r</sup>	372 <sup>r</sup>	1,497 <sup>r</sup>	2,000 <sup>r</sup>	
Unspecified <sup>e</sup>					50 <sup>4</sup>	50
Coal, lignite <sup>e</sup>		50	50	50		2 202 4
Feldspar	1 11	6,809	11,843	9,320 <sup>4</sup>	4,473 <sup>4</sup>	3,808 4
Gold, mine output, Au content <sup>e</sup> See footnotes at end of table	kilograms	r	r	·	r, 4	740 4

See footnotes at end of table.

## $\label{eq:table 1--Continued} \textbf{CENTRAL AMERICA: PRODUCTION OF MINERAL COMMODITIES}^{1,\,2}$

(Metric tons unless otherwise specified)

2001	2002	2003 <sup>e</sup>	2004 <sup>e</sup>	2005 <sup>e</sup>
06 917	90 571	66 001 4	106 140 4	349,589 4
		/		5,227 4
1,//3	947	1,000	2,089	5,227
201.002	216 100	226,000	222 000 <sup>r</sup>	107.000
•	,			197,000
•				240,000
	· · · · · · · · · · · · · · · · · · ·	/ : :		6,041 4
		· · · · · · · · · · · · · · · · · · ·	•	26,740 4
				23 4
				400
764	3,758		•	5,636 4
630	650	670	620	560
7,695	9,005	9,028 4	7,384 4	6,728 4
7,600	7,600	4	4	4
264,322	377,403 <sup>r</sup>	273,933 4	226,459 4	82,118 4
10	10 e	10	5 4	5
	1.000		1.375 4	2,707 4
			<u> </u>	60,000
		· · · · · · · · · · · · · · · · · · ·		7,070 4
				7,070
6 000 e	10.000	18 801 4	10.000	5,799 4
				8,585 4
				513 4
			- ,	60,116 4
· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·			7,600
31	34	42	48 4	64 4
		4		
	3,185			3,000
11,448	99,293	29,181 4	74,862 4	44,598 4
175,824	2,000 e	6,000	4,000	6,611 4
684	743 <sup>r</sup>	296 4	90 4	367 4
126	55	129	226 4	82 4
200	200	450 4	180 4	200
250,682	496,428	496,793 4	543,169 4	500,000
16,126 <sup>r</sup>	37,552 г	30,462 r, 4	988 r, 4	474 4
7,000 e	7,433	12,537 4	1,852 4	4
194,463	312,997	199,435 4	219,750 4	48,978 4
	568	1.585 4	2.863 4	1,631 4
				11 4
			10	
75	75	60	60	60
				1,800
				300
		•	· · · · · · · · · · · · · · · · · · ·	
		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	60,000
				71,000
			•	10,488 4
				1,230,000
				90,000
189,999	190,000 e	190,000	190,000	190,000
	32,700 e	33,000	33,000	33,000
32,700	32,700	33,000		33,000
32,700 42,000 <sup>r</sup>	42,000 <sup>r</sup>	42,000 <sup>r</sup>	42,000 <sup>r</sup>	42,000
		· · · · · · · · · · · · · · · · · · ·		
	7,695 7,600 264,322 10 1,000 50,000 6,000 ° 1,289 ° 68 70,000 ° 2,775 31 15,039 11,448 175,824 684 126 200 250,682 16,126 ° 7,000 ° 194,463 1,759 ° 75 1,321 300 4,574 59,500 70,941 6,750 1,230,000 95,000	1,773         947           201,802         216,108           129,000         135,000           835         35,226           61,792         91,776           50         39           182 °         547           764         3,758           630         650           7,695         9,005           7,600         7,600           264,322         377,403 °           10         10 °           1,000         1,000           50,000         50,000               6,000 °         10,088           1,289 °         24,881           68         98           70,000 °         69,918           2,775         3,040           31         34           15,039         3,185           11,448         99,293           175,824         2,000 °           684         743 °           126         55           200         200           250,682         496,428           16,126 °         37,552 °           7,000 °         7,433           194,463 <td>  1,773</td> <td>  1,773</td>	1,773	1,773

See footnotes at end of table.

