THE MINERAL INDUSTRY OF

GABON

By George J. Coakley

The equatorial African nation of Gabon has an area of 257,670 square kilometers and supported a population of about 1.2 million in 1998, with a gross domestic product (GDP) per capita of \$6,400 based on 1998 purchasing power parity data. The mineral industry was dominated by crude petroleum production, which accounted for about 60% of Government revenues and more than 40% of the GDP. Following petroleum and timber, manganese and uranium were the major exports. Total exports of all goods were approximately \$2.1 billion, with petroleum accounting for about 80% and manganese for 5% in 1998. Resources of gold, iron ore and phosphate were known.

A new mining code was drawn up by the Government in 1997. The new code is designed to promote new exploration and to establish rules to protect the environment. Operations would be tax free during the research and prospecting stages. Prospecting License tenure would be reduced from 5 to 2 years and would be renewable once. Mining Concessions tenure would be reduced from 75 to 25 years but would be renewable for as long as minable deposits lasted (Mining Journal, 1998). Final action on the new code was pending in Parliament during 1998. Subject to its replacement, the basic mining law of Gabon was the 1962 Mining and Petroleum Code, law 15/62, as modified in 1968 by law 16/68 and in 1970 by Decree No. 981. The mining fiscal regime is now governed by Ordinance No. 38/79/PR. Petroleum exploration and exploitation were further regulated by laws 14/74 and 14/82. The Ministère des Mines, de l'Energie, et du Petrole administered the mineral industry. Mineral concession contract terms emphasized spending commitments by private companies. Crude petroleum production-sharing agreements provided for Government participation as a joint-venture partner, in addition to a royalty of 20%. The Gabonese environmental law, law 16/93 Relating to the Improvement and Protection of the Environment, contained a section that addresses mining and petroleum activities. The Direction Générale de l'Environnement was responsible for environmental oversight.

The Government had a share in nearly every mineral venture, ranging from 25% to more than 90% ownership. The Government, however, was seeking to diversify its partnership mix by soliciting new international participants. Among the foreign companies active in Gabon's mineral industry were subsidiaries of French companies and several U.S. firms, which were active in petroleum exploration.

Commodity Review

Metals

Columbium (Niobium).—During 1998, Reunion Mining plc of the United Kingdom, which was subsequently acquired by

Anglo American plc in 1999, initiated a feasibility study to examine the potential for producing columbium (niobium)-rich pyrochlore concentrate from the Mabounié carbonatite complex near Lambaréné in the west-central portion of the country. Columbium is used as a ferrocolumbium alloy in steelmaking. The project would have a capital cost of about \$50 million and produce 6,000 metric tons per year (t/yr) of ferroniobium (ferrocolumbium). The carbonatite contains 360 million metric tons (Mt) of niobium and phosphate ore grading 1.02% niobium oxide and 24% phosphorous pentoxide. The highgrade niobium zone contains 41.2 Mt of ore grading 1.9% niobium oxide. By developing the project, Reunion can earn a 42% interest in the niobium-rich portion of the carbonatite complex. An operating company, Niobium Resources plc., will be formed by Reunion (60%), Treibacher Industrie AG of Austria (20%), and a private Dutch company (20%). Niobium Resources will have a 70% interest in the Gabonese company Societe Minière de la Mabounie, which will hold the mineral rights to the property; the remaining 30% interest will be held by a private Gabonese company, Somipar (Ruffini, 1998).

Gold.—Several junior exploration companies were exploring for gold, including Lafayette Mining NL of Australia at its Moukanda prospect, and Searchgold resources Inc. of Canada on the Bakoudou gold property, where it had outlined a 20-hole drill-indicated resource of 3.94 Mt with an average grade of 6.4 grams per metric ton (Searchgold Resources Inc., January 19, 1999, First resource estimate in Gabon—Searchgold resources, press release, accessed January 22, 1999, at URL http://www. infomine.com/index/pr/Pa015726.PDF).

