THE MINERAL INDUSTRY OF

NIGERIA

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According to data compiled by the U.S. Energy Information Administration (2003a, b), the Federal Republic of Nigeria ranked 11th in the world in the production of crude petroleum and condensate by volume. Nigeria, which was a member of the Organization of the Petroleum Exporting Countries (OPEC), remained Africa's largest oil producer in 2002 with about 3% of world production compared with Algeria (2%), Libya (2%), and Egypt (about 1%). Nigeria was the fifth leading source of U.S. crude oil imports following Saudi Arabia, Mexico, Canada, and Venezuela.

With about 130 million people, Nigeria was the most populous nation in Africa. The International Monetary Fund (2003§[1]) estimated that the nation's real gross domestic product (GDP) had increased by 0.5% in 2002 compared with a 2.8% increase in 2001. The GDP based on purchasing-power-parity valuation was $127 billion. The oil sector, which was the cornerstone of the Nigerian economy, provided most Government revenues and accounted for most of the country's export earnings.

Government Policies and Programs

The Mining and Minerals Decree–No. 34 of 1999 maintains that all mineral rights are held by the Federal Government. Despite a ruling on resource control made in 2002 by the Nigerian Supreme Court, controversy continues to surround the control of natural resources, especially the allocation of oil revenues between the Federal, the 36 State, and the 774 local governments. Coastal oil-producing States have agitated for revenue from gasfields and oilfields on the continental shelf of the Nigerian Exclusive Economic Zone (up to 200 nautical miles offshore); the Government's position has been that the coastal States' share of offshore mineral revenue only would come from economic activity within a contiguous zone that extends 24 nautical miles from the established shoreline (Africa Energy Intelligence, 2003).

The Ministry of Petroleum Resources, especially its Department of Petroleum Resources, concerns itself with the oil and natural gas segment of the mineral industry, as does the Presidential Advisor on Petroleum and Energy (since 1999 in lieu of an appointed Minister of Petroleum Resources). The Ministry of Solid Minerals Development is involved in the promotion, exploration, and development of Nigeria's nonfuel minerals and coal. The Ministry of Power and Steel administers the iron and steel sector. In 2002, the legislature discussed the formation of a new Bitumen Development Authority and an upgrade of the Geological Survey Department to form a Geological Survey Agency.

With the exception of the cement industry, the National Government owned all or a majority interest in most of the large mineral resource companies. The small metals and industrial mineral miners and processors were privately or State Government owned. The National Government planned to spin off a portion of its interests in Ajaokuta Steel Co. Ltd. (ACS), Aluminum Smelter Co. of Nigeria Ltd. (Alscon), Delta Steel Co. Ltd., Federal Superphosphate Fertilizer Co. Ltd., Jos Steel Rolling Mill Co. Ltd., Katsina Steel Rolling Mill Co. Ltd., National Fertilizer Co. of Nigeria Ltd. (NAFCON), Nigerian Coal Corp., Nigerian Gas Co., Nigerian Iron Ore Mining Co. Ltd., Nigerian Mining Corp., the four crude oil refineries of Nigerian National Petroleum Corp. (NNPC), and Oshogbo Steel Rolling Co. Ltd.

Trade

In 2002, of the official crude oil exports of 545.1 million barrels (Mbbl), about 219.7 Mbbl was exported to the United States; about 67.6 Mbbl, to India; 43 Mbbl, to Spain; 35.4 Mbbl, to France; 29.4 Mbbl, to Brazil; and about 25.1 Mbbl, to other countries in West Africa. Crude oil accounted for 87.9% of the value of total Nigerian exports in 2002; total exports were valued at $15.6 billion compared with $16.6 billion in 2001. The decline in exports was attributed to lower crude oil production (and subsequent exports) in compliance with OPEC crude oil production quotas for 2002. Natural gas accounted for 7% of the value of total Nigerian exports in 2002 compared with 0.2% of total exports in 1999 when Nigeria Liquified Natural Gas (NLNG) Ltd. began shipping liquefied natural gas (LNG). The contribution of non-fossil-fuel exports was minimal for the past three decades.

