



2006 Minerals Yearbook

GABON

THE MINERAL INDUSTRY OF GABON

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Gabon's mineral industry was dominated by crude petroleum and manganese production. Other nonfuel mineral commodities produced in the country included cement, diamond, and gold. Undeveloped resources included iron ore, niobium (columbium), and phosphate rock. The Ministère des Mines, de l'Énergie, du Pétrole et des Ressources Hydrauliques is responsible for the administration of the mineral sector. Gabon is a participant in the Extractive Industries Transparency Initiative.

Minerals in the National Economy

Historically, crude petroleum has accounted for more than 40% of the country's gross domestic product and about 75% of its export earnings. Crude petroleum output, however, has been on a declining trend since 1997 (Finance & Development, 2006; Extractive Industries Transparency Initiative, 2007). In 2006, Gabon ranked third among the world's leading producers of manganese (Corathers, 2007).

Production

Data on mineral production are provided in table 1.

Structure of the Mineral Industry

Table 2 is a list of major mineral industry facilities.

Commodity Review

Metals

Gold.—Canadian-based SearchGold Resources Inc. (SGR) continued to explore for gold at the Bakoudou-Magnima gold project. In 2005, the company had signed a \$4.2 million joint-venture agreement with Managem S.A. (the mining division of Morocco-based Groupe Ona) to explore and develop the prospect. Search Gold reported estimated measured and indicated oxide resources at Bakoudou to be 2.1 million metric tons (Mt) at a grade of 2.45 grams per metric ton (g/t) gold, and 570,000 metric tons (t) of measured and indicated sulfide ore at a grade of 6.11 g/t gold. As of July 2006, SearchGold had conducted ground geophysics and surface-soil geochemistry analyses at the Bakoudou property and a semiregional exploration stream sampling program at the Magnima property. In December 2006, the company announced that it would begin a drilling campaign for the Bakoudou-Magnima gold project in 2007 (SearchGold Resources Inc., 2006a, b).

Iron Ore.—A Chinese consortium headed by Government-owned China National Machinery & Equipment Import & Export Corp. was granted the sole rights to develop the 500-Mt Belinga iron ore deposit at a cost of \$3 billion. The project, which would be located about 500 kilometers (km) east of Libreville, would include the construction of a port, a railway,

and two hydroelectric power stations. Work was expected to begin in 2007 and to be completed in 3 years. Output was to be sold to steel mills in China. Companhia Vale do Rio Doce of Brazil had been among the initial bidders on the project (China Economic Net, 2006; Mining Journal, 2006; TerraDaily, 2006).

Manganese.—Production of manganese from the Moanda Mine reached 3 Mt in 2006 compared with 2.86 Mt in 2005. The increase in production was attributed to additional production from the sinter plant, a new supervision system for the plant process, and an increase in throughput at the washing plant. Compagnie Minière de l'Ogooué S.A. (Comilog), a subsidiary of Eramet Manganese, which was one of the three main divisions of France-based Eramet S.A., operated the mine.

Comilog planned to increase production capacity at Moanda to 3.3 million metric tons per year (Mt/yr) in 2007 and to 3.5 Mt/yr by 2008. Ore grades at Moanda ranged from 44% to more than 50% Mn with the lower grade manganese containing impurities of phosphorus and silica. Manganese fines (43% Mn) produced at the main washing plant were beneficiated and upgraded to 52% Mn and then to 58.5% Mn by sintering. The 52% product, known as HM-grade manganese, was mixed with silica sand and coke and sold in its own right. About 46,000 t of HM-grade manganese was sold in 2006 compared with 26,000 t in 2005 and 83,000 t in 2003. About one-third of production was destined for ferroalloy plants owned by Eramet in China, France, Norway, and the United States; the remaining two-thirds of production was exported to other customers in China, India, and Ukraine, also for ferroalloy production. Ore was transported through the single-track Transgabonais railway, which was run by Eramet. The railway also transported timber, general cargo, and passengers, which limited possible tonnage from the Moanda Mine to 3.5 Mt/yr. All exported manganese ore was shipped via the Owendo Port near Libreville. Transit time from the Moanda Mine to Owendo fluctuated between 15 to 20 hours.

