

THE MINERAL INDUSTRY OF

GABON

By Philip M. Mobbs¹

Gabon is rich in natural resources and the development of its mineral and petroleum resources has been a key element in the Nation's economic advancement. In 1994, Gabon's mineral economy continued to be dominated by the oil sector. Crude oil production and refined petroleum products output had recently accounted for about 65% of the gross domestic product (GDP) and 90% of total exports. Manganese ore and uranium concentrate production also made a significant contribution to the Nation's economy; however, production levels for both minerals remained below capacity.

Gabon and other African members of the Communauté Financière Africaine franc (CFAF) zone devalued their currency, from CFAF 50 to 1 French franc (FFr) to CFAF 100 to 1 FFr on January 12, 1994.

Government Policies and Programs

The Government had recently liberalized its mineral concession contract terms, shifting from an emphasis on taxation to spending commitments by private companies. Crude petroleum production-sharing agreements had provided for Government participation as a joint-venture partner, in addition to a royalty of 20%.

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 was further regulated in 1974 by Law 14/74 and reregulated in 1982 by Law 14/82.

Environmental Issues

The Gabonese environmental law, Law 16/93 Relating to the Improvement and Protection of the Environment, dated August 26, 1993, contained a section that addresses mining and petroleum activities. The Direction Générale de l'Environnement administered environmental oversight.

Petroleum companies' environmental actions, such as flying in equipment instead of constructing haul roads through the coastal forests, have frustrated increasing local expectations that international mineral companies should provide public infrastructure. The 1994 startup of the Elf Gabon's Avocette Field was disrupted by local residents who envisioned that new roads and public (non-employee) social

service facilities would be provided by the oil companies.

Reducing natural gas burn-off was addressed as part of a proposed oil legislation package. Utilization of produced gas, a significant proportion of which is presently being flared, could increase the Nation's energy efficiency and somewhat relieve related environmental concerns.

Production

Continued weak demand in domestic and foreign markets for primary raw materials resulted in a minimal production increase in manganese and uranium output since 1993. Production was not expected to return to 1980 volumes in the near future. (*See table 1.*)

Trade

France was Gabon's principal trading partner. Petroleum accounted for about 90% of Gabon's exports. Other major export commodities included manganese, uranium, and wood. The United States primarily imported petroleum from Gabon.

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.

Structure of the Mineral Industry

A number of private companies were active in Gabon's mineral industry. Most of them 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.*) The structure of the mineral industry continued to be shaped by the Government's push to diversify its partnership mix by soliciting new international participants for the Gabonese mineral industry.

Commodity Review

Metals

Gold.—All production of gold was by artisanal miners, with the Etéké goldfield being the largest. The Canadian company, Golden Star Resources, announced that its Pan

African Resources Corp. subsidiary had entered into an option and a 3-year exploration agreement for a 960-square-kilometer gold project at Etéké. Aurtec Mining Development Inc., also Canadian, continued work on the Bakoudou project, approximately 30 kilometers (km) south of Moanda.

Manganese.—Comilog's production was significantly below capacity owing to lack of demand by the steel industry. Ore was drawn from a number of open pit operations on the Mangombe Plateau at Moanda and blended to customer specifications. The company produced high-grade manganese ore (48% to 52% manganese) for the metallurgical and specialty chemicals markets. Comilog also produced battery-grade ore (82% to 85% manganese oxide) for the export market. All marketable product was shipped to the Port of Owendo via the Trans-Gabon Railroad. The Société du Ferromanganèse de Paris-Outre in France imported a significant proportion of Comilog's output.

Uranium.—Production by the Compagnie des Mines d'Uranium de Franceville (COMUF) was from the country's only underground operation. Two mines were active, the Oklo and Okelobondo Mines. Owing to its higher-grade ores, emphasis was placed on the Okelobondo Mine, which is actually an extension of the Oklo Mine at depth. Mechanization of operations continued at Okelobondo with the aim of improving its productivity. All reserves currently known would be mined by underground methods, excluding the Mberse deposit.

COMUF continued to restructure operations and reduce costs, allowing the company to continue production at a reduced volume despite the significant depression of world market prices by the post-Cold War uranium surplus. More than 60% of COMUF's employees had been laid off in the last 5 years. Also, traditional, ancillary company-sponsored employee perquisites, such as community education, family housing, and sports teams, were divested by COMUF.

The European Community processed a \$16.2 million Sysmin loan to rehabilitate the mining industry in Gabon.² COMUF proposed to drill four ventilation shafts and fan drifts to improve the radiation protection system at the Oklo and Okelobondo Mines. COMUF also suggested a portion of the loan be used to fund a new enterprise that would quarry sandstone at Mounana. The new company could employ some of COMUF's laid-off miners.

Mineral Fuels

Gabon's marketed gas production was minimal and less than 100 million cubic meters, or approximately 3% of overall gas production was sold. About 22% was reinjected for reservoir pressure maintenance and the remainder was flared.

Gabon's largest petroleum field was Shell-Gabon's Rabi-Kounga onshore field. Elf-Gabon operated 22 offshore and 12 onshore fields, including the Avocette Field, which came on-stream during the year.

Kelt Energie France drilled two new wells and completed a four-well workover program at Inguessi, which increased production by almost one-third. Kelt had acquired the Inguessi Field from Amoco in 1993. During 1994, Kelt obtained Elf's and Shell's interests in the Lucina and Lucina Ouest Fields on the offshore Malembe permit and British Gas Corporation's (BGC) Obando, Octopus, and Pelican Fields.