Total imports in 2002 were valued at $10.4 billion compared with $11.2 billion in 2001. In recent years, frequent petroleum refinery shutdowns, limited refinery production runs, and petroleum product pipeline ruptures (by accident, natural corrosion, or sabotage) resulted in a growing demand for imported petroleum products, such as aviation fuel, diesel fuel, and motor gasoline (Braide, 2003a§, b§). In 2002, NNPC reported 531 cases of pipeline vandalism (Oduniyi, 2003§). The partial deregulation of the retail oil distribution sector in 2002 amplified the sector's tendency to source petroleum product supply offshore. In 2002, oil sector imports were valued at $2 billion, which was an 11% increase compared with 2001 (Central Bank of Nigeria, 2002, p. 81-84, 169, 173).

[1]References that include a section mark (§) are found in the Internet References Cited section.

Commodity Review

Metals

Aluminum.—In September, the Government's privatization agency (the Bureau for Public Enterprises) invited offers for 51% equity interest in the 193,000-metric-ton-per-year (t/yr)-capacity smelter of Alscon at Ikot Abasi. Financial and technical proposals from four international companies reportedly were submitted in November, but the scheduled December divestment was postponed. Alscon, which had suspended operations in 1999, remained closed at yearend (Metal Bulletin, 2003; Olowa, 2002).

Iron and Steel.—Most of the production facilities of the primarily Government-owned steel sector were under renovation. In 2002, the Government proposed to help seek financing that would direct an additional $1.2 billion to the ASC plant at Ajaokuta. The funds would include $421 million for the completion and commissioning of ASC. A consortium managed by Solgas Energy Ltd. of the United States was engaged to complete the facility and to start producing steel by 2005. Kobe Steel, Ltd. of Japan was contracted to install a $246 million, 500,000-t/yr Fastmet direct-reduced iron plant at Ajaokuta (Daniel, 2003§). In 2001, the Government had awarded Vsesojuznoje Importno Exportnoje Objedieneije Tyazhpromexport (TPE) of Russia a $500 million contract to complete the ASC plant by 2003 (Steel Times International, 2001). The Zarubezhstroimontazh company of Russia, which was a member of the Solgas Energy Consortium, subsequently replaced TPE on the project (Jones, 2003b).

The Ajaokuta steel plant was not without controversy. Originally scheduled for completion in 1986, the intermittent construction of ASC's production facilities and infrastructure already had absorbed about $4.5 billion without producing any crude steel. The World Bank's assessment that ASC's more-than-25-year-old Soviet blast furnace technology was obsolete raised obstacles to securing additional funding from the international finance community. Additionally, Solgas Energy attracted negative local commentary because of its lack of steel-making experience (Anyikwa, 2002§; Guardian, 2002§).

Voest-Alpine Industrienlagenbau GmbH & Co. and Osaka Steel Nigeria Ltd. continued the restoration of the 220,000-t/yr concrete-reinforcing-bar rolling mill facilities of the Delta Steel plant at Ovwian-Aladja, which was located near Warri. The renovation of Delta Steel was expected to be completed in 2003. The Delta Steel rehabilitation also included partial renovation of Delta's melt shop, which would enable the facility to produce about 600,000 t/yr of steel cast as billet (Jones, 2003a). The Delta Steel works had last produced crude steel in 1995.

Tin.—The agreement between Nigerian Mining Corp. and RBG Resources plc (formerly Allied Deals plc) of the United Kingdom to mine and ship Nigerian tin concentrates to RBG's Vinto smelter in Bolivia unraveled in May with the collapse of RBG and affiliated company Allied Deals Inc. of the United States under allegations of international fraud (Evans, 2002). RBG had been expected to provide equipment and financing for operations at Nigerian Mining's Ririwari Mines.

Industrial Minerals

Nitrogen.—The $14.9 million rehabilitation of the NAFCON plant reportedly continued. The plant had ceased production after an explosion in 1999. In 2002, the Government directed that 1,500 of the company's staff on "stand by" status and 400 employees be released. NAFCON had operated with a staff of about 475 until the proposed plant expansion (NAFCON II) failed in the mid-1990s after which 1,600 additional employees who had been hired for the NAFCON II plant were assigned to the original NAFCON facility. The Bureau of Public Enterprises was asked to pay more than $28 million toward employee separation benefits (Anyikwa, 2003§; Bureau of Public Enterprises, undated§).