Manganese.—Compagnie Minière de l'Ogooué S.A. (Comilog), owned by the Eramet Group of France (61%), operated the Moanda manganese mine near Franceville. In 1998, manganese production of 2.09 Mt increased by 10% from 1997, and sales of 2.05 Mt remained relatively level with sales volumes of the past several years. Nearly 50% of sales went to Comilog's in-house subsidiaries. During 1998, Comilog was negotiating to franchise-out the operation of the Trans-Gabonese railway, which transported manganese ore from the mine at Moanda to the port at Owenda, and announced plans to build a \$77 million (French franc 470 million) manganese ore enrichment and sintering plant in Gabon. The plant, to be built at Moanda, will have a production capacity of 600,000 t/yr of sintered manganese ore. The new plant will extend the life of the mine by allowing the processing of manganese fines and will provide a direct feed to Eramet's ferroalloy plants. The 3year development project will be operational in 2001 (Eramet Group, April 7,1999, Annual report of the Eramet Group for 1998, accessed November 11, 1999, at URL http://www.eramet.

fr/anglais/ErametRAen_manganese.pdf).

Uranium.—The uranium mine at Mounana in Haut Ogooué Province was nearing depletion, and Compagnie des Mines d'Uranium de Franceville (COMUF) planned to close it in May 1999. COMUF produced 862 metric tons of uranium oxide in 1998, its last full year of operations and its highest production since 1989. COMUF was controlled by Compagnie Generale des Matieres Nucleaires of France (39%) and the Government of Gabon (29.4%).

Industrial Minerals

Increased spending on infrastructure projects has increased the demand for cement to a rate of about 220,000 t/yr, with most of the demand met from local production. Domestic plants included the 300,000 t/yr clinker manufacturing plant near Libreville, owned by Cimenterie de N'Toum; grinding plants at Owendo and Franceville each have the capacity to produce 150,000 t/yr of cement (International Cement Review, 1998).

Fuels

Petroleum was produced by three companies, in order of decreasing output—Shell Gabon of the Netherlands, Elf Gabon of France, and Perenco Plc of the United Kingdom. During 1998, Marathon Petroleum Gabon LDC of the United States began production from the new offshore Tchatamba Marin oilfield, and Ocelot Energy Inc. of Canada, from the Obangue Field. The Government hoped to use the success of deepwater petroleum exploration in nearby Angolan and Nigerian waters to attract more exploration activity to Gabon. Initial interest was being shown by Chevron Corp. of the United States, Elf Aquitaine, and Total S.A. of France. Other petroleum exploration companies from Canada, Italy, South Africa, and the United States were also active. The U.S. Energy Information Administration noted on its web site that although Gabon's proved oil reserves had increased from 1.3 billion barrels in 1996 to 2.5 billion barrels in 1997 and 1998, the Government was concerned about the longer term trend of declining oil reserves and about declining production from some of the older, established fields (U.S. Energy Information Agency, March 1999, Country analysis brief—Gabon, accessed December 12, 1999, at URL http://eia.doe.gov/emeu/cabs/ gabon.html).

Outlook

A more detailed discussion of recent developments in the oil industry of Gabon is also available through the U.S. Energy Information Administration. Although Gabon withdrew its membership in the Organization of Petroleum Exporting Countries in 1996, its petroleum production remained level at around 362,000 barrels per day in 1998.

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 foreseeable future, with the focus of new exploration on deepwater basins. Although uranium mining is phasing out, the potential for new developments in columbium (niobium), manganese, and possibly phosphate 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.

References Cited

International Cement Review, 1998, Gabon, *in* The global cement report: International Cement Review, p. 135.

- Mining Journal, 1998, Gabon's new code: Mining Journal [London], v. 330, no. 8469, February 27, p. 166.
- Ruffini, Antonio, 1998, Feasibility begins at Gabon niobium deposit: African Mining, v. 3, no. 6, November-December, p. 43-44.

