



2007 Minerals Yearbook

FRENCH GUIANA, GUYANA, AND SURINAME

THE MINERAL INDUSTRIES OF FRENCH GUIANA, GUYANA, AND SURINAME

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FRENCH GUIANA

French Guiana has been an overseas department of France since 1946, and its economy continued to be tied to that of France through trade and subsidies. The mineral sector is administered by France. In 2007, chemicals, food, fuels, machinery, and transport equipment were imported from France. Gold was the main mineral commodity exported from French Guiana. The leading industries in the country were aerospace (mainly at the French space center in Kourou), fishing, forestry, and gold mining (U.S. Central Intelligence Agency, 2008).

Minerals in the National Economy

In 2007, mining did not play a significant role in French Guiana's economy. The country's mineral commodity production included cement, clays, columbite and tantalite, gold, sand, and crushed stone.

Production

Data on mineral production are in table 1.

Structure of the Mineral Industry

In recent years, the mineral industry of French Guiana has been focused on gold and petroleum exploration. Gold exploration was conducted by Golden Star Resources Ltd. of the United States. The company held 100% interests in the Bon Espoir and the Paul Isnard gold deposits, which are located to the west of French Guiana's capital of Cayenne. The Paul Isnard project covers rocks of the lower Proterozoic Paramacca formation that contained gold mineralization in the form of pyritic disseminated zones and sulfide-rich shear zones. Golden Star reported an inferred mineral resource estimate of 10.2 million metric tons (Mt) grading 1.7 grams per metric ton (g/t) gold at the Montagne d'Or project, which is located near the southern boundary of the Paul Isnard concession. According to Golden Star, the Bon Espoir deposit has a potential of 31,100 kilograms (kg) (1 million troy ounces) of recoverable gold (Golden Star Resources Ltd., 2008).

In September 2006, Cambior Inc. and IAMGOLD Corp. of Canada announced an agreement for a \$3 billion transaction (plan of agreement) to merge both companies under the name IAMGOLD Corp., and in November 2006, IAMGOLD acquired all the issued and outstanding shares of Cambior's Camp Caiman gold property, which is located 45 kilometers (km) southeast of Cayenne (IAMGOLD Corp., 2008).

Commodity Review

Metals

Gold.—Extensive exploration by Golden Star outlined a potential for gold resource within graphitic and tuffaceous Armina sediments. Golden Star planned to start environmental, geologic, and mining studies in the Paul Isnard project area, including airborne topographic surveys, airborne geophysical survey, metallurgical studies, and a soil geochemical survey by 2008 (Golden Star Resources Ltd., 2008).

IAMGOLD was expecting to obtain the necessary permit approval from the French authorities to begin the mine construction, which was expected to commence in the fall of 2008. Analyses in the Camp Caiman area revealed a contained resource of 34,200 kg (1.1 million troy ounces) of gold within the deposit, which had 12.3 Mt of ore with an average grade of 2.8 g/t gold. The feasibility study suggested that the Camp Caiman project be developed using an open pit mining method for an estimated cost of \$115 million (IAMGOLD Corp., 2008).

Mineral Fuels

Petroleum.—On January 10, 2007, Hardman Resources Ltd. of Australia was acquired by Tullow Oil plc of the United Kingdom. All Tullow shares issued as part of the transaction were admitted to trading on the London and Irish stock exchanges. Tullow held a 97.5% interest in an exclusive exploration license in the Matamata prospect offshore French Guiana; the license was renewed in August 2007. During 2007, Tullow acquired more than 9,000 km of two-dimensional seismic data and 390 km of three-dimensional seismic data. Matamata was estimated to contain a potential 1 billion barrels of crude oil. Tullow was expected to select and define prospects with potential hydrocarbon systems by early 2009 and to begin drilling in 2010 (Tullow Oil plc, 2008).

Outlook

Gold exploration and investment activities in French Guiana will likely continue at projects with significant gold anomalies, such as the Wayamaga contact between the Armina and the Orapu formations. Extensive exploration by Golden Star outlined a potential for gold resource within graphitic and tuffaceous Armina sediments (Golden Star Resources Ltd., 2008). Tullow's petroleum exploration projects were expected to progress based on developments achieved in 2007 (Tullow Oil plc, 2008).

