

THE MINERAL INDUSTRY OF

GABON

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The equatorial African Republic of Gabon is on the Atlantic Ocean coast between the Republic of the Congo to the south and Cameroon and Equatorial Guinea to the north. It has an area of 257,670 square kilometers and supported a population of about 1.23 million in 2002. The mineral industry was dominated by crude petroleum production, with petroleum accounting for more than 80% of export earnings and about 33% of the gross domestic product (GDP). Following petroleum, timber and manganese were the major exports. Uranium mining ceased in 1999. Other nonfuel mineral commodities produced included cement, diamond, and gold. In addition, Gabon has identified resources of columbium (niobium), iron ore, and phosphate. With a small population and a petroleum-based economy, the GDP based on 2001 purchasing power parity was estimated to be \$6.7 billion, and the GDP per capita, \$5,500, one of the highest in Africa. Its income distribution, however, is skewed to the wealthy, and almost one-half of the population lives below the poverty line. Gabon participates in the Central African Economic and Monetary Community with five other countries and its currency [the *Communaute Financiere Africaine franc (CFAF)*] is pegged to the euro (€) at a rate of CFAF655.957 to €1 (U.S. Central Intelligence Agency, 2003¹).

An International Monetary Fund (IMF) (2002[§]) review of the economy, expressed concern that the country was overly dependent on a declining petroleum sector that represents one-third of the GDP and contributes 15% of GDP on average to Government revenues. Mining, by contrast, contributes about 3% to the GDP. In 1997, petroleum production peaked at 133 million barrels per year (Mbbl/yr) of oil from nine oilfields. By the end of 2001, production had declined to 108 Mbbl/yr from five oilfields; however, several new fields were coming onstream during 2002. Along with fluctuating oil prices, increased fiscal borrowings led to a significant jump in Gabon's debt-to-GDP ratio by 2000. The total value of merchandise exports in 2001 was estimated by the IMF to be \$2.63 billion, of which about \$2.1 billion was attributable to petroleum, about \$323 million to timber, and about \$118 million to manganese. More than 50% of exports went to the United States, and 22%, to the European Union. The total value of merchandise imports in 2001 was estimated by the IMF to be \$998 million.

Government Policy and Legislation

The Ministère des Mines, de l'Énergie et du Pétrole is responsible for the administration of the mining sector in Gabon. The Mining Code was revised in 1997 and comprises an exploration permit valid for 3 years and twice extendible for a further 3-year period. Mining permits are granted for 5 years and may be renewed for an additional 5 years, and mining concessions are granted for 25 years and may be renewed for an additional 10 years. Corporate taxes are 35%. Ownership of oil and gas and all mineral rights were vested in the Government (Resource Information Unit, 2002[§]).

Commodity Review

Metals

Columbium (Niobium).—Cluff Mining plc of the United Kingdom held the rights to the Mabounié phosphate- and niobium-bearing carbonatite deposit, which is located in central Gabon. Cluff reported an indicated mineral resource of 16.72 million metric tons (Mt) of carbonatite ore grading 1.75% niobium pentoxide (Nb_2O_5) that contains 292,600 metric tons (t) of niobium oxide. Work carried out through 2001 included most of the major elements of a feasibility study including two pilot scale process test programs to examine the potential to produce a 50% Nb_2O_5 concentrate or a value-added ferroniobium. By 2002, Cluff was focusing its corporate efforts on platinum projects in South Africa and was negotiating with one of the other partners in the joint venture for it to acquire Cluff's 35% interest in the project (Cluff Mining plc, undated[§]).

Gold.—Gold (and diamond) production was chiefly by small-scale artisanal miners and was not well documented. SearchGold Resources Inc. of Canada held a 90% interest in the locally incorporated company, Ressources Golden Gram Gabon, S.A.R.L. SearchGold also owned the Mandala diamond mine in Guinea. During exploration conducted in Gabon in 1998, SearchGold identified a resource of 3.9 Mt, at a grade of 6.4 grams per metric ton and that contains 24,828 kilograms of gold at its Bakoudou deposit. In early 2002, SearchGold announced that it would reevaluate its earlier work and consider doing a prefeasibility study on an open pit mine at Bakoudou (SearchGold Resources Inc., 2003).

¹References that include a section mark (§) are found in the Internet References Cited section.

Iron Ore.—During 2002, Kumba Resources Ltd. of South Africa began reevaluating the Belinga iron ore deposit in northwest Gabon. Belinga had been explored by U.S. Steel in the 1980s with resource of 566 Mt at a grade of 64.24% iron ore, 2.18% silica, and 0.122% phosphorous identified at the time. The remote location of Belinga would require a lengthy rail spur to be built to connect it to the Transgabonais railway into the export harbor at Owenda.