Mineral Fuels

Bitumen.—Development of the bitumen deposits in southwestern Nigeria remained stalled. In September, the Government announced that it would award blocks 307b and 307c to Bitumen Exploration and Exploitation Company Limited (BEECON) (a consortium of local companies and the Ondo State Government) and to NISSANDS Ltd. of Canada. BEECON and NISSANDS were expected to prepare and submit acceptable environmental impact assessments prior to beginning exploration.

Methanol.—In October, Viva Methanol Ltd. broke ground at Ibeju Lekki for a 2.5-million-metric-ton-per-year (Mt/yr)-capacity methanol plant. The plant would use Nigerian natural gas as a feedstock, and the methanol would be used by a proposed adjoining petrochemical complex to be operated by a sister company, Axinora Poly-Olefins Ltd. (Lawal, 2002§).

Natural Gas.—The Government continued to push for the elimination of the practice of flaring natural gas that was produced in association with crude oil. Additional natural gas pipeline projects for domestic distribution and for export and LNG-for-export projects were under consideration or construction.

When production began in November, the third natural gas liquefaction train at NLNG's plant at Finima on Bonny Island boosted national LNG capacity to 9 Mt/yr. Construction of the LNG trains 4, 5, and 6 at NLNG was under evaluation (Petroleum Economist, 2003). Other proposed LNG facilities in Nigeria included Brass River LNG, West Niger Delta LNG, and a floating LNG facility. Brass River LNG, which was a 5-Mt/yr-capacity project under consideration by the joint venture of NNPC (60% equity interest), Nigerian Agip Oil Co. (Agip) (20%), and Phillips Oil Co. Ltd. (20%) was proposed to be operational by 2007 (Phillips Petroleum Co.,

2001§). West Niger Delta LNG was to be developed by a joint venture of Exxon-Mobil Producing Nigeria Unlimited (ExxonMobil), Chevron Nigeria Ltd.-Texaco Overseas Petroleum Co. (ChevronTexaco), and Conoco Energy Nigeria. The proposed 9-Mt/yr LNG plant was to be operational by 2008 (Pravda, 2002§). NNPC, Shell Nigeria Exploration and Production Co., and Statoil ASA of Norway were studying the viability of placing an LNG plant aboard a floating structure, which would enable the development of the offshore Nnwa-Dora gas prospect that was under more than 1,000 meters (m) of water.

In 2002, the developers (Chevron Nigeria Ltd. and Shell Petroleum Development Co.) of the West African Gas Pipeline (or West Africa Gas Pipeline) secured a buying agreement from the Government-owned power companies in Ghana. Construction of the pipeline was expected to begin in 2004 and to be completed in 2006.

Petroleum.—A number of large offshore fields were under development or evaluation. Agip's Abo Central Field, at about 580 m water depth, was expected to be in production in 2003. Other deepwater prospects included the Agbami (1,433 m) of ChevronTexaco, Akpo (1,375 m) of TotalFinaElf S.A., Nnwa (1,282 m) of Statoil and adjacent Dori of Shell, Bonga SW (1,245 m) and Bonga Main (1,015 m) of Shell, and Erha (1,200 m) of ExxonMobil.

The Government anticipated additional investment of $20 billion to $25 billion to increase national crude oil production to 3.7 million barrels per day (Mbl/d) in 2005 and 4.1 Mbbl/d in 2007 from 2.1 Mbbl/d in 2002 subject to OPEC production quotas.

Oil production disruptions continued in 2002. On July 10, about 150 women demanding jobs and village infrastructure improvements invaded Chevron's oil tank facility at the Escravos terminal. By July 18, Chevron had suspended production of about 110,000 barrels per day (bbl/d) that previously had flowed to Escravos. Negotiations successfully resolved the women's issues after a 10-day occupation; on July 21, however, a lightning-induced fire at the terminal resulted in Chevron suspending about 450,000 bbl/d of crude oil production and declaring force majeure on oil exports. Additional disruptions, which included the invasion of Chevron's onshore Dibi Field in late July and the offshore Ewan production platform in August, were noted (Moore, 2002; Aloisi, 2002§; Chiahemen, 2002§, Dow Jones & Co., Ltd., 2002§; Nwanma, 2002§; Okafor, 2003§).