Comilog managed the Owendo Port and owned a 36.35% interest in the facility; the Government held the remaining interest through the Port Authority. Ships at Owendo Port were generally in the 40,000-t bulk-capacity range, but could have a capacity of more than 50,000 t. In 2006, 85 vessels passed through the port carrying a total of about 2.9 Mt of manganese; the Chinese Ports of Xingang and Zhanjiang were the main destinations followed by Europe and the United States (Eramet S.A., 2007, p. 12; Mining Magazine, 2007).

In May, Renova Group of Russia was granted a license to explore for gold, manganese, platinum-group metals, and uranium in the southeastern Provinces of Haut Ogooue, Ngounie, and Ogooue-Lolo. Renova Group was the parent company of Russian aluminum producer OAO SUAL Holding (Renova Group, 2006).

Industrial Minerals

Diamond.—SouthernEra Diamonds Inc. of Canada decided to withdraw its diamond operations from Gabon following negative

bulk sampling results from its 2006 exploration program. The company, which held 100% interest in the Kango and the Sud properties, a 95% interest in the M'Bigou property, and a 60% interest in the Makongonio property, had reportedly discovered more than 41 new kimberlites and related rocks in the country in at least three new kimberlite provinces (SouthernEra Diamonds Inc., 2006, p. 29-32; 2007, p. 6).

Motapa completed a field program for its 100% owned Lebiri project in early 2006, which consisted of heavy mineral and geochemical sampling. Preliminary results suggested probable kimberlitic chromites based on several stream sediment samples and loam samples taken from three sites; two of the sites reportedly yielded geochemical signatures indicative of a likely kimberlitic source. The company planned to conduct detailed sampling, a helicopter-borne magnetic survey, and a radiometric survey in 2007 (Motapa Diamonds Inc., 2006b; 2007, p. 3, 6-7).

Mineral Fuels and Related Materials

Petroleum.—According to BP p.l.c. world energy statistics, Gabon ranked seventh among sub-Saharan Africa's leading petroleum producers in 2006. The country's petroleum reserves were estimated to be 2 billion barrels and to account for about 2% of sub-Saharan Africa's total inferred reserve base (reported as proven petroleum reserves). Petroleum production in Gabon, however, has been on a declining trend since 1997 mostly owing to maturing oilfields. Total petroleum produced in 2006 was about 232,000 barrels per day (bbl/d) compared with about 365,000 bbl/d in 1996 (BP p.l.c., 2007).

At least nine petroleum companies were engaged in petroleum exploration and/or production in the country, including Canadian companies Addax Petroleum Corp. and Canadian Natural Resources Ltd., Indian Oil Corp. of India, Maurel & Prom and Total S.A. of France, Energem Resources Inc. of South Africa, Philippines-based PetroEnergy Resources Corp., London-based Tullow Oil plc, and VAALCO Energy Inc. of the United States.

Uranium.—Motapa held 100% interest in an exclusive exploration license to explore for uranium in east-central Gabon in an area located about 100 km northwest of the Mounana uranium district; uranium deposits in this area had reportedly produced more than 35,000 t of uranium metal between 1961 and 1997. In March 2006, Motapa signed a letter of agreement with Cameco Corporation and Pitchstone Exploration Ltd. under which the two companies could earn up to a 56% interest in the project by funding forward work at Mounana (Motapa Diamonds Inc., 2006a).

Outlook

At the current extraction rate of about 85 million barrels per year, Gabon's total inferred petroleum reserve base of about 2 billion barrels is likely to be depleted by 2031. Commercially successful new discoveries by petroleum companies operating

in the country, however, could reverse this trend. Diminishing oil reserves and decreases in crude petroleum output may force the Government to shift its priorities from the fuel sector to the nonfuel mineral sector. New developments, such as ongoing expansions at the Moanda manganese mine and the development of the Belinga iron ore deposit by Chinese interests, may help counterbalance some of the projected loss in revenue from the petroleum sector. Gabon's weak infrastructure is likely to be revamped in the next 5 to 6 years if proposed infrastructure developments, which would include the construction of roads, railroads, a deepwater port and hydroelectric plants, come to fruition as part of the planned investments in the mineral industry.