Manganese.—The Compagnie Minière de l'Ogooue S.A. (Comilog) Moanda manganese mine near Franceville was a 58% owned subsidiary of the Eramet Group of France and was operated by its Eramet Manganese Division. In 2002, manganese production, including sinter, increased to 1.856 Mt, a 3.6% increase over that of 2001. Ramp up of the new Moanda beneficiation and sintering plant continued to go slower than expected during 2002 and it was operating at only 85% of its 600,000 t/yr of sintered manganese ore capacity by yearend. Ore is shipped from the Moanda Mine 600 kilometers via the Transgabonais railway to the Owenda minerals port in Libreville. Comilog pays toll fees and contributes to track maintenance (Eramet Group, 2003§).

Industrial Minerals

Cement.—Société des Ciments du Gabon, owned by Heidelberg Zement AG of Germany, operated one cement plant at Cimenterie de N'Toum with a capacity to produce 330,000 metric tons per year (t/yr) of cement and two clinker grinding plants at Franceville and Owendo with a capacity of 170,000 t/yr and 240,000 t/yr of clinker, respectively (Heidelberger Zement, 2000).

Mineral Fuels

Petroleum.—Shell Gabon was the largest operator, accounting for over 85% of national production, chiefly from its offshore Rabi-Kounga oilfield. In early 2003, Shell and its partners, which included the TotalFinaElf Group of France, signed a new exploration and production-sharing contract with Gabon, that extended their rights to the onshore Rabi-Kounga oilfield for another 10 years effective January 1, 2003. The partnership will invest \$110 million to improve recovery at Rabi-Kounga, which in 2002 produced at a rate of 55,000 bbl/d (TotalFinaElf Group, 2003§). Other companies in production or actively exploring included: TotalFinaElf; Perenco, an European company with offices in London and Paris; Energy Africa of South Africa; Eni of Italy; Pan-Ocean Energy Corporation Ltd. of Canada; Petronas Carigali (Overseas) of Malaysia; and the U.S. companies Amerada Hess Corp., Marathon Oil Corp., and Vaalco Energy Inc. The consortium led by Vaalco Energy announced the discovery of three oilfields in its Etame Block during 2002. The Etame Project was expected to increase Gabon's oil production by nearly 15,000 bbl/d by yearend 2002. TotalFinaElf was concentrating its exploration efforts on deepwater targets to try and counter declining onshore and shallow-water production. New discoveries by Shell on its Oziga concession and Total FinaElf on its Atora oilfield (brought into production in March 2001) are expected to add 20,000 bbl/d each to Gabon's crude oil production. During 2002, Perenco, which was the country's fourth largest producer, commissioned two new fields—onshore at Niungo and offshore at Ompoyi. The two fields will produce 13,500 bbl/d when at full capacity, which will increase Perenco's corporate capacity to 39,000 bbl/d (Alexander's Oil and Gas Connection, 2002§). Additional information on this sector is available from the U.S. Energy Information Administration (2002§).

Outlook

The outlook for the future of minerals development in Gabon is modest and contingent on future market conditions and exploration successes. The economy is likely to be dominated by the petroleum sector for the near future with the focus of new exploration on deepwater basins. The potential for new developments in columbium (niobium), manganese, and possibly phosphate and iron ore suggests a continued role for mining in the economy. The lack of adequate infrastructure in many areas of the country inhibits new grassroots exploration and remains a major cost constraint on development of the well-defined iron ore deposit at Belinga.

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Major Source of Information

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TABLE 1
GABON: PRODUCTION OF MINERAL COMMODITIES¹

Commodity ²	1998	1999	2000	2001	2002 ^p
Cement:					
Clinker metric tons	180,000	180,000 ³	210,000 ³	200,000 ^e	200,000 ^e
Hydraulic ⁴ do.	196,000 ^{r,3}	200,000 ^e	210,000 ^e	210,000 ^e	210,000 ^e
Diamond, gem and industrial ^e carats	500	500	500	500	500
Gas, natural, gross ^c million cubic meters	99	99	99	99	99
Gold, mine output, Au content ^{e,5} kilograms	70	70	70	70	70
Manganese:					
Metallurgical-grade ore, gross weight (50% to 53% Mn) thousand metric tons	2,044	1,839	1,706	1,758	1,816 ^e
Pellets, battery- and chemical-grade, gross weight (82% to 85% MnO ₂) do.	48	69	37	33	40 ^e
Total ³ do.	2,092 ³	1,908 ³	1,743 ³	1,791	1,856 ³
Petroleum:					
Crude thousand 42-gallon barrels	132,000	124,500	118,625	110,000	108,000
Refinery products do.	6,200 ³	6,315	4,354	4,280	4,200 ^e
Uranium, content of concentrate ⁶ metric tons	862	347	--	--	--

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ^rRevised. -- Zero.

¹Table includes data available through June 2003. Revised as of April 14, 2004.

²In addition to the commodities listed, a variety of crude construction materials (clays, sand and gravel, and stone) is also produced, but output is not reported, and available information is inadequate to make reliable estimates of output levels.

³Reported figure.

⁴Includes cement produced from imported clinker.

⁵Gold production figures do not include production smuggled out of the country, which in recent years was estimated to exceed 400 kilograms per year.

⁶Moanda uranium mine depleted and closed in 1999.