Occidental Petroleum (Oxy) obtained an exploration licenses for three offshore concessions and acquired BGC's 50% interest on the Chaillu permit.

Reserves

Gabon had an estimated 45 million metric tons (Mmt) of recoverable manganese reserves, according to Comilog. The Government estimated uranium reserves at 28,000 mt as uranium metal in ores averaging 0.3% uranium.

Iron ore resources at Belinga were 566 Mmt grading 64.24% iron, 2.18% silica, and 0.122% phosphorus, according to the Government. Of this amount, approximately 345 Mmt was low phosphorus (less than 0.07% phosphorus) material.

Infrastructure

The 669-km-long Trans-Gabon Railroad, operated by the Government's Office du Chemin de Fer Transgabonaise (OCTRA), was the most important infrastructure unit in Gabon, linking Franceville in the southeast with the Atlantic coast Port of Owendo. It was used for the shipment of both manganese and uranium, as well as wood products, fuel, and equipment, and was expected to facilitate further mineral development, such as diamond, iron ore, and gold. Gabon's petroleum pipeline infrastructure was particularly well developed, terminating at loading terminals at Cap Lopez and Gamba.

Restructuring railroad operations was the objective of a \$5 million loan from the World Bank. A proposed 60% increase in OCTRA's manganese transportation rates was suspended in July. Comilog is expected to be adversely impacted by increased transportation costs.

Outlook

Further development and expansion of the mineral sector remains dependent upon world markets for crude petroleum, manganese, and uranium since 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 impact on the Nation's economy. The establishment of a formal gold mining sector is underway.

Gabon's existing infrastructure, particularly the Trans-Gabon Railroad and the Port of Owendo, should encourage further diversification of the economy and growth.

¹Text prepared June 1995.

²Where necessary, values have been converted from Communauté Financière Africaine francs (CFAF) to U.S. dollars at the average rate of CFAF555.2=US\$1.00 for 1994 and CFAF283.16=US\$1.00 for 1993.

Direction Générale de l'Environnement
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Libreville, Gabon

Major Sources of Information

Ministere des Mines, Energie, et Ressources Hydrauliques
Libreville, Gabon
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TABLE 1
GABON: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Commodity 3/	1990	1991	1992	1993	1994 e/
Cement:					
Clinker	113,000	126,000	138,000	141,000	147,000 4/
Cement, hydraulic 5/	116,000	117,000	116,000	132,000	126,000
Diamond, gem and industrial e/	500	500	500	500	500
Gas, natural, gross: 6/	2,490	2,500	2,610	2,800	3,000
Gold, mine output, Au content 7/	80	50	70	120	72 4/
Manganese:					
Metallurgical-grade ore, gross weight (50% to 53% Mn)	2,360,000	1,570,000	1,460,000	1,400,000	1,440,000
Pellets, battery- and chemical-grade, gross weight (82% to 85% MnO ₂)	62,600	55,000	101,000	100,000	100,000
Total	2,420,000	1,630,000	1,560,000	1,500,000	1,540,000
Petroleum:					
Crude	100,000	110,000	115,000	110,000	120,000
Refinery products	5,670	5,430	5,540	6,200 r/	6,200
Uranium oxide (U ₃ O ₈), content of concentrate	828	700	700	600	650 4/

e/ Estimated.

1/ Previously published and 1994 data are rounded by the U.S. Bureau of Mines to three significant digits. Totals are also rounded and may not add .

2/ Table includes data available through June 12, 1994.

3/ 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.

4/ Reported figure.

5/ Includes cement produced from imported clinker.

6/ Reinjecting for repressuring.

7/ Gold production figures do not include production smuggled out of the country. Smuggled production in 1994 was estimated to exceed 400 kilograms.

TABLE 2
GABON: STRUCTURE OF THE MINERAL INDUSTRY FOR 1994

(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, 90.54%; ELF-Gabon, 9.44%)	Clinker-grinding plant at Owendo	270
Do.		do.	Clinker-grinding plant at Franceville	130
Clinker		do.	Clinker plant at N'Tooum, 40 kilometers east of Libreville	350
Manganese		Compagnie Minière de l'Ogooué (Government, 29.23%; Compagnie Française de Mines, 17.60%; Gengabon, 15.1%)	Open pit mine at Moanda	2,700
Petroleum, crude	thousand 42-gallon barrels	ELF-Gabon (Société Nationale ELF Aquitaine of France, 75% Government, 25%)	Anguille, Barbier, N. Baudroie, Breme, Gonelle, Grondin Marine, Mandaros, and Torpille offshore fields	24,000
Do.	do.	do.	Coucal onshore field	6,000
Do.	do.	Shell Gabon (Royal Dutch-Shell, 75%; Government, 15%; Amerada Hess 10%)	Rabi Kounga Field, 100 kilometers north of Gamba	55,000
Do.	do.	do.	Gamba-Ivinga Field, onshore at Gamba	4,000
Do.	do.	Kelt Energie France, 45%	Oguendjo offshore field, 85 kilometers southeast of Port Gentil	1,000
	do.	Kelt Energie France, 75% and Government 25%	Lucina Marine offshore field, 15 kilometers south of Mayumba	4,000
Do.	do.	Kelt Energie France, 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.	Compagnie Gabon-ELF de Raffinage (ELF-Gabon, 70%, Government, 30%)	Refinery at Port Gentil	8,760
Uranium, oxide	tons	Compagnie des Mines d'Uranium de Franceville (Compagnie Francais de Mokta , 38.98%; COGEMA, 29.43%; Government, 24.75%; others, 6.84%)	Two mines near Mounana	1,770