THE MINERAL INDUSTRY OF

OTHER COUNTRIES OF WEST AFRICA

By Philip M. Mobbs

Benin

The production of mineral commodities, primarily cement and crude petroleum, represented a minor part of the economy of Benin. Benin's imports of mineral commodities were dominated by refined petroleum products and clinker for cement. Benin also imported about 95% of its electricity needs from Ghana.

The Office Béninoise des Mines (OBEMINES), under the Ministry of Energy, Mining, and Hydraulics, administered mineral developments in Benin. The Government controlled a majority interest in the Société des Ciments d'Onigbolo, the country's largest and only integrated cement plant. CIMBENIN and Société des Ciments du Benin were private clinker-grinding companies.

The Government's promotion of the development of additional mineral resources in Benin included the recent liberalization of investment regulations. However, the general state of the nation's transportation infrastructure has hampered inland mineral development.

A number of gold occurrences, both placer and vein, had been identified in the Precambrian terrane in northwest Benin. Reserves of limestone near the cement facility at Onigbolo were sufficient to supply the plant at design capacity for more than a century. Other mineral extraction opportunities identified by OBEMINES included a number of deposits of brick and china clay along the coastal plain; the marble deposits at Idadjo; peat deposits adjacent to the Togo frontier; silica sand along the coast south of Porto Novo; and, in the north, the Mékrou phosphate deposit and the Loumbou-Loumbou iron-bearing deposit.¹

Burkina Faso

Burkina Faso's mineral production and mineral export revenues remained dominated by gold in 1995, despite the continued decline in formal production. Refined petroleum products accounted for much of the nation's mineral commodity imports, with cement, clinker, and fertilizers making up most of the difference.

The Ministère de l'Energie et des Mines was reportedly inundated by international companies clamoring for gold exploration permits. The Ministry effectively increased the number of available concessions in response to the intense demand by limiting permits to 500 square kilometers.

The European Development Fund authorized a loan through the Facilité de Financement Spéciale pour les Produits Miniers (a SYSMIN loan) for the establishment of a computerized geological and mining information data base in Burkina Faso. The Bureau of Geological Consultancy of Belgium also received a SYSMIN loan to administer the collection and assembly of nationwide aerial geophysical data for Burkina Faso. The World Bank's International Development Association provided the Government of Burkina Faso with a loan for restructuring the Bureau des Mines et de la Géologie and eliminating the Comptior Burkinabé des Métaux Précieux's monopoly on gold exports.

Gold production of the Société de Recherches et d'Exploitations Minères du Burkina's (SOREMIB) Poura Mine, the largest gold mine in Burkina Faso, was augmented by the output of the nation's semi-industrial operations and the production of tens of thousands of artisanal miners. Gold output was estimated because, despite the legal requirement for all gold to be sold to the Government, a proportion of artisanal production was reportedly smuggled out of the country.

In addition to the gold mines, there were 13 quarries and approximately 60 active exploration concessions, primarily gold exploration permits. The country's extensive Birimian greenstone belts attracted the most attention.

BHP Minerals of the United States was working on concessions near Aribinda and Boulma. North Ltd. of Australia joined Randgold Resources of South Africa and Faso Etudes Travaux of Burkina Faso in the Sanmatenga joint venture (the Sanmatenga, Foulgo Algo, and Foulgo Sika concessions) after Newmont Overseas Exploration Ltd. of the United States dropped out of the partnership. Mapping, drilling, and trenching continued on the prospect in 1995. Randgold was also involved in the Liliga permit.

A number of Canadian junior mining companies were actively exploring the country. Ascot Resources Ltd. received a permit in the Koupela Region. Channel Resources Ltd. entered into joint ventures on the Barao and Madougou concessions with Burkinabe companies and on the Bombore and Soubeiga concessions with Solomon Resources Ltd. Channel and Viceroy Resources were drilling on the Bouroum permit; and Channel was mapping, surface sampling, and running geophysical surveys on its other three concessions. GeoNova Explorations Inc. acquired the Titao exploration concession and subsequently sold its interest to Incanore Resources Ltd. prior to yearend. Incanore also obtained rights to the Bounga concession from Tapestry Ventures.

Golden Knight Resources Inc. was working on the Comidok property. Hyder Gold Inc. was granted a concession near Kampti, and Leicester Diamond Mines Ltd. was awarded an exploration permit area along the Komoe River. Kinbauri Gold Corp. drilled the Dossi deposit to earn interest in the permit from Loubell Explorations Inc. and Melkior Resources (formerly Messeguay Mines Inc.). Kinbauri also secured rights to the Soukoura concession. Mutual Resources Ltd. was awarded a concession in the Seguenega area. The West Africa Mining Exploration Corp. Inc. (SEMAFO), acquired the Mires and Lopal concessions and began exploration. Additionally, Southern Rio Resources Ltd. of Canada was involved with the Oula concession. The Guiro prospect was being drilled by European Mining Finance.

A number of major international companies including Placer Dome of Canada, Johannesburg Consolidated Investment Co. Ltd. of South Africa, and Gencor of South Africa's Billiton subsidiary also were awarded gold exploration permits.

High River Gold Mines Ltd. of Canada concluded negotiations with the Government on the mining license for the Taparko concession. The license was expected to be approved by the Assembly of People's Deputies in 1996.

International Gold Resources Corp. of Canada (IGR) agreed to acquire the Tamberi and Kolokuame concessions from Salah Salim Trading Enterprises of the United Arab Emirates. A joint venture of IGR and Echo Bay Mines of the United States performed geochemical studies and trenching on their Youga concession. The joint venture also obtained an option to acquire 90% of the Poura Mine from SOREMIB. SOREMIB will retain control of the operations for 3 years. The new partnership and an anticipated SYSMIN loan from the European Union were expected to provide the impetus to revive the Poura Mine facilities and counter the declining production.