## TABLE 1--Continued CENTRAL AMERICA: PRODUCTION OF MINERAL COMMODITIES<sup>1, 2</sup>

#### (Metric tons unless otherwise specified)

Country and commodity		2001	2002	2003 <sup>e</sup>	2004 <sup>e</sup>	2005 <sup>e</sup>
NICARAO	GUA <sup>9</sup>					
Bentonite <sup>e</sup>		6,000	6,000	6,300	6,300	6,300
Cement		513,793	549,403	590,000	600,000 г	600,000
Gold, mine output, Au content	kilograms	3,840	3,493	3,096 r, 4	4,064 r, 4	4,000
Gypsum and anhydrite, crude		34,369	28,153	30,642 4	30,000	30,000
Lime <sup>e</sup>		55,000	56,000	55,000	55,000	55,000
Limestone:						
For cement		621,000	787,000	789,000 4	780,000	780,000
For other uses		8,900	3,310	1,600 4	1,600	1,600
Petroleum, refinery products <sup>7</sup>	thousand 42-gallon barrels	6,610 <sup>r</sup>	6,008 <sup>r</sup>	5,981 r,4	6,145 r,4	6,000
Salt, marine		17,710	29,710	31,320 4	52,000 <sup>r</sup>	52,000
Sand and gravel	thousand cubic meters	708	492	636	600	600
Silver, mine output, Ag content	kilograms	2,532	2,198	2,040 4	2,000	2,000
Stone, crushed	thousand metric tons	5,639	5,859	5,400	5,400	5,400
PANAM	MA					
Cement <sup>e</sup>		820,000	770,000	800,000 <sup>r</sup>	820,000 <sup>r</sup>	820,000
Clays:						
For cement	cubic meters	64,246	64,000 <sup>e</sup>	64,000	64,000	64,000
For products <sup>e</sup>	do.	4,300	4,300	4,300	4,300	4,300
Lime <sup>e</sup>		3,500	3,500	3,500	3,500	3,500
Salt, marine <sup>e</sup>		18,000 <sup>r</sup>	18,000 <sup>r</sup>	18,000 <sup>r</sup>	18,000 <sup>r</sup>	18,000
Stone, sand and gravel:						
Limestone	thousand metric tons	469	270 <sup>e</sup>	270	270	270
Sand and gravel	thousand cubic meters	441	1,200 e	1,200	1,200	1,200
<u> </u>		_				

<sup>&</sup>lt;sup>e</sup>Estimated; estimated data are rounded to no more than three significant digits. <sup>r</sup>Revised. -- Zero.

<sup>&</sup>lt;sup>1</sup>Table includes data available through November 2006.

<sup>&</sup>lt;sup>2</sup>In addition to the commodities listed, some additional construction materials (clays, gravel, miscellaneous rock, sand, and weathered tuff) are produced to meet domestic needs, but available information is inadequate to make reliable estimates of output.

<sup>&</sup>lt;sup>3</sup>Some figures that are reported or estimated as a volumetric measure (cubic meters) have been converted to a weight measure equivalent (metric tons) by multiplying by an average density of 2.40 for clay (common).

<sup>&</sup>lt;sup>4</sup>Reported figure.

<sup>&</sup>lt;sup>5</sup>Some figures that are reported or estimated as a volumetric measure (cubic meters) have been converted to a weight measure equivalent (metric tons) by multiplying by an average density of 2.72 for limestone.

<sup>&</sup>lt;sup>6</sup>An official response to the USGS Minerals Questionnaire for Costa Rica was last received in 2001. Therefore, most of the data is estimated from the most recently reported (2000) figures.

<sup>&</sup>lt;sup>7</sup>Includes liquefied petroleum gas, aviation and motor gasoline, diesel, kerosene, and distillate fuel oil.

<sup>&</sup>lt;sup>8</sup>An official response to the USGS Minerals Questionnaire for Honduras was last received in December 2003, with reported figures for 2001 and some estimated figures for 2002. Therefore, most of the data is compiled from individual company and some secondary sources or estimated from the most recent officially reported figures.

<sup>&</sup>lt;sup>9</sup>In addition to the commodities listed, Nicaragua produced a variety of industrial minerals to meet domestic needs. Output of these materials was not reported, however, and available information is inadequate to make reliable estimates of output.

## ${\it TABLE~2}$ CENTRAL AMERICA: STRUCTURE OF THE MINERAL INDUSTRIES IN 2005

(Thousand metric tons unless otherwise specified)

