

## GUATEMALA

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President Portillo has promised to support continued liberalisation of the economy in Guatemala, increase investment in human capital and infrastructure, establish an independent central bank, and increase revenue by stricter enforcement of tax revenues, as well as continuing the peace process. Some progress has been made in his reform agenda but poverty and corruption hold sway. Although the country may have the largest economy in Central America, Guatemala faces numerous economic and social challenges, difficult legacies from a civil war that ended in 1997 after 36 years.

Central America's worst drought in ten years as well as low coffee prices has also hit the country very hard. Half of all children are chronically malnourished and more than 75% of the 11 million population live in poverty. The wealthiest 10% of the population receive almost one half of all income. Crime is also a problem. In January 2002, Washington 'decertified' the country as a co-operative partner in anti-drug efforts and this has jeopardised both foreign aid money and Guatemala's image. (The US is the largest trading partner, providing 35% of imports and receiving 27% of exports.) The decertification move angered the government, but it has set up an anti-corruption commission.

In April 2002, the IMF approved a programme for the country but it plans to monitor progress towards financial-sector reform. President Portillo, inaugurated in 2000, has tried to reduce the fiscal deficit and encourage privatisation. The government sector is small and shrinking and even some public utilities have been privatised, as have ports and airports and several development-oriented financial institutions. The private sector generates about 85% of GDP and agriculture contributes 23%, as well as accounting for 75% of exports. Economic problems are considerable, however, and in February two thirds of the country's 80,000 teachers went on strike to demand a near doubling of salaries while also seeking improved school buildings, more books, and better school lunches. Some 2,000 protestors seized a pumping station on the French-owned oil pipeline that carries all of Guatemala's oil production (about 25,000 bbl/d of crude oil) from wells in the north to Atlantic ports.

Guatemala is the northernmost country in Central America, bordering Mexico to the north and west, Belize and the Atlantic Ocean to the east, Honduras and El Salvador to the southeast, and the Pacific Ocean to the south. The tectonic interaction of the Cocos, Caribbean, and North American tectonic plates makes the country's geology diverse – comprising the Pacific Coastal Plain, Volcanic Province, Metamorphic Complex, and Peten Lowlands – and favours formation of various types of mineral deposits, including gold, silver, copper, cadmium, antimony, nickel, lead, zinc, limestone, barite, bentonite,

sulphur and marble. Despite this potential, the mining industry has been somewhat challenged due to the internal insurgency that lasted through the 1960s to the mid 1990s and when most of the mining projects in the country were easy targets. Therefore, labour for the mining projects was scarce. Another factor that kept mining activity depressed was the previous mining law (Decree No. 65-85), which provided no incentives to potential investors, be they domestic or foreign. The passage of the new mining law Decree No.48-97 has helped to promote exploration activity.

There is exploration activity in eastern Guatemala, encouraged by the Buena Vista nickel project, initiated in 1998 by Chesbar Resources Inc. and its Guatemalan joint-venture partner, Intrepid Minerals Corp. There are six exploration licences covering some 250 km<sup>2</sup> owned by Minera Mayamerica in which Chesbar Resources has earned a 70% interest. Work to date has been concentrated on two properties, Sechol and Marichaj (nickel-cobalt projects), with test pits and assaying samples confirming previous resource calculations.

In early 2003, the exploration programme identified a new lateritic nickel target within the mineralised zone of the 15 km<sup>2</sup> Sechol property which has been shown to include: 14 Mt averaging 1.36% Ni and 0.08% Co in the measured category; 23 Mt at 1.4% Ni and 0.08% Co in the indicated category; and a separate inferred resource of 133 Mt averaging 1.51% Ni. This resource was calculated using a dry density of 1 g/cm<sup>3</sup>, a minimum thickness of 1.5 m, and a cut-off grade of 1% Ni. The new area, called El Segundo, is close to the main target, El Inicio, where a pit has been started and where the resource is estimated at 5.0 Mt averaging 2.1% Ni and 0.08% Co, and which forms the basis for Hatch's metallurgical scoping study. This study is designed to establish the capital and operating costs of a nickel-cobalt hydroxide production facility at a proposed rate of 10,000 t/y of nickel as an intermediate hydroxide. The METSIM model simulation will also permit the preliminary assessment of producing a magnesium oxide by-product.

After a review of the existing pyrometallurgical and hydrometallurgical process options for nickel laterites, the company contends that the evolution of recovery techniques from high pressure acid leach (HPAL), as used in Western Australia, and the deferred proposal by Inco to use PAL to develop the Goro deposit in New Caledonia, will ultimately lead to the next generation of hydrometallurgical process technology for the recovery of nickel from laterites, ie atmospheric acid leaching (AAL).

At the same time, Chesbar has signed a metallurgical contract with Process Research Ortech Inc. (Ortech) of Mississauga, Ontario, Canada, which will be incorporated in the Hatch metallurgical scoping study. The scope of the hydrometallurgical study includes process optimisation for the recovery of nickel and cobalt through chloride leaching, solution purification, and hydroxide precipitation. Deliverables include samples of the mixed hydroxide product for evaluation by third parties interested in pursuing off-take agreements. Results from the Ortech metallurgical study will be used to calculate capital and operating costs.

