

CUBA

By Gerald M Ellis

The island-republic or island-nation of Cuba covers an area of 110,860 km², and is located in the Caribbean, immediately south of Florida. In 2003, it continued with its efforts to expand its mineral resources sector. The government invests directly in the exploration and exploitation of resources, but is also involved in a number of joint ventures with foreign companies concerning metallic ores and hydrocarbon deposits.

In the metallic minerals sector, there are several mineral exploration joint ventures between Canadian companies and state-owned Geominera, and mining operations with the Canadian firm Sherritt International. In the hydrocarbon sector, there are several joint exploration ventures with foreign petroleum companies, and joint petroleum operations with Sherritt International Oil.

In the so-called Deepwater Economic Zone (DEZ), the deepwater hydrocarbon potential in the eastern Gulf of Mexico off the northwest coast of Cuba offshore, has attracted a number of foreign companies: Sherritt International and Spain's Repsol-YPF have acquired deepwater acreage, and Petrobras of Brazil has also studied the possibility of a jv with Cuba in the DEZ.

The Cuban Ministry of Basic Industries (MINBAS) handles all affairs dealing with mineral deposits and places great emphasis on environmental protection during operations, and environmental aspects related to mine closures. MINBAS is a very active ministry and has a number of departments dealing with metallic deposits:

- the National Office of Mineral Resources;
- the Directorate of Advisory Services;
- the Registry of Mineral Concessions under the Mining Code;
- the Directorate of Mining Inspections to monitor activities;
- the Directorate of Documentation;
- the Directorate of Economic Evaluations; and
- the Directorate of Hydrocarbons.

There are perceived risks attached to operating in Cuba although, judging from activities during recent years, these risks are minimal and most mining companies are able to deal with them. Concerns include unanticipated costs and expenses, energy charges, interest rates, foreign exchange rates, the rate of inflation, changes in tax legislation, the length of time required for government approvals, repatriation of profits and dividends from Cuba, risks related to foreign-exchange controls on Cuban Government enterprises to

undertake transactions in foreign currency and risks associated with the US embargo on Cuba and the Helms-Burton Act.

Nickel

Nickel mining is one of Cuba's most important industries. Cuba is the world's fourth-largest nickel producer and nickel exports contribute around 27% of annual export revenues. Total production in 2003 was around 76,000 t of contained nickel and cobalt metal.

The government owns two mining and processing operations at Punta Gorda and Nicaro in Holguin Province in eastern Cuba, and also has a 50% interest in Metals Enterprise SA, a 50:50 joint venture with Sherritt International Corp of Canada. Metals Enterprise operates open-pit mines and the Pedro Sotro Alba pressure acid leaching hydrometallurgical processing plant at Moa Bay. The Punta Gorda and Nicaro plants employ the Caron process (ammonia leach). All three operations exploit lateritic nickel.

Metals Enterprise's Moa mining and processing facilities produced a total of 32,042 t of nickel plus cobalt contained in mixed sulphides in 2003, compared with a record 33,382 t during 2002. The concentrates were shipped to Canada for refining into nickel and cobalt briquettes and powder, and finished metal amounted to 31,106 t of nickel and 3,141 t of cobalt. The lower production rate was largely a result of lower ore grades and additional maintenance activities relative to 2002. Ore grades for 2004 are expected to be slightly lower than in 2003 but production should be higher as a result of operating improvements and efficiencies. Fort Saskatchewan established a cobalt production record in 2003, exceeding the previous record by 2%. Nickel production was slightly below 2002 levels, largely due to a combination of a lower nickel to cobalt ratio in Moa mixed sulphides, and lower overall production of mixed sulphides from Moa.

At the government-owned operations at Punta Gorda and Nicaro, the combined capacity is 60,000 t/y but annual output is closer to 40,000 t. The plants produce nickel oxide and sinter and about 80% of the nickel oxide is shipped to Europe.

At current rates of production, Cuba has sufficient reserves of nickel ore to last for 100 years. Sherritt and its Cuban partners are examining the feasibility of a 60% expansion of the nickel and cobalt operations. This expansion would include capacity additions at both the Moa mining and processing facilities and the Fort Saskatchewan refining operations. The expansion could have an advantage over other greenfield nickel projects because of Sherritt's existing infrastructure, proven process technology and access to a significant resource base. By its 50th anniversary in 2004 the Fort Saskatchewan refinery will have produced 2,000 Mlb of nickel and 100 Mlb of cobalt.

Fertiliser production has long been considered a division of Sherritt's metals activities in Cuba, and in 2003 production increased by 9%, to 255,000 t. An operating loss on fertiliser sales of US\$500,000 was incurred on revenue of US\$63.7 million compared with operating earnings of US\$2.5 million on

revenue of US\$50.6 million in 2002. The 2003 result was a result of higher energy and raw material costs, only partially offset by higher fertiliser prices.

Sherritt has been involved in Cuba's nickel industry for many years. During 2003, however, there was a decrease in total investments by the company as a result of an ongoing tax dispute, regarding the tax classification of producing operations. Both parties are hoping for a favourable solution.