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GUYANA

In terms of land area, Guyana is the fourth smallest country in South America after French Guiana, Suriname, and Uruguay. In 2007, the value of Guyana's exports was estimated to be about \$680 million; exports included such goods as bauxite and alumina, food products, gold, and timber. Guyana's export partners included Canada (18.7%), the United States (16.5%), the United Kingdom (9.1%), Portugal (7.6%), Trinidad and Tobago (5.2%), France (4.7%), Jamaica (4%), and others (34.2%). Imports were valued at about \$1.2 billion and included such products as food, machinery, manufactures, and petroleum. Guyana's import partners included Trinidad and Tobago (26.2%), the United States (20.5%), Cuba (7.2%), China (7.1%), the United Kingdom (5.4%), and others (33.6%) (Bank of Guyana, 2008; U.S. Central Intelligence Agency, 2008).

As set forth in the Mining Act of 1989, the Guyana Geology & Mines Commission (GGMC) is the Government agency that regulates all activities in the mining sector. The GGMC issues Guyana's mining concessions, mining licenses, mining permits, prospecting licenses, prospecting permits, and quarry licenses; the GGMC also promotes mineral development and performs mineral exploration. In the petroleum sector, the Government of Guyana offers three types of licenses: the petroleum prospecting license for a period of 4 years, with two optional renewals to extend the exploration period for 3 more years each; the petroleum production license, which runs for 20 years; and the production-sharing agreement, which offers such incentives as a 75% cost recovery, a 50% profit share, and a 10% reduced consumption tax on fuel for petroleum exploration operations (Guyana Geology & Mines Commission, 2008).

Minerals in the National Economy

The mining sector recorded growth of 22.7% in 2007, which reflected the substantial investment and restructuring of the bauxite industry, such as at the Aroima Mine by the Bauxite Company of Guyana Inc., as well as at the BOSAI Mineral Group Guyana Inc. facility, which was taken over by Omai Bauxite Mining Inc. (OBMI). Metal prices increased because of higher consumption associated with increased world economic activity in China, the United States, and other countries. Increased prices for bauxite and gold were the major contributors to the increase in value of Guyana's mining and quarrying sector (Bank of Guyana, 2008).

Production

In 2007, Guyana was one of the main bauxite producers in the world. Other mineral commodities produced in Guyana included clay, diamond, gold, and sand and gravel. The mining and quarrying sector continued its strong performance, growing by 6% in 2007. Gold production increased by 5% owing to price increases of approximately 15% more than in 2006. The output of the bauxite industry decreased by 6%, which reflected the drop in world demand in the second half of the year. Diamond production declined by 6%, partly as a result of productive capacity being diverted to the gold sector (table 1; Bank of Guyana, 2008; Bray, 2008; U.S. Central Intelligence Agency, 2008; U.S. Department of State, 2008).

Structure of the Mineral Industry

Table 2 is a list of the major mining companies operating in Guyana. The table also provides the location and production capacities of the major mineral industry facilities.

Commodity Review

Metals

Bauxite and Alumina.—In 2007, bauxite production increased to 2.25 Mt in 2007 from 1.48 Mt in 2006 (table 1). OBMI was owned by Bosai Mining Co. Ltd. of China (70%) and the Government of Guyana (30%). Bosai acquired OBMI on December 21, 2006, for \$100 million. The Omai bauxite mine contains estimated reserves of 200 Mt. OBMI's production target was 400,000 metric tons per year (t/yr) of calcinated bauxite (Mining Top News, 2008).

Gold.—Gold production in Guyana increased to 6.7 t in 2007 from 6.4 t in 2006 (table 1). The Canadian company Guyana Goldfields Inc. held 100% interest in the Aurora Mine, which contains 114.8 t (3.69 million troy ounces) of measured and indicated reserves and 53.5 t (1.72 million troy ounces) of inferred resources. WSR Gold Inc. had an option to acquire a 50% interest in the Peters Mine, and the Aranka Mine was owned by Aranka Gold Inc. and Guyana Goldfields (50% each) (Guyana Goldfields Inc., 2008).

