

THE MINERAL INDUSTRY OF FRENCH GUIANA

By Alfredo C. Gurmendi

French Guiana (Guyane), which is in northern South America between Brazil and Suriname and borders the North Atlantic Ocean, is an Overseas Department of France. Guyane is closely tied to France via the French Constitution of September 28, 1958, and by trade. Guyane's trade with France accounted for more than 60% of its total imports and exports. In 1999, the main mineral produced was about 3 metric tons (t) of alluvial gold, the value of which amounted to about 3% of the estimated gross domestic product of almost \$900 million,¹ or \$1 billion of purchasing power parity (U.S. Central Intelligence Agency, 1999). Primary gold occurred in the Precambrian Shield area. Most of the gold produced (official and unofficial), however, came from placer operations; placer gold has been mined and smuggled from sites in the interior since 1853 (Mining Journal, 1998, p. 20). Most of the gold produced was exported to France.

The minerals sector was administered according to French law. The granting of permits and concessions for minerals was administered by the Direction Régionale de l'Industrie, de la Recherche et de l'Environnement (DRIRE), which is a branch of the Ministry of Industry, Finances and Economy. To acquire a mining title through DRIRE, a company must first obtain an Autorisation Personnelle Minière (APM). An APM requires that a company be incorporated under French law, to have an office and address in Guyane, and to have a board of directors that comprises European Union nationals. An APM grants a company the right to hold permits and concessions for minerals exploration and production, respectively. Producers may sell their gold in the open market (Mining Journal, 1997, p. 8).

Groupement des Sociétés Minières de la Guyane (GSMG), Guyane's National Mining Association, was mostly composed by larger Guyanais mining companies and international mineral corporations to advise the Préfecture de la Guyane on matters of common interest to the Government and all operating mining corporations in the country. Issues of concern to the GSMG included the new mining code, taxes on fuels, and taxes on gold production (Mining Journal, 1998, p. 20).

Denver-based Golden Star Resources Ltd. (GSRL) owned about 71% of Guyanor Ressources S.A. (Guyanor), a French company. GSRL and Guyanor operated exclusively in Guyane and were focused on the prospecting, exploration, and development of mineral resources. Gold was their first priority, followed by diamond. They held interests in the Dorlin, Paul-Isnard, St. Elie, and Yaou gold projects, as well as the Dachine diamond property (Golden Star Resources Ltd., 1998; 1999, p. 8).

In 1999, Guyanor entered into a joint-venture agreement with

¹Where necessary, values have been converted from French francs (F) to U.S. dollars at the rate of F5.8995=US\$1.00.

Rio Tinto Mining and Exploration Ltd., whereby Rio Tinto would fund \$17 million in exploration and feasibility studies at Dachine during the next 7 years to earn up to 70% interest in the diamond project (Golden Star Resources Ltd., 1999, p. 8). Guyanor obtained an exploration permit for the Dachine prospect and five other targets with Dachine-like characteristics in ultramafic rocks in the region. Rio Tinto has already invested more than \$900,000 in the Dachine project since July 1999 (Canada NewsWire, April 19, 2000, Yahoo-Guyanor Ressources, received April 19, 2000, at <portfolio@newswire.ca>).

Cambior Inc. of Canada and Guyanor have formed a French mining firm called Société Minière Yaou Dorlin S.A. (SMYD) in which each had a 50% interest. SMYD filed two mining concessions for the Dorlin and the Yaou gold deposits, which covered 84 and 52 square kilometers (km²), respectively. SMYD was conducting environmental impact assessments and feasibility studies for future exploitation of both properties (Canada NewsWire, April 14, 1999, Yahoo-Guyanor, Cambior update, accessed April 14, 1999, at URL <http://biz.yahoo.com/rf/990414/mx.html>).

Dorlin and Yaou are minable by open pit, but lack of road access to the site will limit the development potential of these properties in the immediate future. Cambior and Guyanor continued to discuss the potential for the construction of infrastructure with the French Government (Golden Star Resources Ltd., 1999, p. 8). Dorlin totaled 8.5 million metric tons (Mt) of measured and indicated reserves grading 1.3 grams per metric ton (g/t) gold; its geologic resource was estimated to be about 16.8 Mt grading 1.2 g/t gold. Similarly, the Yaou deposit contained 11.2 Mt grading 2.2 g/t gold; its geologic resource was reported to be about 18.8 Mt grading 2.0 g/t gold. For these estimates, a gold price of \$400 per ounce was assumed, and at \$350 per ounce, the tonnages declined by about 20% at Dorlin and 12% at Yaou. Dorlin and Yaou were scheduled for a final feasibility study by 2000 (Mining Journal, 1998, p. 11-12; Golden Star Resources Ltd., 1999, p. 12).

St. Elie/Dieu-Merci was owned by Société de Travaux Publics et Mines Aurifères (Sotrapmag) in Guyane, where 20,000 cubic meters of mineralized alluvial material grading 4 grams per cubic meter of gold was delineated (Mining Journal, 1998, p. 20).