	Major operating companies		Annual
Country and commodity	and major equity owners	Location of main facilities	capacity
BELIZE Dolomite	Belize Minerals Ltd. (Danish Development	Punta Gorda, Toledo District	6,320.
	Bank and other private, 100%)		
Limestone	Caribbean Investors Limited (private, 100%)	Georgeville, Cayo District	1,140.
COSTA RICA			
Cement	Holcim Costa Rica S.A. (Holcim Ltd., 59.8%, and other private, 40.2%)	Cartago cement plant, Aguas Calientes	1,500.
Do.	CEMEX Costa Rica S.A. (CEMEX S.A. de	Colorado de Abangares cement plant,	850.
	C.V., 98.7%, and other private, 1.3%)	Guancaste Province, and Guatuso de	
		Patarra cement grinding and bagging	
		plant, San Jose	
Clays	do.	Tajo Finca clay quarry, near City of Platanar	100.
Gold kilograms	Glencairn Gold Corporation (private, 100%)	Bellavista open pit mine, Montes de Oro	1,400.
		Region, 70 kilometers west of San Jose	
Limestone	CEMEX Costa Rica S.A. (CEMEX S.A. de	Cerro Pena Blanca limestone quarry,	300.
	C.V., 98.7%, and other private, 1.3%)	Guancaste Province	
Do.	Holcim Costa Rica S.A. (Holcim Ltd., 59.8%,	La Chilena and three other quarries near	650.
	and other private, 40.2%)	Cartago cement plant, Cartago Province	
Petroleum, refinery products thousand	Refinadora Costarricense de Petróleo S.A.	Moín refinery, City of Limon, Limon	7,600.
42-gallon barrels	(RECOPE S.A.) (Government, 100%)	Province	
Pozzolan	Holcim Costa Rica S.A. (Holcim Ltd., 59.8%,	La Chilena and three other quarries near	8.
	and other private, 40.2%)	Cartago cement plant, Cartago Province	
Steel, semimanufactures	Laminadora Costarricense S.A. (Arcelor S.A.,	Rolling mill, steel manufacturing complex,	450.
	50%, and Grupo Pujol-Martí, 50%)	Jimenez de Guapiles, Limon Province	
Do.	Trefileria Colima S.A. (Arcelor S.A., 50%,	Wire-drawing unit, City of Jimenez de	60.
	and Grupo Pujol-Martí, 50%)	Guapiles, Limon Province	
EL SALVADOR			
Aluminum, semimanufactures metric tons	Grupo Solaire S.A. de C.V.; Aluminio de Centro	Capital city of San Salvador	2,600.
	America S.A. de C.V.; INCO Industrias		
	Consolidadas S.A. de C.V.; and others		
Cement	Cemento de El Salvador S.A. de C.V. (Holcim	El Ronco and Maya Plants, near Metapan,	1,700.
	Ltd., 64.2%, and other private, 35.8%)	Santa Ana Department	
Limestone	do.	Quarries near Aldea El Zapote and Santa	440.
		Ana, Santa Ana Department	
Petroleum, refinery products thousand	Refinería Petrolera Acajutla S.A. de C.V.	Puerto de Acajutla, Sonsonate Department	7,000.
42-gallon barrels	(RASA de C.V.) (Exxon Mobil Corp., 65%,		
	and Royal Dutch/Shell Group, 35%)		
Pozzolan	Cemento de El Salvador S.A. de C.V. (Holcim	Quarries near Aldea El Zapote and Santa	650.
	Ltd., 64.2%, and other private, 35.8%)	Ana, Santa Ana Department	
Steel:			
Crude	Corporación Industrial Centroamericana S.A.	Electric arc furnace, Quetzaltepeque,	60.
	de C.V. (private, 100%)	La Libertad Department	
Semimanufactures	do.	Billet casting machine and rolling mill,	92.
		Quetzaltepeque, La Libertad	
GUATEMALA			
Antimony metric tons	Minas de Guatemala S.A. (private, 100%)	Clavito, La Florida, and Los Lirios Mines,	2,700.
	G	Ixtahuacan, Huehuetenango Department	2.000
Cement	Cementos Progreso S.A. (Holcim Ltd., 20%,	San Miguel plant, Sanarate, El Progreso	3,000.
	and other private, 80%)	Department, and La Pedrera plant,	
<u> </u>	M	Guatemala City	7.100
Gold kilograms	Montana Exploradora de Guatemala S.A.	Marlin Mine, near municipalities of San	7,100.
	(Glamis Gold Ltd., 100%)	Miguel Ixtahuacan and Sipakapa,	
		Department of San Marcos	

See footnotes at end of table.