Sacre-Coeur Minerals, Ltd. held gold permits at the Kartuni regional block, the Lower Puruni regional block (Million Mountain), the Northwest regional block, and the Oko regional block. Together, the Million Mountain area and the adjacent Peters Mine area make up one of Guyana's gold mining centers. A trenching and sampling program conducted by Sacre-Coeur confirmed a similar pattern of significant gold mineralization. Placer gold operations were active along a number of local streams, and river dredging had taken place along the Puruni River (Sacre-Coeur Minerals, Ltd., 2008). Vanessa Ventures Ltd. held 100% interest in the Marudi Mountain gold project, which is divided into the following four zones: the Marudi Ridge zone, the Mazoa zone, the Paint Mountain Ridge zone, and the Peace Creek-Toucan Hill zone (Vanessa Ventures Ltd., 2008).

Industrial Minerals

Diamond.—In 2007, diamond production in Guyana decreased to 320,100 carats from 340,544 carats in 2006 (table 1). During 2007, two Canada-based companies were actively prospecting for diamond in Guyana: Sacre-Coeur and Vanessa Ventures. Sacre-Coeur held prospecting permits for the Kurupung and the Potaro-Kuribrong regional blocks (which are located in north-central Guyana), and a claim permit and claim license in the Mahdia-Issano regional block (which is located in northwestern Guyana) (Sacre-Coeur Minerals, Ltd., 2008). Vanessa Ventures held interests in the Maple Creek and the Potaro projects in Guyana. In 2007, the Maple Creek Mine produced diamond. Diamond and gold exploration were expected to continue in Guyana (Vanessa Ventures Ltd., 2008).

Mineral Fuels and Related Materials

Petroleum and Natural Gas.—Canada-based CGX Energy Inc., which was a crude oil and gas exploration company, held interest in 39,659 km² (9.5 million acres) of the following four properties offshore Guyana: the Corentyne License, the Corentyne License Annex, and the Pomeroun License (100% ownership in each); and the Georgetown License (25% interest). Onshore, the company had a 62% interest in the Berbice License property. Several significant targets had been identified in the Corentyne Petroleum Prospecting License (PPL), including the Eagle prospect, which covered 117.4 km² (29,000 acres) and had a resource potential of 610 million barrels (Mbbbl) of oil, and the Wishbone West prospect, which had a resource potential of more than 100 Mbbbl of oil. However, owing to disputes concerning the offshore border between Guyana and Suriname, particularly the longstanding dispute concerning the axis of the territorial sea boundary in potentially oil-rich waters, Guyana's access to a portion of the contracted area in the Corentyne PPL was extended to June 2013. In 2007, the company was also planning to start an exploration well within the Berbice PPL (CGX Energy Inc., 2008; U.S. Central Intelligence Agency, 2008).

Uranium.—U3O8 Corp. of Canada was a uranium mining company that was exploring for energy resources to meet the world's growing demand for nuclear power. U3O8 Corp. was focused on exploring the Roraima Basin in Guyana, which the company considered to be geologically similar to the Athabasca Basin and which contains the world's largest resource of uranium. The company obtained exclusive uranium exploration rights from the GGMC for two permitted areas for a total of 1.3 million hectares in western Guyana. Under the agreement with GGMC, U3O8 Corp. had the right to apply for a maximum of 35 prospecting licenses. The GGMC granted U3O8 Corp.'s indirectly wholly owned subsidiary, Prometheus Resources Guyana, two reconnaissance permits, the CM Permit (Permit A) and the PMCR Permit (Permit B), for uranium exploration in Guyana (U3O8 Corp., 2008).

Outlook

Production in Guyana's mining sector will likely continue to be dominated by the production of bauxite. OBMI expects to

produce 400,000 t/yr of calcinated bauxite. Gold exploration activities in Guyana are likely to continue as a result of several gold exploration projects that progressed during 2007. Offshore hydrocarbon exploration in Guyana will likely increase because of the progress in the resolution of the maritime boundaries disputes between Guyana and Suriname.

U3O8 Corp. reported significant uranium mineralization in the Accori North C albitite hosted breccia zone of the Kurupung batholith, which is located in the basement near the Roraima Basin in Guyana. Prometheus Resources plans to conduct a detailed exploratory program in its uranium permit areas in Guyana in the future.