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TABLE 1
GABON: PRODUCTION OF MINERAL COMMODITIES¹

Commodity ²		2002	2003	2004 ^c	2005 ^c	2006 ^c
Cement, hydraulic ³	metric tons	257,000 ⁴	260,000 ^c	260,000	260,000	260,000
Clinker ^c	do.	350,000	350,000	350,000	350,000	350,000
Diamond, gem and industrial ^c	carats	500	500	500	500	500
Gold, mine output, Au content ^{c,5}	kilograms	70	70	300	300	300
Manganese:						
Metallurgical-grade ore, gross weight (50% to 53% Mn)	thousand metric tons	1,816	1,950 ^c	2,400	2,800	2,900
Pellets, battery- and chemical-grade, gross weight (82% to 85% MnO ₂)	do.	40	50 ^c	60	59	100
Total	do.	1,856	2,000 ^c	2,460 ⁴	2,859 ⁴	3,000 ⁴
Natural gas, gross ^c	million cubic meters	80	79	80	80	80
Petroleum:						
Crude	thousand 42-gallon barrels	91,980	87,965	87,235 ⁴	85,469 ⁴	84,738 ⁴
Refinery products	do.	6,500	6,500 ^c	6,300	6,000	6,000

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

¹Table includes data available through November 2, 2007.

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.

³Includes cement produced from imported clinker.

⁴Reported figure.

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

TABLE 2
GABON: STRUCTURE OF THE MINERAL INDUSTRY IN 2006

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement		Ciments du Gabon (Heidelberg Cement Group, through Scancem International ANS)	Cement-grinding plant at Owendo, south of Libreville	240,000
Do.		do.	Cement-grinding plant at Franceville, southeastern Gabon	170,000
Clinker		do.	Clinker plant at N'Toum, 40 kilometers east of Libreville	300,000
Gold	kilograms	Artisanal miners	Eteke region	300 to 700
Manganese		Compagnie Minière de l'Ogooué S.A. (Comilog) (Eramet S.A., 57%; Government, 27%; other, 16%)	Open pit mine at Moanda	3,000,000
Petroleum:				
Crude	thousand 42-gallon barrels	Total Gabon S.A., 58%; Government, 25%; other, 17%	Anguille, Avocette, Baudroie, Gonelle, Torpille, and Rabi Kounga oilfields	NA
Do.	do.	PanAfrican Energy Corporation Ltd., 33.90%; Vaalco Gabon Inc., 30.35%; Sasol Petroleum, 30%; Sojitz Corp., 3.225%; Petro Energy Resources Corp., 2.525%	Etame Marine Block, offshore: Avouma oilfield (under development)	2,400
Do.	do.	do.	Ebouri oilfield (exploration stage)	--
Do.	do.	do.	Etame oilfield	6,570
Do.	do.	Marathon Oil Corp., 56%; Tullow Oil plc, 25%; Devon Energy Corp. (% ownership unknown)	Tchatamba Marin oilfield	NA
Do.	do.	do.	Tchatamba West oilfield	NA
Do.	do.	do.	Tchatamba South oilfield	NA
Do.	do.	PanOcean Energy Corp., operator, 92.5%	Obangue oilfield	1,800
Do.	do.	do.	Tsiengui oilfield	1,800
Do.	do.	PanOcean Energy Corp., operator, 90%	Remboue oilfield	NA
Do.	do.	PanOcean Energy Corp., 31.4%	Etame Marin oilfield	2,300
Refinery products	do.	Total Gabon S.A., 58%; Government, 25%; other, 17%	Port Gentil	8,800

NA Not available. -- Zero.