TABLE 1 GABON: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/		1994	1995	1996	1997 e/	1998 e/
Cement:						
Cement, hydraulic 3/		147,798 r/	153,953 r/	185000 r/	200,000	196,000
Clinker		124,600 r/	132,398 r/	162,000 r/	176,000	180,000
Diamond, gem and industrial e/	carats	500	500	500	500	500
Gas, natural, gross	million cubic meters	129	150	100 r/	99	99
Gold, mine output, Au content e/ 4/	kilograms	72	70	70	70	70
Manganese:						
Metallurgical-grade ore, gross weight (50% to	53% Mn) 5/					
	thousand metric tons	1,366 e/	1,844	1,933	1,860	2,044
Pellets, battery- and chemical-grade, gross weight (82% to 85% MnO2)		70 e/	86	50	44	48
Total 5/		1,436	1,930	1,983	1,904 6/	2,092 6/
Petroleum:						
Crude	thousand 42-gallon barrels	126,000	133,000	134,000	134,000	132,000
Refinery products	do.	6,900	5,466 r/	6,043 r/	6,315 6/	6,200 6/
Uranium, content of concentrate		589	653	623	472 6/	862 6/

e/ Estimated. r/ Revised.

1/ Table includes data available through December 1999.

2/ In 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.

3/ Includes cement produced from imported clinker.

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

5/ Data are rounded to four significant digits.

6/ Reported figure.

TABLE 2 GABON: STRUCTURE OF THE MINERAL INDUSTRY IN 1998

(Thousand metric tons unless otherwise specified)

		Major operating companies		Annual
Commodity		and major equity owners	Location of main facilities	capacity
Cement:				
Cement, hydraulic		Société des Ciments du Gabon (Government, 91.4%; Elf Gabon, 8.6%)	Clinker-grinding plant at Owendo	270
Do.		do.	Clinker-grinding plant at Franceville	130
Clinker		do.	Clinker plant at N'Toum, 40 kilometers east of Libreville	350
Manganese, ore		Compagnie Minière de l'Ogooué (Eramet, 61%; Govern- ment, 28%.)	Open pit mine at Moanda	2,600
Petroleum, crude	thousand 42-gallon barrels	Elf Gabon (Société Nationale Elf Aquitaine 75%; Govern- ment, 25%)	Anguille, Barbier, Baudroie, Bréme, Gonelle, Grondin Marine, Mandaros, and Torpille offshore fields	30,000
Do.	do.	do.	Avocette, Coucal, and Hylia fields	25,000
Do.	do.	Shell Gabon (Royal Dutch-Shell, 75%; Government, 25%), 42.5% interest in field	Rabi Kounga field, 100 kilometers north of Gamba	75,000
Do.	do.	do.	Gamba-Ivinga field, onshore Gamba	4,000
Do.	do.	Perenco Plc., 45% interest in field	Oguendjo offshore field, 85 kilometers south- east of Port Gentil	3,000
Do.	do.	Perenco Plc., 75%, and Government, 25%, joint venture	Lucina Marine offshore field, 15 kilometers south of Mayumba	2,000
Do.	do.	Perenco Plc., 50%, and London and Scottish Marine, 50%, joint venture	Obando, Octopus, and Pelican offshore fields, 60 kilometers southwest of Port Gentil	5,000
Petroleum products	do.	Société Gabonaise de Raffinage (Government, 25%; Elf Gabon, 18.7%; Total, 18.7%; Agip, 6.2%; BP, 6.2%; Fina, 6.2%; Mobil, 6.2%; Shell, 6.2%; and Texaco, 6.2%)	Refinery at Port Gentil	8,760
Uranium, oxide (metal o	content) metric tons	Compagnie des Mines d'Uranium de Franceville (Compagnie Francais de Mokta, 39.2%; Compagnie Générale des Ma- tières Nucléaires, 18.8%; Government, 24.7%; Minatom, 13%; and others, 4.3%)	Two mines near Mounana (closing mid-1999)	1,500