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SURINAME

As one of the major bauxite and alumina producers in the world, Suriname has a rich mining history that spans more than 90 years. During those years, Alcoa Inc. of the United States and the multinational company BHP Billiton have been the leading operators. The sedimentary basin, including an offshore economic zone, covers approximately 155,000 square kilometers (38,000,000 acres). The systematic search for petroleum began in the early 1960s, but petroleum development took a leap after 1980 with the establishment of Staatsolie Maatschappij Suriname N.V. and with the introduction of production-sharing service contract models for the participation of private oil companies in petroleum activities. The mineral industry of Suriname included the production of refined alumina; mined bauxite and gold; quarried clays, kaolin, and sand and gravel; cement and petroleum; and small amounts of

copper, iron ore, nickel, and platinum. In recent years, mineral production had been focused on alumina, bauxite, and petroleum (Staatsolie Maatschappij Suriname N.V., 2008; U.S. Central Intelligence Agency, 2008; World Bank, The, 2008).

Minerals in the National Economy

The main mineral commodities produced in Suriname included refined alumina, mined bauxite and gold, and petroleum. In 2007, the petroleum sector's financial performance was \$355 million with a net profit of \$225 million and a contribution to the Government's budget of \$150 million. Suriname's exports included mineral commodities, such as alumina and crude oil, food products, and lumber. Exports were valued at about \$1.4 billion. Suriname's export partners in 2007 included Canada (26.8%), Norway (20.2%), Belgium (9.2%), the United States (8.9%), the United Arab Emirates (7.9%), France (7.2%), and others (19.8%). Imports in 2007 were valued at about \$1.3 billion and included such products as capital equipment, foodstuffs, and petroleum. Suriname's import partners in 2007 included the United States (27%), the Netherlands (17.3%), Trinidad and Tobago (14.3%), China (5.9%), Japan (5.1%), and others (30.4%) (Staatsolie Maatschappij Suriname N.V., 2008; U.S. Central Intelligence Agency, 2008).

Production

In 2007, the production of alumina increased by 10% compared with that of 2006, and in the same timeframe, bauxite production increased by 3.5%. The production of crude petroleum in 2007 increased by 9% compared with that of 2006; petroleum derivatives production, however, decreased by 7% compared with that of 2006. Data on mineral production are in table 1.

Structure of the Mineral Industry

In 2007, the main bauxite operators in Suriname were BHP Billiton and Suriname Aluminum Company, LLC (Suralco) (a subsidiary of Alcoa Inc.). Alcoa (through Suralco) owned 55% and BHP Billiton held 45% interest in all the bauxite mining operations in Suriname, respectively. BHP Billiton managed all four of the country's bauxite mines and Suralco held their exploitation licenses, which were issued by the Surinamese Government and would expire in 2032. Suriname's sole alumina refinery was owned and operated as a joint venture of Suralco (55%) and BHP Billiton (45%), respectively (BHP Billiton, 2008). Table 2 is a list of the major mineral industry facilities in Suriname. The table also provides the location and production capacities of these facilities.

Commodity Review

Metals

Bauxite and Alumina.—In 2007, the production of alumina decreased by 4% compared with that of 2006; bauxite

production increased by 17% (table 1). Production operations in Suriname included four bauxite mines and one alumina refinery. The country's open pit bauxite facilities were the Coermotibo Mine, the Kaaimangrasie Mine, the Klaverblad Mine, and the Lelydorp III Mine, and the Paranam alumina refinery (BHP Billiton, 2008).

Although the Coermotibo Mine, which is located 150 km east of Paranam, was expected to be depleted by 2008 based on reserve estimates, the facility management planned to continue operations until July 2011 to process stockpiled and remaining material. The Coermotibo Mine's nominal bauxite production capacity was 1.7 million metric tons per year (Mt/yr) (BHP Billiton, 2008).

The Kaaimangrasie Mine is located 38 km southeast of Paramaribo (the capital of Suriname) and 24 km east of the Paranam alumina refinery. The development of the Kaaimangrasie Mine started in November 2005, and operations and delivery of bauxite to the refinery started in July 2006. The mine was expected to be operational until November 2009. The Kaaimangrasie Mine had a nominal production capacity of approximately 2 Mt/yr of bauxite; there were no processing facilities at the mine. Electricity was sourced from Suralco and fuel was sourced from an external provider (BHP Billiton, 2008).

The Klaverblad facility was located 23 km southeast of Paramaribo and 11 km east of the Paranam refinery facility. The development of the Klaverblad Mine began in July 2005 and mine operations began in April 2007; the mine was planned to be operational until August 2011 (BHP Billiton, 2008).

The Coermotibo Mine and the Lelydorp III Mine were expected to be depleted by early 2008. The Kaaimangrasie Mine and the Klaverblad Mine, which were developed at a cost of \$300 million, were expected to replace those mines (BHP Billiton, 2008).