Gold and base metals exploration:

Canadian mining firms are the principal participants in mineral exploration in Cuba via 50:50 jvs with Geominera. A number of firms have been active in recent years, such as Holmer Gold Mines, Bolivar Goldfields, Caribgold Resources, Northern Orion, Miramar Mining, MacDonald Mines (also active in oil exploration as MacDonald Oil) and Joutel Resources. (It was Joutel's jv with the Cuban Government in the mid-1990s that triggered a series of jv exploration projects, with about 20 foreign exploration companies involved, thereby placing Cuba on the map as a new exploration frontier.)

Holmer Gold Mines Ltd, having mined and heap-leached a gold-bearing oxidised capping at a deposit in Pinar del Rio Province, has continued exploration there, with the focus now on the underlying sulphide ore zone. Also in Pinar del Rio, a local company is exploiting the Castellanos gold deposit, with an annual production of 17,600 oz of gold. Elsewhere, at Isla de Juventud, the 1.5 Moz Delita gold deposit, containing high proportions of arsenic and antimony, is being studied for possible open-pit and underground operations.

Holmer has also reported that its 50%-owned, two million ounce Loma Hierro Silver Project is now ready for production and that financing is being sought.

Caribgold Resources Inc is interested in a number of prospects and gold showings in an 82 km² area in east central Cuba, and has outlined an inferred resource in excess of 200,000 oz in three zones. The ore is refractory and averages 3.27 g/t Au.

The jv between Miramar Mining/Northern Orion/Geominera to develop the Mantua copper property was on hold during part of the year. The project has good copper values and may gather strength in 2004.

Mine closures

Some of the depleted mines in the eastern provinces of Cuba, including some former nickel laterite operations in Moa and Pinar del Rio, and the underground and open pit mines at Mina del Cobre in Santiago Province, are to be monitored during their closure periods to ensure that they comply with environmental regulations. Thereafter, some are to be used for training purposes for the next generation of students in geology and mining engineering under a joint co-operation programme with the United Nations, the Spanish Agency for International Cooperation, and MINBAS.

Oil and gas

Cuba Petroleo (Cupet) is the state-owned agency through which all joint venture arrangements in Cuba are channelled and approved for hydrocarbon exploration. Petroleum exploration has been very active over the past ten years, with a number of Canadian oil firms, as well as Swedish, British, French and Spanish oil companies engaged in seismic and drilling phases on the north coast basins and in the central and southern coastal regions. Brazil is one of the most recent participants, through Petrobras.

Cuba's crude production is modest although it has been rising steadily and is now running at 80,000-88,000 bbl/d compared with 50,000 bbl/d two years ago. One of the important hydrocarbon activities is between Cupet and Sherritt International Oil Ltd.

Sherritt holds indirect working interests, varying from 40% to 100%, in ten production-sharing contracts, which involve the exploration for, and development of, new oil and gas reservoirs, or extensions to existing reservoirs. Most of Sherritt's Cuban oil production is derived from oil fields at Yumuri, Varadero, Canasi and Puerto Escondido. The other working interests include exclusive exploration rights on four blocks in the deep-water economic zone off the north coast (acquired in 2002), and indirect interests in four enhanced production-sharing contracts with the government. In 2002, two new oil and gas treatment facilities were completed in Cuba at Yumuri and Canasi.

Gross working interest production was a record 15.4 Mbbbl in 2003 compared with 14.2 Mbbbl during 2002. However, net sales volume decreased slightly as fewer cost recovery barrels were allocated during 2003 because of reduced capital spending during the year. All of Sherritt's oil production in Cuba is sold to agencies of the Cuban Government, generally at approximately 80% of the internationally established, US Gulf Coast reference price. Sherritt participated in drilling nine development wells during the year, all of which were successful and contributed to production. No exploration wells were drilled.

Petrobras has signed a letter of intent for technological exchange with Cuba as a step toward possibly acquiring an offshore block. Petrobras is understood to be specifically interested in deepwater opportunities in the Cuban sector of the Gulf of Mexico. In November 2003 it was understood that Petrobras was carrying out geological studies over the nearshore blocks 34, 35 and 37 in the southeastern Gulf of Mexico. It was also reported in Cuba in the newspaper *Granma* that the government of Cuba does not object to allowing American oil companies participating in exploration and drilling in Cuba's Exclusive Economic Zone in the Gulf of Mexico.

The Cuban Government continues to offer production-sharing contracts for acreage in its sector of the eastern Gulf of Mexico, Yucatan Channel, Caribbean Sea and the western Straits of Florida for direct negotiation at any time. At the end of 2003, there were 49 deepwater blocks available in the

Exclusive Economic Zone in the Gulf of Mexico, as well as ten shallow water and 22 onshore blocks.

The Gulf of Mexico is one of the great hydrocarbon provinces of the world, and the fact that the eastern waters of the Gulf coincide with the northwestern waters of Cuba makes the country a very attractive region for petroleum companies to investigate. In recent years, at least four Cupet official delegations have visited the US at the invitation of the Cuban-American Chamber of Commerce to make presentations on the oil potential. These were held in New York, Washington, Miami and Houston, and were similar to Cupet presentations held in London and Calgary in recent years.