## TABLE 2--Continued CENTRAL AMERICA: STRUCTURE OF THE MINERAL INDUSTRIES IN 2005

(Thousand metric tons unless otherwise specified)

		Major operating companies		Annual
CHATEMALA G	<u>*</u>	and major equity owners	Location of main facilities	capacity
GUATEMALACo Lime	metric tons	Cementos Progreso S.A. (Holcim Ltd., 20%, and other private, 80%)	San Miguel plant, Sanarate, El Progreso Department, and La Pedrera plant, Guatemala City	550.
Petroleum, crude	thousand 42-gallon barrels	Perenco PLC (100%)	Rubelsanto and West Chinaja fields, Alta Verapaz Department, and Caribe, Tierra Blanca, and Xan fields, Peten Department	7,500.
Silver	kilograms	Montana Exploradora de Guatemala S.A. (Glamis Gold Ltd., 100%)	Marlin Mine, near municipalities of San Miguel Ixtahuacan and Sipakapa, Department of San Marcos	94,000.
Steel:				
Crude		Siderúrgica de Guatemala S.A. (SIDEGUA) (Aceros de Guatemala S.A., 100%)	Electric arc furnace, near City of Escuintla, Escuintla Department	260.
Semimanufactures		Industria Galvanizadora, S.A. (INGASA) (Industrias Monterrey S.A. de C.V., 100%)	Plant near Guatemala City	74.
HONDURAS	S			
Cement		Cementos del Norte S.A. de C.V. (Holcim Ltd., 24.2%, and other private, 75.8%)	Rio Bijao plant, municipality of San Pedro Sula, Cortes Department	1,100.
Do.		Lafarge Incehsa S.A. de C.V. (Lafarge Group, 52.8%, and other private, 47.2%)	Piedras Azules plant, municipality of Comayagua, Comayagua department	1,300.
Gold	kilograms	Minerales Entre Mares de Honduras S.A. (Glamis Gold Ltd., 100%)	San Martin open pit mine, Palo Alto deposit, Department of Francisco Morazan	2,550.
Do.	do.	Minerales de Occidente S.A. de C.V. (Yamana Gold Inc., 100%)	San Andres Mine, municipality of La Union, Department of Copan	2,180.
Lead	metric tons	Compañía Minera Santa Bárbara (Breakwater Resources Ltd., 100%)	El Mochito Mine, municipality of Las Vegas, Santa Barbara department, 88 kilometers southwest of San Pedro Sula	9,000.
Silver	kilograms	do.	do.	50,000.
Zinc	metric tons	do.	do.	42,000.
NICARAGU. Cement	A	CEMEX Nicaragua S.A. (CEMEX S.A. de C.V., 100%, but on lease from Government)	San Rafael del Sur plant, 45 kilometers from Managua, and milling plant in Managua	470.
Cement, clinker		Holcim de Nicaragua S.A. (Holcim Ltd., 41.9%, and other private, 58.1%)	Nagarote grinding plant, San Rafael del Sur	300.
Gold	kilograms	Glencairn Gold Corporation, 95%, and Inversiones Mineras S.A., 5%	El Limon Mine, Talavera deposit, 160 kilometers north of Managua	1,500.
Do.	do.	Desarrollo Minero de Nicaragua S.A. (Yamana Gold Inc., 100%)	La Libertad Mine, 110 kilometers east of Managua	1,550.
Petroleum, refinery products	thousand 42-gallon barrels	Refinería Esso Managua S.A. (Exxon Mobil Corp., 100%)	Capital city of Managua; 40-mile (64-kilometer) pipeline to the refinery from Puerto Sandino	7,300.
PANAMA				
Cement		Cemento Panamá S.A. (Cementos del Caribe S.A., 50%, and Holcim Ltd., 50%)	Grinding plant in Quebrancha, Province of Panama	700.
Do.		Cemento Bayano S.A. (CEMEX S.A. de C.V., 99.3%, and other private, 0.7%)	Plant in Calzada Larga, Province of Panama	400.

<sup>&</sup>lt;sup>e</sup>Estimated; estimated data are rounded to no more than three significant digits.