BHP Billiton and Suralco held an exploration license for the Bakhuis Mountains region in western Suriname. In 2006, the companies started negotiation with the Government to obtain the exploitation right for the Bakhuis area, which covers an area of 2,780 km². A feasibility study was proposed to begin by 2007 or 2008 (BHP Billiton, 2008).

By 2008, the alumina industry in Suriname was expected to grow with the completion of the 250,000-t/yr expansion of the Paranam facility that supports refining, thermal power, alumina storage, shipping facilities, and the head office for Suralco, which would be completed at cost of \$65 million. In 2007, Suralco produced about 5,350 t of alumina each day at its Paranam refinery. Suralco's expansion increased the total capacity of the refinery to 2.2 Mt/yr (Alcoa Inc., 2008).

Gold.—The Rosebel open pit gold mine was acquired by IAMGOLD in November 2006 through its merger with Cambior. In 2007, IAMGOLD's ownership of the mine was held through its 95% interest in Rosebel Gold Mines N.V. (RGM), and the remaining 5% interest in RGM was held by the Government of Suriname. The Rosebel Mine was located approximately 100 km south of Paramaribo. The mine facilities comprised a 20,000-metric-ton-per-day processing plant, which included crushing and grinding and gravity separation (which recovers more than 25% of the gold); a cyanidation circuit; and a carbon-in-leach plant (IAMGOLD Corp., 2008).

In 2007, the Rosebel Mine produced 7.9 t of gold compared with 9.4 t in 2006 (table 1). A work stoppage in January 2007 prompted a temporary suspension of operations. This work stoppage was resolved in mid-February with the agreement on a 3-year labor contract, but resulted in a loss of about 622 kg of gold production. Proven and probable reserves at yearend 2006 were estimated to be 118.2 t (3.8 million troy ounces) of gold, which would be sufficient for more than 12 years of mine operation (IAMGOLD Corp., 2008).

In late 2006, Golden Star (49%) entered into a joint-venture agreement with Newmont Overseas Exploration Ltd. (a subsidiary of Newmont Mining Corp. of the United States) (51%). The agreement was to explore the 743-km² Saramacca gold project, which is located in the Brokolonko Range in eastern Suriname. Under the agreement, Newmont may earn 51% interest in the project by investing \$6 million during a period of 5 years. In the first year, Newmont's investment of \$1.1 million funded exploration efforts, such as diamond core drilling, ground geophysical surveys, and soil augering. Other planned works included mapping of the area and reconnaissance sampling (Golden Star Resources Ltd., 2008).

A \$26 million mill optimization program that began in July 2007 would be completed in November 2008. This program would allow mill feed to be maintained and more gold ore to be fed into the mill, which would increase gold output. IAMGOLD was planning to launch an \$18.4 million mill expansion project that would increase the annual life-of-mine production to between 9.3 and 9.5 t (300,000 and 305,000 troy ounces) from about 8.6 t (275,000 troy ounces) and reduce the direct cash costs by approximately \$35 per ounce. This project was expected to begin affecting production and costs by 2009. The expansion would increase the mill feed to 8.9 Mt/yr of ore from 8 Mt/yr and provide the option of an additional 15% to 25% increase of gold output should market conditions be appropriate (IAMGOLD Corp., 2008).

Mineral Fuels

Petroleum and Natural Gas.—The activities of Suriname's state-owned oil company, Staatsolie Maatschappij Suriname N.V., included exploration, drilling, production, refining, marketing, sales, transport, and generation of electricity and steam. Institutional activities included promotion, contracting, and monitoring activities of other oil companies on behalf of the Government of Suriname. Staatsolie's leading crude oil fields are Calcutta and Tambaredjo. The Saramacca crude is low in sulfur and metal contents. In 2007, Staatsolie's refinery operational capacity was 7,000 barrels per day (bbl/d) of crude oil. Its refinery products included, in order of value, diesel, fuel oil, and asphalt bitumen. Most of these petroleum derivatives were consumed in the local market, and the surplus was exported to the Caribbean. Staatsolie, as agent for the Government, actively promotes the hydrocarbon potential of Suriname, and monitors petroleum agreements on behalf of the state (Staatsolie Maatschappij Suriname N.V., 2008).

