THE MINERAL INDUSTRY OF

SURINAME

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Bauxite and alumina continued to be the most important export commodities to the Surinamese economy in 1994. These commodities accounted for about 90% of exports, 15% of the gross domestic product (GDP), and more than 80% of the country's export revenues. However, weak aluminum, alumina, and bauxite prices during the year adversely impacted the availability of foreign exchange. Suriname's dependency on the bauxite industry's ability to raise foreign exchange was expected to improve because of the January 1993 Bauxite Agreement between the Government and producers, which stipulated a parallel exchange rate applied to the bauxite sector as 109 guilders or florins (Sf) per \$ 1.00 effective on January 1, 1994. Despite some confusion over exchange rate policy, the country has made progress toward economic reform. However, inflation was 54% by midyear and increasing by yearend. In the mineral sector, Suriname was interested in attracting foreign investment via joint ventures, particularly in the diamond, gold, kaolin, sand, and stone industries. Suriname's GDP was \$1.2 billion² in 1993, the last year for which data were available. During 1994, the Government continued work on an economic reform program, and a renegotiated exchange rate for the bauxite sector was anticipated during 1995.

Suriname was interested in attracting joint ventures with foreign investors; thus, environmentally sound modern mining technology could be obtained and a very competitive mineral industry be established. A lack of financing and environmental measures hindered exports and increased deforestation in the vicinity of bauxite mining areas and gold placer operations.

The Mining Law of 1986 was reportedly in the process of being revised. This law provided a 2-year Right of Reconnaissance, a 3-year Right of Exploration, and a 25-year Right of Exploitation. The state guaranteed no overlapping titles.

In 1994, the Council of Ministers approved draft legislation establishing a Constitutional Court to review the constitutionality of laws and regulations; however, the draft will have to be approved by the Legislature to review legally Government measures before taking effect.

Mineral commodity production data are shown in table 1. Bauxite and alumina continued to dominate the industry's annual output. Gold, petroleum, and sand production were expected to increase in the near term. (See table 1.)

The United States and the Netherlands supplied approximately 42% and 22%, respectively, of the value of

Suriname's imports. About 75% of the country's exports were shipped to the United States and Western Europe. Suriname's bauxite companies exported much of the produced alumina and aluminum to Norway, 33%; the Netherlands, 26%; the United States, 13%; Japan, 6%; the United Kingdom, 3%; and 9%, Latin America. During the period 1990-94, Suriname accounted for 8% of U.S. alumina imports and ranked second behind Australia with 75%.

Suriname's privately owned multinational companies mined bauxite and processed alumina and aluminum. Gold concessions were negotiated with N.V. Grassalco (GRASSALCO), the state-owned company. Gold was produced by numerous small placer operators and sold to the Government. Golden Star Resources Ltd. of Edmonton, AB, Canada, continued with gold exploration during the year. Staatsolie Maatschappij Suriname NV (STAATSOLIE), the Suriname state oil company, was involved in the development and production of petroleum. (See table 2.)

In 1994, according to NV Billiton Maatschappij Suriname (BILLITON) provided 55% of bauxite to the Paranam alumina refinery from its Accaribo Mine (57% alumina content), near Paranam. The remaining feed came from the Suriname Aluminum Company's (SURALCO) Coermotibo Mine (44% alumina content), 10 kilometers (km) northeast of Moengo Mine, which was replaced by Coermotibo Mine. BILLITON proposed development of a new mine at Lelydorp to replace production from the Accaribo Mine, which was projected to be mined out by 1995-96.

In 1994, Suriname's output of some 3 million metric tons (Mmt) of bauxite made it the sixth largest producer worldwide. The Paranam plant (SURALCO, 55% and BILLITON, 45%), a medium-sized bauxite refinery and aluminum smelter 25 km south of Paramaribo, produced 1.6 Mmt of alumina and 32,000 metric tons (mt) of aluminum.

According to recent reports, there were more than 700 known gold occurrences in Suriname. However, many of these occurrences need to be explored and drilled to assess their reserves and economic viability. Gold mineralization similar to that in neighboring French Guiana occurs in the Precambrian Paramaka formation of Suriname, and gold placers are worked by garimpeiros (small informal miners) in the south and east of the South Benzdorp Area; estimated gold production could amount to 30 kilograms (kg) per year. Foreign investors were paying more attention recently to hydrothermal gold deposits in the Suriname extension of the Guyana Shield.

