THE MINERAL INDUSTRY OF

EQUATORIAL GUINEA

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The Republic of Equatorial Guinea consists of Rio Muni on the African mainland and a number of islands and islets, including the volcanic island of Bioko in the Gulf of Guinea, the islands of Corisco, Elobey Chico, Elobey Grande, and Mbañe in Corisco Bay, and the volcanic island of Annobón in the South Atlantic Ocean. The petroleum sector has dominated the country's economy since 1996, when production of crude oil from the Zafiro Field began. Petroleum accounted for 42% of gross domestic product (GDP) in 1996 compared with 7% in 1992 and 0% in 1990. Annual GDP growth has rocketed from 5% in 1994 to 29% in 1996 and continuing to 76% in 1997 when the GDP was estimated to be about $500 million (International Monetary Fund, 1998; Ministry of Mines and Energy, 1998).

Mineral resources were the property of the State. Decree Law No. 9/1981 regulated mining activity, except aggregate and radioactive minerals. The royalty on gold production was 3%, and other nonfuel mineral production was subject to a royalty rate up to 5%. Petroleum exploration and production in Equatorial Guinea were regulated by the Decree Law No. 7/1981, as amended. The model production sharing contract was revised and updated in 1998. There was a minimum 10% royalty on petroleum production and provisions for the Government to participate in exploration and production ventures. Income tax started at a 25% rate. Equatorial Guinea was a member of the Western African Monetary Union and African Legal Accord, Organization pour l'Harmonization du Droit des Affaires en Afrique (Ohada). Ohada was initiating a transparent commercial and corporate legal system across member African states.

Several mineral and geologic surveys of the 25,650-square-kilometer (km^2) mainland enclave, Rio Muni, have been conducted by various organizations, including the Soviet Union in the 1970's, and France's Bureau de Recherches Géologiques et Minières and Guineo Española de Minas S.A., a joint venture of the Equatorial Guinean Government and Adaro National Mining Research Co. of Spain, in the 1980's. UMC Equatorial Guinea Corp., a subsidiary of United Meridian Corp. of the United States, had an exclusive mineral development agreement for the entire Rio Muni area that expired in 1998 (UMC Equatorial Guinea Corp., 1997). United Meridian and its subsidiaries were acquired by Ocean Energy Inc. of the United States in March 1998.

In preparation for the 38,000-km^2 deepwater lease sale scheduled for early 1999, the Government had about 7,500 kilometers (km) of seismic data acquired over previously unexplored areas west of Rio Muni and south and southwest of Bioko.

The joint venture of the American firms, CMS Oil & Gas Co. (formerly CMS NOMECO Oil & Gas Co.); Samedan Oil Corp., a subsidiary of Noble Affiliates Inc.; Globex International; and Axem Resources Inc. were producing about 7,000 barrels per day (bbl/d) of natural gas condensate from the Alba Field in the Gulf of Guinea, 36 km northwest of Bioko. The consortium drilled the Alba-5 gas well in 1998. In 1997, the East Luba-1 gas well and the Riaba-1 oil well were drilled. The consortium's proven oil and natural gas condensate reserves were 63 million barrels (Mbbl). Proven natural gas reserves were posted as 26 billion cubic meters (Noble Affiliates Inc., 1998).

Samedan has operated a 2,400-bbl/d-capacity liquified petroleum gas plant on Bioko, fed by natural gas production from the Alba Field, since startup in January 1997. About 3 million cubic meters per day of residual dry gas, presently (1998) being flared, was targeted as the feedstock for a proposed 2,500-metric-ton-per-day-capacity methanol plant. During 1998, Atlantic Methanol Production Co. was formed by CMS (45% equity interest), Samedan (45% equity interest), and the Government (10% carried interest) to build and operate the methanol plant, estimated to cost $424 million.