Staatsolie's petroleum operations are located onshore in the Saramacca District, 55 km west of the capital, Paramaribo. In 2007, the company's produced 5.4 Mbbl of crude oil from

the Calcutta and the Tambaredjo oilfields. The majority of the production was from the Tambaredjo field. In the neighboring Calcutta field, full-scale production activities started in March 2006. Staatsolie's exploration strategy was driven by its objective to increase onshore crude production to 16,000 bbl/d by 2012. In the plan period 2007–10, onshore exploration would focus on areas outside of, in order of production volume, Tambaredjo and Calcutta, and exploration of coastal areas outside the current fields was expected to start by 2009. In early 2007, proven reserves stood at 57 Mbbl in the Tambaredjo field, 18 Mbbl in the Tambaredjo North-West area, and 13 Mbbl in the Calcutta field (Staatsolie Maatschappij Suriname N.V., 2008).

Paradise Oil Company N.V., which was a wholly owned subsidiary of Staatsolie, was established in December 2005 (and fully operational since May 2006) to operate in joint ventures that involved the parent company and third parties. The joint-venture agreement established between Paradise Oil and its partners involved a production-sharing contract with Staatsolie. In February 2007, Staatsolie signed its first production-sharing contract for the onshore Coronie and the Uitkijk blocks through its Paradise Oil affiliate. The production-sharing contract involved the joint venture between Paradise Oil and Hardman Resources, which was a wholly owned subsidiary of Tullow. Under the agreements, Hardman was to acquire a 40% working interest by funding an initial exploration program with \$8.5 million. Paradise Oil was the operator and owned a 60% interest. The onshore blocks covered an estimated area of 6,716 km² (2,593 square miles) (Coronie) and 1,961 km² (757 square miles) (Uitkijk), and both are located adjacent to the Calcutta and the Tambaredjo oilfields (Staatsolie Maatschappij Suriname N.V., 2008; Tullow Oil plc, 2008).

Staatsolie also supplied power to Suriname. A 14-megawatt-capacity powerplant at Tout Lui Faut had been in production since July 2006. The Tout Lui Faut refinery used the steam that the powerplant generated and the electricity was sold to the local power company for further distribution in the country. In early 2007, the powerplant production reached 27 million kilowatthours, which was below projections, because that production represented production for only part of the year. In 2008, Staatsolie expected to increase the powerplant's production of electricity. Also in 2008, the plant would be incorporated as a separate entity named Staatsolie Power Company Suriname N.V (Staatsolie Maatschappij Suriname N.V., 2008).

Outlook

RGM is expected to continue with development drilling of its existing deposits, as well as to explore for new deposits on the Rosebel property. Additional exploration is to be carried out on the adjacent Headley's Reef and Thunder Mountain exploration permits, as well as on the Sara Creek project, which is located 80 km south of Rosebel. According to Golden Star, which had recommenced exploration at its Saramacca gold project, the Guiana Shield remains a highly prospective terrain for the discovery of major new gold mines, and Saramacca is one of the most promising exploration prospects on the Shield at this time (Golden Star Resources Ltd., 2008).

Crude petroleum production in Suriname is expected to continue to increase. Staatsolie's exploration strategy is also likely to continue to be driven by its objective to increase onshore crude production to 16,000 bbl/d by 2012 (Staatsolie Maatschappij Suriname N.V., 2008).

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TABLE 1
FRENCH GUIANA, GUYANA, AND SURINAME: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons unless otherwise specified)