In June 1993, Canarc Resource of Canada (CANARC) signed an option to acquire an 80% interest in the Sara Creek concession covering 22,500 hectares (ha) in east-central Suriname about 150 km north of Paramaribo. Production during a 3-month test period was 13 kg of gold from surface alluvial material. CANARC was conducting feasibility studies for a large-surface gold mining operation.

In September 1993, Gold Vessel Resources (GVR), a subsidiary of St. Genevive Resources of Canada, signed an agreement with Surinamese interests to participate in three gold properties. Two of them comprised 20,000 ha in the Sipalvini district, where small-scale gold mining was being conducted. Also, GVR and partner Margo Mining Co. applied for permits to explore 65,000 ha on properties held by Golden Star Resources near Gross Rosebel. GVR applied for five permits to explore a 259-square-kilometer (km²) area near the western border with Guyana.

In 1994, according to Golden Star, a 2-year Right of Reconnaissance was obtained for the 200,000-ha Headley's Reef area in the Brokopondo District, approximately 80 km south of Paramaribo, and an agreement was reached with GRASSALCO concerning the 17,000-ha Gross Rosebel property within the Headley's Reef area. The early 1994 exploration program at Gross Rosebel consisted of field work at the Royal Hill, Mayo, and Roma zones, including 18 km of assay trenches and approximately 11,000 samples. Golden Star's contract with GRASSALCO reduced the currency risk exposure, with a provision that taxes be denominated in U.S. dollars. Stability clauses also ensured that terms would not change during the life of the contract. Golden Star also was negotiating with Nana Resources NV of Paramaribo for an option on Nana's South Benzdorp property.

A number of Brazilian miners were employed by Surinamese small-scale miners, which may have lead to the conflicting reports on the presence of garimpeiros illegally producing gold as far north as Brokopondo.

The state oil company, STAATSOLIE, reported that about 5,000 barrels per day (bbl/d) of heavy, sweet crude oil were produced from the Tambaredjo and Borneo fields east of Paramaribo. The company is expected to increase output at Tambaredjo to 6,500 bbl/d by late 1995. STAATSOLIE continued with the construction of a 55-km pipeline from the Catharina Sophia Field at Tambaredjo to the Suriname River export terminal at Tout Lui Faut, 5 km south of Paramaribo. The Tout Lui Faut canal was proposed as the site of the STAATSOLIE refinery.

Pecten International Co. of Houston, TX, was expected to assist the company explore a block east of the mouth of the Courantyne River, in the Takutu Basin's offshore extension. Some 40% to 70% of STAATSOLIE's crude is exported, and the remainder is used in the energy-intensive bauxite industry, which could use as much as 8,000 to 9,000 bbl/d.

Suriname's bauxite reserves were estimated by Suriname Aluminum Co. at 575 Mmt. Golden Star Resources' Gross Rosebel gold project was said to have a potential for a multimillion-kilogram resource, which will be confirmed by

feasibility studies. STAATSOLIE reported that Tambaredjo and Borneo fields have proven reserves of 25 million barrels (Mbbl), with an additional 40 Mbbl as probable reserves.

In 1994, Suriname had a total of 166 km of railroads composed of 86 km of 1.000-meter (m) gauge and 80 km of 1.435-m gauge; all are single track. The country contained a total of 8,300 km of roads composed of 500 km paved, 5,400 km unpaved, and 2,400 km of sand and clay. There were 1,200 km of navigable inland waterways. The major shipping ports were Paramaribo, Moengo, and Nieuw Nickerie. There were two cargo ships and one container vessel.

A general lack of maintenance on coastal roads, canals, and port facilities resulted in degraded infrastructure and higher local transportation costs. These costs represented a crucial aspect of the marketing of Suriname's bulk commodities of alumina, bauxite, and rice. There was limited access to the interior.

Suriname's bauxite industry and energy sector were closely entwined. The country had an installed electrical generating capacity of 458 megawatts (MW). SURALCO owned and operated the 189-MW hydroelectric plant at Afobaka and another 47-MW oil-fired turbine plant. SURALCO has sold electricity to the Government since 1964. Petroleum-fired electrical generating plants owned by the Government energy company, Energie Bedrijven Suriname (EBS), accounted for the remainder of the country's installed generating capacity. EBS also was responsible for electricity distribution within the country.

Mineral rights continued to be vested in the state and exploration rights are granted by the Government. The primary mineral produced was bauxite, although gold, nickel, platinum, and tin deposits also occurred. The bauxite-alumina-aluminum industry will continue to be the single most important sector in the Surinamese economy. However, the Government continues to be interested in the development of nontraditional exports to increase foreign currency earnings.