## ${\it TABLE~3}$ CENTRAL AMERICA: ESTIMATED MAJOR INVESTMENT EXPENDITURES IN MINERAL EXPLORATION IN $2005^{\rm l}$

#### (Thousand dollars)

Location	Project Name	Commodity	Ownership	Annual investment	Planned startup date
BELIZE Ceibo Chico area, Maya Mountains, Cayo District, west-central Belize	Ceibo Chico (exploration)	Gold	Erin Ventures Inc. (on 90% earn-in option from Boiton Minerals Ltd.), 100%	220	NA
Municipality of Spanish Lookout, Cayo District, Blocks 5 and 5a	Yalbac and Hill Bank deposits (exploration, feasibility)	Crude petroleum and natural gas	Belize Natural Energy Limited (Aspect Energy LLC and CHx LLC, 100%), 100%	6,000	mid-2006
COSTA RICA 105 kilometers north of San Jose, in Alajuela Province, north-central Costa Rica	Cerro Crucitas (feasibility)	Gold, silver	Industrias Infinito S.A. (Vannessa Ventures Ltd., 100%), 100%	1,900	2008 <sup>2</sup>
Near Miramar, 70 kilometers west of San Jose, in the coastal Montes de Oro Region	Bellavista (extension)	Gold	Glencairn Gold Corporation, 100%	NA	2006
EL SALVADOR 65 kilometers east of San Salvador, in the Cabañas Department	El Dorado (prefeasibility)	Gold, silver	Pacific Rim Mining Corp., 100%	5,900	NA
Santa Ana Department, northern El Salvador	El Zapote (prefeasibility)	Gold, silver, zinc	SilverCrest Mines Inc., 100%	1,400	NA
Southern Morazan; northern San Miguel Department, eastern El Salvador	San Cristobal (4 exploration concessions)	Gold, silver	Intrepid Minerals Corporation, 100%	380	NA
South of Chalatenango City, in Chalatenango Department	Cerro Petancol-Ojo Blanco (exploration)	do.	Au Martinique Silver Inc. (on a 50% earn-in option from Intrepid Minerals Corporation), 100%	180	NA
GUATEMALA  Near San Miguel Ixtahuacan and Sipakapa, San Marcos Department	Marlin (underground expansion)	Gold, silver	Montana Exploradora de Guatemala S.A. (Glamis Gold Ltd., 100%), 100%	2,800	2006
Asuncion Mita, Jutiapa Department	Cerro Blanco (exploration)	Gold	do.	5,400	NA
30 kilometers northeast of Guatemala City, near Sanarate, El Progresso Department	El Sastre (exploration)	do.	Aurogin Resources Ltd. (on a 50% earn-in option from Rocas El Tambor S.A.), 100%	570	NA
El Estor, Izabal Department	Fenix (feasibility)	Nickel laterite	Compañía Guatemalteca de Níquel S.A. (Skye Resources Ltd., 90.9%, and Government, 9.1%), 100%	7,800	2009 <sup>2</sup>
140 kilometers northeast of Guatemala City, near Lake Izabal, Izabal Department	Sechol (exploration)	do.	Jaguar Nickel S.A. (Jaguar Nickel Inc., 100%), 100%	5,700	NA
Casas/Huapac and Tortugas/Atzam concession areas, Peten Department HONDURAS	(exploration and testing)	Crude petroleum and natural gas	PetroLatina Energy Plc, 100%	3,500	NA
90 kilometers southwest of San Pedro Sula, in the Santa Barbara Department	Vueltas del Rio (restoration)	Gold	Rio Narcea Gold Mines, 100%	700	NA
NICARAGUA Onshore, Pacific coast, from border with Costa Rica to 40 kilometers west of Managua	Oklanicsa concession (exploration)	Crude petroleum	Norwood Resources Ltd., 100%	3,200	NA
North-central Nicaragua, 230 kilometers north-northeast of Managua	Natividad (El Pavon) (exploration)	Gold	Meridian Gold Inc. (on 60% earn-in option from Radius Gold Inc.), 100%	2,400	NA
Talavera deposit, 100 miles north of capital city of Managua	Santa Pancha (extension of El Limon Mine)	do.	Glencairn Gold Corporation, 95%, and Inversiones Mineras S.A., 5%	1,400	2007
10 kilometers north of Boaco, Boaco Department, central Nicaragua	Rio Luna (exploration)	do.	First Point Minerals Corp., 100%	410	NA

See footnotes at end of table.

## ${\it TABLE~3--} Continued$ CENTRAL AMERICA: ESTIMATED MAJOR INVESTMENT EXPENDITURES IN MINERAL EXPLORATION IN $2005^{\rm l}$

#### (Thousand dollars)

				Annual	Planned
Location	Project Name	Commodity	Ownership	investment	startup date
NICARAGUAContinued					
Northern portion of the La India gold	Tatascame (exploration)	do.	Gold-Ore Resources Ltd. (on 51%	240	NA
district, 140 kilometers northwest of			earn-in option from Glencairn		
Managua			Gold Corporation), 100%		
PANAMA					
100 kilometers west of Panama Canal,	Molejon (exploration)	Gold	Petaquilla Minerals Ltd., 100%	2,400	$2007^{2}$
in Donoso district, Colon Province					
On Azuero peninsula, Los Santos	Cerro Quema (feasibility	do.	Minera Cerro Quema S.A. de C.V.	880	NA
Province, 190 kilometers southwest	and preliminary		(RNC Gold Inc., 60%, and Carena		
of Panama City	construction)		Equities Corp., 40%), 100%		

NA Not available.

<sup>&</sup>lt;sup>1</sup>Estimated data are rounded to no more than two significant digits.

<sup>&</sup>lt;sup>2</sup>Not before this date.