Country and commodity		2003	2004	2005	2006	2007
FRENCH GUIANA⁶						
Cement	metric tons	62,000	62,000	62,000	62,000	62,000
Clays	do.	5,000	5,000	5,000	5,000	5,000
Columbite and tantalite	kilograms	1,500	1,500	1,500	1,500	1,500
Gold, mine output, Au content ²	do.	3,296 ³	2,773 ³	1,955 ³	2,000	2,000
Sand		1,500	1,500	1,500	1,500	1,500
Stone, crushed		1,500	1,500	1,500	1,500	1,500
GUYANA^{4,5}						
Bauxite, dry equivalent, gross weight		1,846	1,506	1,694 ^r	1,479 ^r	2,249
Clay	metric tons	NA	3,000	12,000	NA	NA
Diamond	carats	412,537	444,940	356,948	340,544	268,945
Gold, mine output, Au content	kilograms	11,707	11,148	8,325 ^r	5,668 ^r	7,412
Sand	metric tons	253,674	142,092	573,150	285,000	285,000
Stone, crushed	do.	154,093	285,583	315,964	204,000	204,000
SURINAME						
Aluminum:						
Bauxite, gross weight ⁶		4,215	4,052	4,757	4,924	4,924
Alumina ⁷		2,004	2,039	1,944	2,153	2,153
Cement, hydraulic ^c		65	65	65	65	65
Clays, common ^c		20	20	20	20	20
Gold, mine output, Au content	kilograms	300	8,513 ²	10,619 ⁸	9,362 ⁹	9,362 ⁹
Petroleum:¹⁰						
Crude	thousand 42-gallon barrels	4,300	4,100	4,380	4,800	4,800
Products	do.	2,600	2,500	2,700	2,500	2,500
Sand and gravel:^c						
Gravel		35	35	35	35	35
Sand, common		160	160	160	160	160
Stone, crushed and broken ^c		50	50	50	50	50

^cEstimated; estimated data are rounded to no more than three significant digits. ^rRevised. do. Ditto. NA Not available.

¹Table includes data available through November 1, 2008.

²Source: Direction Regionale de l'Industrie, de La Recherche et de l' Environment and Bureau de Recherches Géologiques et Minières.

³Reported figure.

⁴In addition to the commodities listed, Guyana also reported laterite production, in metric tons: 2004—44; 2005—12,000; and 2006-07—not available; and and loam production, in metric tons: 2004—3,000; 2005—4,000; and 2006-07—21,017.

⁵Source: Guyana Geology and Mines Commission and the Bank of Guyana.

⁶Source: World Bureau of Metal Statistics.

⁷Source: BHP Billiton Group.

⁸Source: Cambior Inc.

⁹Source: IAMGOLD Corp.

¹⁰Source: Staatsolie Maatschappij Suriname N.V.

TABLE 2
GUYANA AND SURINAME: STRUCTURE OF THE MINERAL INDUSTRIES IN 2007

(Thousand metric tons unless otherwise specified)

Country and commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
GUYANA			
Bauxite	Aroaima Bauxite Co. (United Company RUSAL, 90%, and Government, 10%)	Aroaima, East Berbice District	2,000
Do.	Omai Bauxite Mining Inc. (Bosai Mining Co. Ltd., 70%, and Government of Guyana, 30%)	Omai Bauxite Mine and Processing Plant located close to Linden on the Demerara River about 100 kilometers south of Guyana's capital city of Georgetown	1,500
Gravel	Baracara Quarries (private)	Quarry near Bartica, Mazaruni-Potaro District	100
Silica sand	Minerals and Technology Ltd. [Minerals and Chemicals of Texas (United States)]	Sand Hills, Demerara River, West Demerara District	300
Stone	Mazaruni Granite Products Inc. of Guyana (private)	Mazaruni River	3,650
SURINAME			
Alumina	Suriname Aluminum Co. (Suralco) (Alcoa, Inc., 55%, and BHP Billiton plc, 45%)	Refinery at Paranam, producing metallurgical-grade alumina	2,200
Bauxite	do.	Lelydorp III Mine, open pit mine, located 25 kilometers south of Paramaribo, District of Marowijne; expected to close in February 2007	2,000
Do.	do.	Coermotibo Mine, surface strip mine, located 150 kilometers east of Paranam; expected to be depleted by 2007	1,700
Do.	do.	Klaverblad Mine, open pit mine, 23 kilometers southeast of Paramaribo; to commence in May 2007	2,000
Do.	do.	Kaaimangrasie Mine, open pit mine located 38 kilometers southeast of Paramaribo; operations started in July 2006	2,000
Cement	Vensur N.V. (private, 100%)	Paramaribo, District of Para	60
Gold	kilograms Rosebel Gold Mines N.V. (IAMGOLD Corp., 95%, and Government of Suriname, 5%)	Brokopondo District, 100 kilometers south of Paramaribo	10,500
Petroleum	thousand 42-gallon barrels Staatsolie Maatschappij Suriname N.V. (Government, 100%)	Tambaredjo, District of Saramacca	4,500
Do.	do.	Calcutta Field (58 wells)	460
Petroleum products	do.	Tambaredjo, District of Saramacca	2,600

Do., do. Ditto. NA Not available.