

THE MINERAL INDUSTRY OF

GABON

By Philip M. Mobbs

Development of its mineral resources has been a key element in Gabon's economic advancement. Gabon's mineral economy continued to be dominated by the oil sector in 1995. Crude oil production had accounted for about 41% of the gross domestic product (GDP) in 1994, the last year for which data are available. Manganese ore and uranium concentrate production contributed 2% to the GDP at approximately \$4.5 billion.¹ (See table 1.)

Gabon negotiated with other members of the Organization of Petroleum Exporting Countries (OPEC) for a reduction in its annual membership fee. The 1994 devaluation of the CFA Franc effectively doubled the impact of the \$1.8 million annual subscription fee on the domestic economy. However, OPEC declined the request to alter its flat fee structure and Gabon was considering leaving the organization it had joined in 1975.

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'Énergie et du Pétrole 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 administered environmental oversight.

The Government instituted a \$0.11 per barrel freight tax on crude oil exports in June 1995. The tax was subsequently withdrawn in July.² Petroleum accounted for about 90% of Gabon's exports. The United States imported approximately 70% of Gabon's petroleum exports, satisfying approximately 3% of the U.S. import demand. France and Japan each received approximately 10% of Gabon's petroleum. Gabon's other major export commodities included manganese, uranium, and wood.

Almost one-half of Gabon's imports were machinery, equipment, and manufactured goods destined to support the petroleum and mining sectors, with France providing a significant proportion of imports.

A number of private companies were active in Gabon's mineral industry. Many were subsidiaries of French companies, although several U.S. firms were active in the petroleum exploration. The Government had a share in nearly every mineral venture, ranging from 15% to more than 90%. (See table 2.) However, the Government was seeking to diversify its partnership mix by soliciting new international participants for the Gabonese mineral industry.

Diamond was recovered by artisanal miners at Makongonia. All gold production was by artisanal miners. Artisanal miners were working placer deposits at Etéké, Ndanguï, Ndjolé, Kolissen, Makokou, and Mitzic. The Canadian company, Golden Star Resources Ltd. (GSR), announced that it was evaluating its option on the gold project at Etéké of Lafayette Mining Gabon S.A. Lafayette was owned by Lafayette Mining Gabon Ltd. of Barbados, which was a joint venture of GSR's Pan African Resources Corp. subsidiary and Lafayette Holdings Corp. of The Bahamas. Mimor and Géoscan also held permits in the Etéké Goldfield.

Randgold Resources, a subsidiary of Randgold & Exploration Co. Ltd. of South Africa, had acquired exploration permits at Ndjole, Nkan, and Pintade. Randgold Resources' local subsidiary, Ndjole Exploration S.A.R.L. was prospecting on the permits. Cogemat held the permit for the Ndanguï-Longo prospect in eastern Gabon.

Cie. Minière de l'Ogooué S.A. (Comilog) mined ore from a number of open pit operations on the Bangombe Plateau at Moanda. The company produced high-grade manganese ore (48% to 52% manganese) and battery-grade ore (82% to 85% manganese oxide) to export to the metallurgical and specialty chemicals markets. All marketable product was shipped to the Port of Owendo on the Trans-Gabon Railway using Comilog locomotives and rolling stock. The Société du Ferromanganèse de Paris-Outre in France imported a significant proportion of Comilog's output. During September 1995, the Eramet Group of France acquired 47% equity interest in Comilog including the 17.6% that Cie. Française de Mines formerly held.

Gabon's marketed less than 200 million cubic meters of its produced natural gas. About 22% total gas production was reinjected for reservoir pressure maintenance and 75% was flared.

Gabon's largest petroleum field was the Rabi-Kounga onshore field of Shell-Gabon (operator, 42.5% interest), Elf

Gabon/Société National Elf Aquitaine (SNEA) Group (47.5% interest) and Amerada Hess Production Gabon Inc. (10% interest). The Rabi-Kounga Field produced approximately 55% of the country's total output in 1995. Elf Gabon operated 22 offshore and 12 onshore fields and produced about 36% of the nation's oil. Perenco plc merged with and acquired Kelt Energie France's operations during 1995. Perenco's fields accounted for approximately 6% of Gabon's petroleum production.

In 1995, 7 exploratory wells and 27 development wells were drilled in Gabon. Companies holding interest in exploration permits including local subsidiaries of the U.S. companies: Amerada Hess Corp., Amoco Corp., Arco International Oil & Gas Co., Marathon Oil Co., Occidental Petroleum Corp., Phillips Petroleum Co., Santa Fe Energy Resources Inc., and VAALCO Energy, Inc. Other companies with exploration permits included Alcorn Petroleum and Minerals Corp. of the Philippines, Elf Gabon, Engen of South Africa, Petrofields Exploration & Development Co. of the Philippines, Repsol Petróleo S.A. of Spain, Shell Gabon, SNEA of France, Total Gabon, and West African Exploration.

Gabon had an estimated 45 million metric tons (Mt) of recoverable manganese reserves, according to Comilog. The Government estimated uranium reserves at 28,000 metric tons as uranium metal in ores averaging 0.3% uranium. According to the U.S. Department of Energy's Energy Information Administration, Gabon had 1.34 billion barrels of proven oil reserves and 14 billion cubic meters of natural gas.

