



2007 Minerals Yearbook

GABON [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF GABON

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Gabon's mineral industry was dominated by the production of crude petroleum and manganese. Nonfuel mineral commodities produced in the country included cement, diamond, and gold. Other identified mineral resources included iron ore, niobium (columbium), and phosphate rock. The Ministère des Mines, de l'Énergie, du Pétrole et des Ressources Hydrauliques was responsible for the administration of the mineral sector. Gabon was a participant in the Extractive Industries Transparency Initiative (EITI), which is a voluntary global compact for improving transparency in countries that are dependent on extractive industries.

Minerals in the National Economy

In 2007, crude petroleum accounted for 49.4% of the country's gross domestic product compared with 52% in 2006. Gabon's current inferred petroleum reserve base was estimated to be 2 billion barrels. Crude petroleum output, however, has been on a declining trend since 1997 mostly owing to maturing oilfields. Petroleum exploration was ongoing throughout the year. In 2007, Gabon ranked fourth among the world's leading producers of manganese (U.S. Energy Information Administration, 2007; Banque des États de l'Afrique Centrale, 2008; Corathers, 2008; Initiative pour la Transparence des Industries Extractives, 2008, p. 14).

Production

In 2007, cement production decreased by about 12% to 228,601 metric tons (t) from an estimated 260,000 t in 2006 owing to the temporary closing of the Ntoun cement plant, which was undergoing maintenance (Banque des États de l'Afrique Centrale, 2008). Manganese production increased by 10% mostly owing to capacity expansions at the Moanda Mine. Petroleum production decreased slightly to 84,008 thousand barrels per year from 84,738 thousand barrels per year (BP p.l.c., 2008). Data on mineral production are provided in table 1.

Structure of the Mineral Industry

In 2007, China National Machinery and Equipment Import & Export Corp. (CMEC) was in the process of developing the Belinga iron ore deposit; Lonmin plc of the United Kingdom explored for gold and platinum; Motapa Diamonds Inc. of Canada explored for gold, manganese, and uranium; and SearchGold Resources Inc. of Canada explored for gold. At least eight 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, Philippines-based PetroEnergy Resources Corp., London-based Tullow Oil plc, and VAALCO Energy, Inc. of the United States. Table 2 is a list of major mineral industry facilities.

Commodity Review

Metals

Gold.—SearchGold continued with its exploration program at the Bakoudou-Magnima gold project and announced that it was in the final stages of completing a resource calculation for certain areas within the project. In September 2007, the company announced that it had entered into an option agreement with Luxembourg-based Arc Mining and Investment S.A., a wholly owned subsidiary of Zambezi Gold plc of the United Kingdom, to acquire a 50% interest in two other gold properties—Booue and Mimongo—which are located in north-central Gabon and south-central Gabon, respectively. SearchGold was to invest \$1.5 million in the project during a period of 3 years (SearchGold Resources Inc., 2007a, b). Lonmin completed detailed soil sampling of a target area within its Koumba gold concession and identified three priority targets for drilling in 2008 (Lonmin plc, 2007, p. 33).

Iron Ore.—In 2006, a Chinese consortium headed by CMEC was granted the sole rights to develop the 500-million-metric-ton (Mt) Belinga iron ore deposit, which is located about 500 kilometer (km) east of Libreville in the Ogooue-Ivindo Province. CMEC planned to construct either a new 560-km-long railway to transport iron ore from the proposed Belinga iron ore mine to a deepwater port in Santa Clara, north of Libreville, or a 200-km-long branch line off the existing Transgabonais Railway to transport the ore. The proposed project, which was expected to be completed between 2011 and 2012 at a cost of \$3 billion, also included the construction of two hydroelectric powerplants. CMEC would hold an 85% interest in Compagnie Minière de Bélinga (the company created to undertake the project) and the Government of Gabon would hold the remaining 15% interest. Output was to be sold to steel mills in China. In October 2007, environmental groups in Gabon demanded that the Government reveal the details of the project citing the terms of the contract signed with CMEC may not contain sufficient safeguards to protect against environmental damage to the Belinga Mountains. The Belinga Mountains are located within the Congo Basin region, which hosts one of the world's largest expanses of closed canopy tropical forests; the forested areas are considered to be second in area only to Brazil's Amazon rainforest (Chinamining.org, 2007; Lawson, 2007; Mining Magazine, 2007; Reed and Miranda, 2007, p. 2-3, 9).