Additional coverage of the oil and gas sector in Nigeria is available from the U.S. Energy Information Administration (Johnson, 2003§).

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Major Sources of Information

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TABLE 1

NIGERIA: ESTIMATED PRODUCTION OF MINERAL COMMODITIES[1, 2]

(Metric tons unless otherwise specified)

Commodity[3]		1998	1999	2000	2001	2002
METALS						
Aluminum		20,000	16,000	--	--	--
Columbium (niobium) and tantalum concentrates:						
Gross weight		300 r	300 r	469 r	610 r	500
Columbium (niobium) content		100 r	100 r	150 r	200 r	150
Gold	kilograms	10	40 r	52 r, 4	37 r, 4	40
Iron and steel:						
Iron ore, gross weight	thousand tons	--	--	25 r, 4	25 r, 4	25
Steel, crude	do.	2	--	--	--	--
Lead:						
Lead-zinc ore		100	150	165 4	247 4	250
Metal, refined		5,000	5,000	5,000	5,000	5,000
Tin:						
Mine output, cassiterite concentrate:						
Gross weight		5,162 r, 4	4,184 r, 4	3,502 r, 4	3,677 r, 4	3,600
Sn content		4,100 r	3,300 r	2,760 r, 4	2,870 r, 4	2,800
Metal, smelter		150	50	25	25	25
INDUSTRIAL MINERALS						
Barite[5]		5,000 4	5,000	5,000	5,000	5,000
Cement, hydraulic	thousand tons	2,700	2,500	2,500	2,400 r	2,100
Clays:						
Kaolin		110,000	110,000	165,765 r, 4	209,478 r, 4	200,000
Unspecified		50,000 r	50,000 r	50,412 r, 4	60,474 r, 4	60,000
Feldspar		500	500	1,449 r, 4	1,811 r, 4	1,800
Gypsum		600,000 r	500,000 r	530,262 r, 4	609,800 r, 4	600,000
Nitrogen:						
N content of ammonia	thousand tons	167	148	--	--	--
N content of urea	do.	105	100	--	--	--
Stone:						
Granite		2,000	2,000	2,016 4	2,419 4	2,500
Limestone	do.	1,920 r, 4	1,998 r, 4	3,326 r, 4	3,392 r, 4	3,400
Marble	do.	88 r, 4	62 r, 4	117 r, 4	129 r, 4	130
Shale	do.	200 r	140 r	142 r, 4	163 r, 4	130
Topaz	kilograms	20 r	25 r	25 r, 4	1 r, 4	10
MINERAL FUELS AND RELATED MATERIALS						
Coal, bituminous		18,473 r, 4	16,213 r, 4	11,536 r, 4	11,495 r, 4	11,000
Natural gas:						
Gross	million cubic meters	36,037 r, 4	36,156 r, 4	47,537 r, 4	57,530 r, 4	70,000
Dry	do.	10,887 r, 4	12,667 r, 4	21,945 r, 4	39,640 r, 4	45,000
Petroleum:						
Crude	thousand 42-gallon barrels	788,000	777,000	783,000	823,000	773,000
Refinery products:						
Liquefied petroleum gases	do.	2,000	100	170	1,000	2,300
Gasoline	do.	18,300	10,000	8,000 r	24,400 r	22,400
Kerosene	do.	6,200	6,000	5,100 r	12,500 r	11,800
Distillate fuel oil	do.	18,300	9,000	7,600 r	18,900 r	18,800
Residual fuel oil	do.	11,700	12,000	10,400 r	21,500 r	17,200
Unspecified	do.	17,700 r	5,900 r	1,200 r	700 r	4,000
Total	do.	74,200	43,000	32,500 r	79,000 r	76,500

rRevised. -- Zero.

[1]Includes data available through October 10, 2003.

[2]Estimated data were rounded to no more than three significant digits; may not add to totals shown.

[3]In addition to the commodities listed, amethyst, aquamarine, bitumen, diamond, emerald, garnet, granite, lead, lime, phosphate rock, ruby, sapphire, soda ash, talc, tourmaline, tungsten, zinc, and zircon are mined, and a variety of crude construction materials (stone and sand and gravel) are produced; but information is inadequate to estimate output.

[4]Reported figure.

[5]Considerably more barite is produced (about 250,000 metric tons per year) but is considered to be commercially unusable.