Radius Exploration Ltd has direct involvement in four active gold exploration programmes in central and eastern Guatemala, three of which are held through joint ventures (Motagua, Marimba, and Tambor) and the fourth is being financed by Radius (Holly). Gold Fields of South Africa is earning a 55% property interest in the Motagua project and must spend US\$5.0 million to vest that interest. Expenditures for 2002 were US\$1.5 million and involved a large drill campaign.

In June 2002, Pillar Resources Inc. of Vancouver was granted a joint venture option from Radius to earn a 60% interest in the Marimba gold prospect in eastern Guatemala by expending C\$2.5 million over three years; once Pillar has earned its 60% interest, Radius has the right to require Pillar to purchase the remaining 40% of the project in consideration for a 40% equity interest in Pillar.

Results during the final months of 2002 confirmed the presence of high-grade gold values associated with quartz/arsenopyrite bodies at La Laguna North and Guapinol South, both target areas within the Tambor joint-venture ground in central Guatemala. Moderate to high-grade gold mineralisation has been found in quartz lodes (La Laguna North, JNL), variable widths of low-grade, disseminated gold along structural contacts between amphibolite and phyllite (Lupita), narrow, flat-lying zones of low-grade gold within amphibolites (Cobano, TBS), stockwork/sheeted quartz veinlets in granodiorite (La Laguna South), and high-grade, quartz vein hosted mineralisation associated with visible gold (Guapinol South). Radius has conducted a scout-drilling programme on the Holly property, which indicated a low sulphidation epithermal gold system that is structurally controlled. The gold mineralisation is hosted by volcanosedimentary rocks and lagoonal calcareous mudstones on the north side of a rhyolite dome.

Glamis Gold Ltd, headquartered in Reno, Nevada, announced that exploration drilling at its Marlin property in Guatemala has boosted the mineral resource to more than 4.0 Moz gold equivalent, a 24% increase over the 3.3 Moz gold equivalent resource announced in November 2002. The deposit remains open at depth and along strike, with excellent potential for further expansion. Based on drill data obtained thus far, 82% of the resource is now contained in the measured and indicated categories. Resources have been evaluated at different cut-off grades as part of the scoping process. An assumed mill cut-off grade of 0.8 g/t Au would yield a total gold equivalent resource of 3.4 Moz at 2.0 g/t Au and 39 g/t Ag. Glamis is projecting that a conventional milling operation would yield over 2 Moz gold equivalent, with 75% of the resource mined by open pit at a gold equivalent grade of approximately 3 g/t, and 25% from an underground operation mining at a gold equivalent grade in excess of 10 g/t.

Drilling at the Cerro Blanco project in Guatemala during the fourth quarter of 2002 intersected high-grade feeder structures. Based on preliminary work, the extensive land package controlled by Glamis around Marlin could result in additional discoveries and the development of a major new gold/silver district

(there are plans to test other mineralised targets in the area, including the promising La Hamaca target to the north of the main zone).

Guatemala has been the third-largest producer of antimony in Latin America after Bolivia and Mexico. Minas de Guatemala has produced antimony ore and concentrates from several mines at Ixtahuacan in the west.

Output by the industrial minerals sector differs greatly from year to year. Various industrial minerals such as gypsum, barite, talc, feldspar, salt, limestone, clays, sand (including silica sand) and gravel are produced, often for domestic use. Marble from white through green is exported abroad, especially to Colombia. Pumice and volcanic sand, ash, basalt, or andesite is used for construction, industry, and agriculture. Jade is also found. Cement consumption tends to exceed local supply, with imports of up to 40,000 t/y. Cementos Progreso has two plants and a 1.4 Mt/y capacity; expansions at its San Miguel plant have helped increase production.

Since Guatemala is the only oil-producing country in Central America, its reserves, estimated at 526 Mbbl in the northern Peten jungle region near Mexico's Tabasco formations, have created some interest and the government has been opening areas for bidding. Production is in the region of 20,000 bbl/d and was expected to increase to 22,000 bbl/d by the end of last year.

Basic Resources International, a subsidiary of US-based Anadarko, is the largest oil producer and also operates a mini-refinery (2,000 bbl/d) in Peten. Anadarko bought the former parent company of Basic, Union Pacific, in 2000 and two years earlier Union Pacific had acquired the Xan field, the country's largest producing oilfield through its acquisition of Norcen Energy Resources of Canada. Texaco operates the Escuintla refinery, plus gasoline stations, and has a large downstream presence. Nevertheless, national oil consumption exceeds domestic production and refining capacity, hence Guatemala is a net importer of petroleum and receives a share of reduced-price oil from Venezuela and Mexico as part of the San Jose Pact; the Caracas Energy Accord signed in October 2000 provides additional reduced-price oil from Venezuela.