Manganese.—Manganese deposits occur in five main areas in Gabon: Bafoula, Bangombe, Massango, Okouma, and Yeye. Manganese ore in these deposits consists of platy formations of almost pure manganese oxides, interspersed with clayey and sandy material. The oxides themselves can contain copper, iron, nickel, phosphorus, and silica within certain horizons. Compagnie Minière de l'Ogooué S.A. (Comilog), which was a subsidiary of Eramet International of France, mined the deposits at Bangombe and operated the Moanda Mine.

The Bangombe area is a wide plateau with mineralized zones occurring on the outer sides of the plateau and in material washed away in the river valleys. In early 2007, Comilog contracted a Boart Longyear rig to drill the edges of the plateau and other unexplored areas. Regional exploration was also being conducted at the Okouma plateau where a drilling program was set for 2008 to 2011 as part of Comilog's plans to expand existing reserves (Mining Magazine, 2007).

In 2007, the Moanda Mine produced 3.3 Mt of manganese ore compared with 3.0 Mt produced in 2006 owing mostly to the processing of material previously regarded as waste, the processing of a greater portion of fines, and increasing throughput at the washing plant. The company planned to produce 3.5 Mt of manganese by 2008. About one-third of production from the Moanda Mine 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 million metric tons per year (Mt/yr), although the actual capacity of the mine was higher. Comilog planned to increase the railway's line capacity by possibly adding a partial or full twin track to the current line and by updating the railcar fleet. All exported manganese ore was shipped via the Owendo Port near Libreville. Compagnie Industrielle et Commerciale des Mines de Huazhou was to develop a \$35 million manganese mine near Ndjole. The mine is expected to produce lower grade ore than that of the Moanda Mine and initially produce about 200,000 metric tons per year (t/yr) with a further increase in production of 500,000 t/yr (Mining Magazine, 2007; Eramet S.A., 2008, p. 28).

Platinum-Group Metals.—Lonmin explored for platinum-group metals at the Monts de Cristal concession. In 2006, the company had conducted soil and stream sampling to identify prospective areas and, in 2007, conducted stratigraphic drilling to obtain additional information on the structure and geochemistry of an intrusion within the concession (Lonmin plc, 2007, p. 33).

Industrial Minerals

Diamond.—In 2007, Motapa relinquished the two diamond exploration licenses it held for the Lebiri and Lebiyou diamond prospects in east-central and south-central Gabon because geochemical and geophysical work had suggested that the kimberlite sources within the prospect areas had a very low economic potential (Motapa Diamonds Inc., 2008, p. 7).

Mineral Fuels and Related Materials

Petroleum.—To end the decreasing trend in petroleum production, the Government planned to hold its tenth petroleum licensing round in 2008. More than 30 deepwater offshore and onshore blocks were expected to be offered for bidding. Gabon had 122 producing oilfields. Total held exploration and production operations in Gabon through two locally

incorporated companies, Total Gabon S.A. and Pétrolières Gabon. The company held 26 exploration and production concessions and licenses in the country under either production-sharing contracts or Convention of Establishment contracts. Total's main producing oilfields were Anguille, Avocette, Baudroie Nord, Gonelle, Rabi-Kounga, and Torpille. In 2006, the company had conducted onshore and offshore exploration drilling and studied the possibility of redeveloping maturing oilfields. It also signed an exploration and production-sharing contract for a new oilfield known as Diaba, which was located in a deep offshore area 50 km off Gabon's south coast (Total S.A., 2006; U.S. Energy Information Administration, 2007).