Sotrapmag's Paul-Isnard alluvial operation, which is located in the Northern Greenstone Belt, 75 kilometers south of Saint Laurent du Maroni, was considered to have the potential for expansion. Alluvial gold was recovered by five washing plants located at Barthelemy, Citron, Petit Léopard, Reine Creek, and Topaze Creek. Paul-Isnard's gold reserves, which were based on a gold price of \$350 per ounce, were about 16.8 Mt grading 1.9 g/t, and represented some 32.2 t (1.04 million ounces) of

contained gold (Golden Star Resources Ltd., 1998).

In 1999, Guyanor, which continued to expand its 380 km² land holdings at Paul-Isnard believed that this was the most promising undeveloped gold property after its Gross Rosebel in Suriname (Golden Star Resources Ltd., 1999, p. 8).

In Guyane, alluvial deposits continued to be the main sources, in order of importance, of gold, columbite, and tantalite. Sand was dredged from the major rivers in the western region of the country, primarily the Mahury and the Maroni. Stone was quarried at Cayenne and to the southeast of Kourou (table 1). Sand and stone continued to be consumed by the domestic construction industry. The country, however, depended on imports for its other mineral requirements, especially cement and fuels, which were shipped through the port at Cayenne.

Currently, interests in gold mining and diamond prospecting were decreasing because of volatile metal market conditions and economic contraction in the region, and involvement by foreign companies and investors was of a lesser degree on gold and diamond activities in Guyane, as well as in the rest of the Guiana Shield. The joint venture between Golden Star and Rio Tinto (GSRT), however, was planning to build an on-site pilot plant to process substantial amount of diamond samples at the Dachine diamond project; the plant was expected to be completed in mid-2000 (Golden Star Resources Ltd., 1999, p. 1). Also, GSRT's current geologic target continued to be sedimentary gold because the best gold occurrences seem to be found in younger sediments. Golden Star's exploration activities, however, were equally focused on the Greenstone Belts of the Guiana Shield, which the company believed are geologically very similar to the West Africa Shield; the company also believed that the geological knowledge from one can be extrapolated to the other. Golden Star was poised to review its prospecting on its gold and diamond properties in the Guiana Shield to determine if any of them may be viable for development in the short to medium term (Golden Star Resources Ltd., 1999, p. 3).

References Cited

- Golden Star Resources Ltd., 1998, Golden Star Resources announces restated reserves and mineralized inventory and a year-end financial update: Denver, Colorado, Golden Star Resources Ltd. press release, November 17, 4 p.
- 1999, Transformation from exploration to production: Denver, Colorado, Golden Star Resources Ltd., 1999 Annual Report, 104 p.
- Mining Journal, 1997, Guyane—A primary target for exploration: Mining Journal, Country Supplement, v. 329, no. 8448, September 26.
- 1998, French Guiana: Mining Journal, Country summaries, v. 330, no.

8470, March 6.

U.S. Central Intelligence Agency, 1999, French Guiana, World factbook: U.S. Central Intelligence Agency, p. 147-148.

Major Sources of Information

- Direction Régionale de l'Industrie, de la Recherche et de l'Environnement (DRIRE)
Pointe Buzaré, PO Box 7001
97307 Cayenne Cédex
Telephone: (594) 29 75 30
Fax: (594) 29 07 34
- Chambre de Commerce et d'Industrie de la Guyane (CCIG)
Place de l'Esplanade
PO Box 49, 97321 Cayenne Cédex
Telephone: (594) 29 96 00
Fax: (594) 29 96 34
- Préfecture de la Guyane
Place de l'Esplanade, 97300 Cayenne
Telephone: (594) 39 46 70
Fax: (594) 39 46 17
- Conseil Régional
66 Avenue Général-de-Gaulle
PO Box 7025, 97300 Cayenne
Telephone: (594) 29 20 20
Fax: (594) 31 95 22
- Union Patronale de la Guyane
SOFIDEG—3 km Route de Baduel
B.P. 820, 97338 Cayenne Cédex
Telephone: (594) 31 17 71
Fax: (594) 30 32 13
- Agence Régionale pour le Développement de l'Industrie Minière (ARDIM)
111, rue Christophe Colomb
973000 Cayenne
Telephone: (594) 29 45 75

Major Publications

- BRGM, Chronique de la RECHERCHE MINIERE, no. 518, Orléans Cedex 2, 1995.
- Golden Star Resources Ltd., Annual Reports.
- Gédim (Paris, France): Réalités Industrielles, Annales de Mines, monthly.
- The Mining Journal Limited, 60 Worship Street, London EC2A2HD, Great Britain: Mining Journal, weekly.

TABLE 1
FRENCH GUIANA: ESTIMATED PRODUCTION OF MINERAL COMMODITIES 1/

Commodity		1995	1996	1997	1998	1999
Clays	metric tons	5,000	5,000	5,000	5,000	5,000
Columbite and tantalite	kilograms	1,100	1,100	1,100	1,100	1,100
Gold, mine output, Au content	do.	3,000 2/	3,000 2/	3,000 2/	3,000	3,000
Sand	thousand tons	1,500	1,500	1,500	1,500	1,500
Stone, crushed	do.	1,500	1,500	1,500	1,500	1,500

1/ Includes data available through April 2000.

2/ Reported figure.

Source: Direction Regionale de l'Industrie, de la Recherche et de l'Environnement.