Also, located on the eastern portion of the Guyana Shield greenstone belt, Suriname apparently was ready to receive the spillover from the recent gold activity in Brazil, Guyana, and Venezuela. Thus, foreign investors will pay closer attention to the hydrothermal gold deposits in the country's extension of the Guyana Shield.

Surinamese bauxite production, in the near term, will be sufficient to run a competitive operation at the Paranam refinery, because the new Lelydop Mine will provide BILLITON's 45% and Coermotibo Mine will provide SURALCO's 55% of Paranam's bauxite requirements, respectively. Suriname Aluminum and BILLITON will control the bauxite mining operations, with Golden Star, Cambior, KWG Resources, and CANARC involved in gold exploration.

Suriname's proposal for a bilateral Trade and Investment Framework Agreement (TIFA) with the United States was expected to be signed by 1995. TIFA's implementation could identify opportunities for expanding trade and investment; however, the Government should remove impediments to trade and investment flows. TIFA could facilitate possible trade under NAFTA, and with ANCOM (Anden Pact countries), CARICOM (Central America and Caribbean countries), and MERCOSUR (Southern cone countries). Hence, Suriname could become part of the free trade zone of the Western Hemisphere early in the 21st century.

Major Sources of Information

Geologisch Mijnbouwkundige Dienst Kleine Waterstraat 2-6 Paramaribo, Suriname Staatsolie Maatschappij Suriname NV Industrieterrein 21, Flora P.O. Box 4069 Paramaribo, Suriname

Major Publications

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

International Bauxite Association, Kingston, Jamaica: IBA, Ouarterly Review.

- U.S. Department of Commerce, International Trade Administration: Foreign Economic Trends and Their Implications for the United States, annual.
- U.S. Department of the Interior, U.S. Bureau of Mines: Mineral Commodity Summaries, annual.
- U.S. News & World Report: New World of Nations, annual.

¹Text prepared Apr. 1995

Where necessary, values have been converted from Surinamese guilders or florins (Sf) to U.S. dollars at the rate of Sf1.785=US\$1.00 (Jan. 1994).

${\bf TABLE~1}\\ {\bf SURINAME: PRODUCTION~OF~MINERAL~COMMODITIES~1/~2/}$

(Thousand metric tons unless otherwise specified)

Commodity	1990	1991	1992	1993	1994 e/
Aluminum: 3/					
Bauxite, gross weight	3,300	3,200	3,250 4/	3,300	3,300
Alumina	1,500	1,510	1,600	1,600	1,600
Metal, primary	32	29	32	30	32
Cement, hydraulic e/	50	50	50	50	50
Clays: Common e/	16	16	16	20	20
Gold, mine output, Au content e/ kilograms	30 r/	30 r/	300	300	300
Petroleum, crude thousand 42-gallon barrels	1,400	1,500	1,500	1,500	1,500
Sand and gravel: e/					
Gravel	35	35	35	35	35
Sand, common	160	160	160	160	160
Stone, crushed and broken e/	50	50	50	50	50

e/ Estimated. r/ Revised.

 ${\bf TABLE~2}$ SURINAME: STRUCTURE OF THE MINERAL INDUSTRY FOR 1994

(Thousand metric tons unless otherwise specified)

		Major operating companies	Location of	
	Commodity	and major equity owners	main facilities	Annual capacity
Alumina		Suriname Aluminum Co. (SURALCO) (ALCOA, USA, 55%;	Refinery at Paranam, District of Para	2,000
		and NV Billiton Maatschappij (Billiton), 45%)		
Aluminum		SURALCO, (100%).	Smelter at Paranam, District of Para	50
Bauxite		do.	Mines at Coermotibo and Accaribo,	2,000
			District of Marowijne	1,500
		Billiton 76%; SURALCO, 24%	Acaribo Mine, District of Para	1,000
Cement		Vensur N.V. (private, 100%).	Paramaribo, District of Para	60
Gold		No major operating companies	South and east Suriname	NA
Petroleum		Staatsolie Maatschappij Suriname NV (Government, 100%)	Tambaredjo, District of Saramacca	1,825

 $^{1/\,}Previously\ published\ and\ 1994\ data\ are\ rounded\ by\ the\ U.S.\ Bureau\ of\ Mines\ to\ three\ significant\ digits.$

^{2/} Includes data available through Mar. 15, 1995.

^{3/} Estimated capacity on the basis of recent production history.

^{4/} Reported figure.