Uranium.—The joint-venture of Canadian companies Cameco Corp., Motapa Diamonds Inc., and Pitchstone Exploration Ltd. completed a helicopter-borne magnetic and radiometric survey, as well as ground geophysical and geochemical surveys, for the Oklo-Mounana uranium project in 2007. Additional work, which would include helicopter-borne electromagnetic surveys of a portion of the concession area and geochemical sampling, was scheduled to be conducted in 2008 and 2009 (Motapa Diamonds Inc., 2007; 2008, p. 7).

Outlook

Because most of Gabon's major petroleum-producing wells are beyond peak production and no new input was scheduled to come online in the foreseeable future, the Government may be forced to shift its priorities from the fuel sector to the nonfuel minerals sector. On the nonfuel minerals sector side, the Belinga iron ore project is expected to be completed or near completion within the next 4 to 5 years. Revenues from the Belinga project and ongoing expansions at the Moanda manganese mine may help counterbalance some of the loss in revenue from the declining production in the petroleum sector. The construction of a railway, port, and dam to support the proposed Belinga Mine, in addition to the construction of access roads to and from the mine, would require hundreds, if not thousands, of skilled workers. Access to the Belinga deposit is through dirt roads or through the Ivindo River. In addition, there is no electricity and no running water in the area, and Libreville is about 500 km away. Many companies pulled out of the project because they were unwilling to bear the cost of building the associated infrastructure. The development of the Belinga deposit may also be subject to delays if environmental pressure groups within the country or abroad are not satisfied with the safeguards outlined by Chinese investors to protect the environment in the Congo Basin region.

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TABLE 1
GABON: ESTIMATED PRODUCTION OF MINERAL COMMODITIES^{1,2}

Commodity ³	2003	2004	2005	2006	2007	
Cement and clinker:						
Cement, hydraulic ⁴	metric tons	260,000	260,000	260,000	260,000	228,601 ⁵
Clinker ^e	do.	350,000	350,000	350,000	350,000	185,109 ⁵
Diamond, gem and industrial	carats	500	500	500	500	500
Gold, mine output, Au content ⁶	kilograms	70	300	300	300	300
Manganese:						
Metallurgical-grade ore, gross weight (50% to 53% Mn)	thousand metric tons	1,950	2,400	2,800	2,925 ^{r,5}	3,200
Pellets, battery- and chemical-grade, gross weight (82% to 85% MnO ₂)	do.	50	60	59	75 ^r	100
Total	do.	2,000	2,460 ⁵	2,859 ⁵	3,000 ⁵	3,300 ⁵
Natural gas, gross	million cubic meters	79	80	80	80	80
Petroleum:						
Crude	thousand 42-gallon barrels	87,965 ⁵	87,235 ⁵	85,469 ⁵	84,738 ⁵	84,008 ⁵
Refinery products	do.	6,500	6,300	6,000	6,000	6,000

^rRevised.

¹Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown.

²Table includes data available through November 2, 2008.

³In 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.

⁴Includes cement produced from imported clinker.

⁵Reported figure.

⁶Gold 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 2007

(Metric tons unless otherwise specified)

Commodity		Major operating companies and and major equity owners	Location of main facilities	Annual capacity
Cement		Ciments du Gabon (HeidelbergCement 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 International of France, 67%; Government, 25%; other, 8%)	Open pit mine at Moanda	3,300,000
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, 33.90%; Vaalco Gabon Inc., 30.35%; Sasol Petroleum International, 30%; Sojitz Corp., 3.225%; Petro Energy Resources Corp., 2.525%	Etame Marine Block, offshore: Avouma oilfield	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.	Société Gabonaise de Raffinage (Total Gabon S.A., 58%; Government, 25%; other, 17%)	Port Gentil	8,800

Do., do. Ditto. NA Not available. -- Zero.