Iron ore resources at Belinga were 566 Mt grading 64.24% iron, 2.18% silica, and 0.122% phosphorus, according to the Government. Of this amount, approximately 345 Mt was low phosphorus (less than 0.07% phosphorus) material. A significant drawback in the development of the Belinga iron deposit was the need to extend the railroad approximately 230 kilometers (km) from Booué to Belinga. The Ministry also indicated there were deposits of barite at Dourekiki, gabbro at Mayuba, kaolin at several sites, marble at Dousséoussou, and talc at Ndendé. A prefeasibility study of the phosphate and columbium resources of Mabounié carbonatite was done by the Société Minière du Moyen Ogooué during 1995. The company estimated a resource of

140 Mt of ore grading 24% P₂O₅.

The 649-km-long Trans-Gabon Railway, operated by the Government's Office du Chemin de Fer Transgabonaise, was the most important infrastructure unit in Gabon, linking Franceville in the southeast with the Atlantic coast Port of Owendo. The railroad was used for the shipment of manganese and uranium, as well as cement clinker, equipment, fuel, and wood logs. The rail line was expected to facilitate further mineral development and diversification of the industry. Gabon's petroleum pipeline infrastructure was particularly well developed, terminating at loading terminals at Cap Lopez and Gamba.

Further development and expansion of the mineral sector remains dependent upon world markets for crude petroleum, manganese, and uranium because most of the country's output is exported. Oil is expected to continue to account for a significant proportion of the economy and any future fluctuations in the petroleum sector would have a corresponding effect on the Nation's economy. Diversification of the mineral industry could start with the establishment of a small industrial gold mining sector.

¹Where necessary, values have been converted from Communauté Financière Africaine francs (CFAF) to U.S. dollars at the average rate of CFAF499=US\$1.00 for 1995, CFAF555=US\$1.00 for 1994, and CFAF283=US\$1.00 for 1993.

²Petroleum Economist. News in Brief. V. 62, No. 7, July 1995, p. 35.

Major Source of Information

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Major Publication

Adloff, L.R., Information for the Mining Investor in Gabon. Ministère des Mines, de l'Énergie et du Pétrole, Libreville, 1996, 184 p.

TABLE 1
GABON: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/	1991	1992	1993	1994	1995 e/
Cement:					
Clinker	117,000 r/	116,000 r/	132,398 r/	125,609 r/	140,845 3/
Cement, hydraulic 4/	125,677 r/	138,381 r/	141,283 r/	147,798 r/	153,953 3/
Diamond, gem and industrial e/	500	500	500	500	500
Gas, natural, gross 5/	150 r/ e/	155 r/	153 r/	129 r/	150
Gold, mine output, Au content 6/	50	70	120	72	75
Manganese:					
Metallurgical-grade ore, gross weight (50% to 53% Mn)	1,565,348	1,455,134	1,224,882 r/ e/	1,365,625 r/ e/	1,834,425
Pellets, battery- and chemical-grade, gross weight (82% to 85% MnO ₂)	55,040	101,280	65,000 r/ e/	70,000 r/ e/	100,000
Total	1,620,388 r/	1,556,414	1,289,882 r/	1,435,625 r/	1,934,425 3/
Petroleum: 7/					
Crude	109,500	107,077 r/	113,834 r/	125,748 r/	133,287 3/
Refinery products	5,434	3,870 r/	4,056 r/	3,711 r/	3,943 3/
Uranium oxide (U ₃ O ₈), content of concentrate	700	539 r/	592 r/	589 r/	640 3/

e/ Estimated. r/ Revised.

1/ Table includes data available through May 22, 1997.

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/ Reported.

4/ Includes cement produced from imported clinker.

5/ Does not include gas flared or reinjected into reservoirs for repressuring.

6/ Gold production figures do not include production smuggled out of the country. Smuggled production in 1994 and 1995 was estimated to exceed 400 kilograms per year.

7/ Reported in metric tons. Barrels calculated at the rate of 7.305 barrels per ton.

TABLE 2
GABON: STRUCTURE OF THE MINERAL INDUSTRY FOR 1995

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement:			
Cement	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	Compagnie Minière de l'Ogooué (Eramet, 47%; Government, 28%; Gengabon, 15.1%)	Open pit mine at Moanda	2,700
Petroleum, crude	Elf Gabon (Société Nationale ELF Aquitaine of France, 75% Government, 25%)	Anguille, Barbier, N. Baudroie, Brema, Gonelle, Grondin Marine, Mandaros, and Torpille offshore fields	30000
Do.	do. do.	Avocette, Coucal, and Hylia fields	25000
Do.	Shell Gabon (Royal Dutch-Shell, 75%; Government, 15%; Amerada Hess 10%)	Rabi Kounga Field, 100 kilometers north of Gamba	75,000
Do.	do. do.	Gamba-Ivinga Field, onshore at Gamba	4000
Do.	Perenco plc, 45% interest in block	Oguendjo offshore field, 85 kilometers southeast of Port Gentil	3,000
	do. Perenco plc, 75% and Government 25% joint venture	Lucina Marine offshore field, 15 kilometers south of Mayumba	2,000
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	tons Compagnie des Mines d'Uranium de Franceville (Compagnie Francais de Mokta, 39.2%; COGEMA, 18.8%; Government, 24.7%; Minatom, 13%; and others, 4.3%)	Two mines near Mounana	1,770