On offshore Block B, about 60 km west of Bioko, Mobil Oil Equatorial Guinea Inc. (71.25%), a subsidiary of Mobil Corp. of the United States, continued development of the Zafiro Field for partners Ocean Energy (23.75%) and the Government (5%). The Government acquired its interest in a March 1998 renegotiation of the production-sharing agreement. Mobil discovered the Zafiro Field in water depths ranging from 150 to 250 meters (m) in March 1995; the field was producing by August 1996. By the end of 1998, production from this field was constrained by the 80,000-bbl/d capacity of the floating production, storage, and offloading (FPSO) vessel, the *Zafiro Producer*. The consortium proposed to expand the production facilities to 120,000-bbl/d capacity with the installation of a 40-slot platform on the Jade area of the field and additional modifications, including a gas lift module, on the FPSO. Recoverable reserves were estimated to be about 300 Mbbl of oil (U.S. Energy Information Administration, August 1998, Equatorial Guinea, accessed May 12, 1999, at URL http://www.eia.doe.gov/emeu/cabs/eqguinea.html).

On Block B, Mobil drilled nine successful development wells and three exploratory wells in 1997. In 1998, Mobil drilled three successful development wells and eight exploratory wells, three of which were successful.

On Block D between the Alba and Zafiro Fields, UMC (75%) and SK Corp. of South Korea (formerly Yukong Ltd.) (25%) drilled the Tsavorita-1 and the Tsavorita-1A in 1997. In 1998, SK relinquished its interest in the block. In 1998, the Government acquired a 6% interest in Block D; Ocean Energy (94%) subsequently drilled the Ambar-1 and the Estaurolita wells.

Triton Energy Ltd. of the United States acquired Blocks F and G offshore Rio Muni in 1997. In 1998, the company acquired 2,500 km of seismic data on these blocks that extended to a water depth of 1,500 m. Also in 1998, Elf Aquitaine Guineé Equatoriale, a subsidiary of Elf Aquitaine of France, was awarded a 6,800-km² concession southwest of Bioko, in water depths of 1,000 to 2,700 m.

Oilfields are not constrained by international frontiers. Under negotiation was a dispute with Nigeria concerning the Zafiro Field. Nigeria claimed that the field extends into its territory and that Mobil was depleting their oil (U.S. Energy Information Administration, August 1998, Country analysis brief— Equatorial Guinea, accessed May 12, 1999, at URL http://www.eia.doe.gov/emeu/cabs/eqguinea.html). Equatorial Guinea's maritime borders with Cameroon, Gabon, Nigeria, and São Tomé e Principe are not well defined, opening the possibility of additional boundary disputes.

The initiation of petroleum production has resulted in a significant economic expansion in Equatorial Guinea because it simultaneously severely overtaxed the nation's infrastructure. The financial stimulus has allowed the Government to consider an infrastructure improvement program and to evaluate the diversification of the national economy (Ministry of Mines and Energy, 1998; U.S. Energy Information Administration, August 1998, Country analysis brief—Equatorial Guinea, accessed May 12, 1999, at URL http://www.eia.doe.gov/emeu/cabs/ eqguinea.html). The untested deepwater turbidite area, south and southwest of Bioko, offers significant potential for the discovery of hydrocarbons; however, enthusiasm for expensive deepwater prospects may be subdued by low international oil prices. The scarcity of deepwater drilling rigs also will restrict rapid exploratory drilling of much of the nation's petroleum licensed area (Plowden, 1998).

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Major Source of Information

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TABLE 1
EQUATORIAL GUINEA: ESTIMATED PRODUCTION OF MINERAL COMMODITIES 1/

(Thousand 42-gallon barrels unless otherwise specified)

Commodity 2/		1994	1995	1996	1997	1998
Crude oil and condensate		1,800	2,300	6,300	21,000	30,000
Liquified petroleum gases 3/		--	--	--	450	660
Natural gas 4/	million cubic meters	--	--	--	44	78

1/ Includes data available through May 14, 1999.

2/ In addition to the commodities listed, Equatorial Guinea presumably produced a variety of crude construction materials (clay, gravel, and sand). There is also artisanal production of gold, but output is not reported, and available information is inadequate to make reliable estimates of output levels.

3/ Production began in January 1997.

4/ Total natural gas production is estimated at about 3 billion cubic meters per year. Prior to January 1997, all produced natural gas was flared. Since January 1997, produced natural gas is processed to recover liquified petroleum gases.