InterStar Mining Group Inc. of Canada continued mining high-grade manganese ore and talus at Tambao. However, exports by the 60,000-metric-ton-per-year-capacity mine were limited. The company continued providing manganese for ferroalloy furnace trials, reportedly shipping 12,397 metric tons (t) in 1994 and 6,000 t in 1995.

SEMAFO was negotiating to take over Boliden International Mining of Sweden's permit for the Perkoa zinc deposit, and Geomaque Explorations Ltd. of Canada was conducting sampling and trenching operations on its basemetal concession near Diapaga.

Other notable Burkinabe mineral deposits included copper at Gaoua and Wayen, graphite at Kaya, and phosphate at Kodjari.² The development of many of Burkina Faso's mineral deposits was subject to surmounting the nation's infrastructure problems, including the significant transportation costs to ports in adjacent countries and the relatively high cost of power produced by imported diesel fuel. The Governments of Burkina Faso and Ghana were planning the installation of a petroleum products pipeline through Ghana to Ouagadougou. The pipeline should reduce the cost of diesel fuel presently being trucked into the country.

Cape Verde

Mining's contribution to the economy of Cape Verde was minimal. Most of the nation's mineral requirements were imported. Salt and volcanic rock were produced for local use. Salt was significant because one of its main uses was to preserve a portion of Cape Verde's fish harvest. The fishing industry has accounted for about 60% of the nation's export earnings in recent years. Other mineral resources reported in the country include gypsum, kaolin, and dimension stone.

Liberia

The mineral economy of Liberia continued to be adversely affected by the civil war that started in 1989. Negotiations between the opposing parties resulted in a peace accord during 1995. The agreement subsequently collapsed as had prior cease-fires.

Mineral production consisted mainly of artisanally mined diamonds and gold. The cease-fire allowed 10,600,000 carats of diamond to be exported from Liberia to Belgium, up from 3,200,000 carats in 1994. Many of the diamonds exported from Liberia were believed to have come from other West African countries.

The country's iron ore industry remained closed because of the hostilities.

Niger

Niger was an internationally important uranium producer, annually exporting concentrate containing approximately 3,000 t of U_3O_8 . Niger also had significant gold deposits under exploration. Other commercially exploited minerals in the country were coal, gypsum, limestone, salt, and tin. According to the Government, Niger also had indications of cobalt, copper, chromite, iron ore, lithium, nickel, phosphates, platinum-group metals, silver, and titanium deposits.³

Mining fell under Law 93-016 of March 1993 and Decree

No. 93-044/PM/MMEI/A of March 1993. The state retained a minimum 10% participation in mining ventures. The Government participated in equity-sharing arrangements through l'Office National des Resources Minieres.

Gold exploration companies responded heartily to the Government's recent promotion of Niger's mineral resources. The three major greenstone gold belts in the Liptako region of west Niger were the focus of the gold rush. The Kourki Belt bordered Burkina Faso and Mali in the northwest of the Liptako area, the Sirba Belt was west of Niamey, and Tera Gassa Belt was between the Kourki Belt and the Sirba Belt.⁴ A number of small-scale miners were producing from operations in the Sirba Belt. Production of artisanal gold from the entire Liptako region was estimated at 1 metric ton per year (t/yr). Hansa GeoMin Consult GmbH of Germany also continued exploration of its Samira prospect on the Tiawa Concession in the Sirba Belt.

Etruscan Enterprises Ltd. of Canada and Echo Bay Mines Ltd. of the United States were drilling and trenching on the Koma Bangou gold prospect, 150 kilometers (km) northwest of Niamey in the Tera Gassa Belt. The joint venture planned to submit a feasibility study on the prospect to ONAREM during 1996.

Other companies obtaining exclusive exploration licenses in the Tera Gassa Belt included Ashanti Goldfields of Ghana on the Saoura concession, Proma Minerals A/S of Norway on the Koulbaga permit, Royalstar Resources Ltd. of Canada on the Nassile concession, and Sumitomo Metal Mining Co. Ltd. of Japan on the M'Banga permit. Also working Tera Gassa were Al-Qudairi International Trading and Contracting of Kuwait, Barrick Gold Corp. of Canada, Cornucopia Ltd. of Canada, Pioneer Gold Fields of the United States, and Reunion Mining Plc. of the United Kingdom.

Small quantities of tin ore were mined by private individual operators at El Mecki, Tarouadji, Timie, Agahak, and Cuissat in the Aïr Mountains of central Niger.

Uranium concentrates were produced by two companies, the Société des Mines de l'Aïr (SOMAÏR) and Compagnie Minière d'Akouta (COMINAK). Uranium remained the main commodity mined in Niger and represented a large percentage of the country's foreign exchange earnings. The two companies operated four mines on two concessions, SOMAÏR near the town of Arlit, 250 km northwest of Agadez, and COMINAK at Akouta. The combined installed capacity of the two companies was 7,700 t/yr. Both SOMAÏR and COMINAK were joint-venture mining operations that comprised the Government and Compagnie Générale des Matières Nucléaires (COGEMA) of France with various German, Italian, Japanese, and Spanish partners. Industrial mineral production was limited to a few commodities, such as cement, gypsum, salt, and sand and gravel. Mineral fuels production was also limited to coal, which was consumed domestically.

Niger Hunt Oil Co., a subsidiary of Hunt Oil Co. of the United States, continued looking for a partner for its concession in the Djado region in the northeastern part of the country. Exxon Corp. of the United States and its partner Elf Aquitaine of France extended their Agadem permit in the Diffa region of southeast Niger for 5 years. Exxon proposed to undertake new seismic studies of the permit.

Uranium should remain the most important mineral commodity produced in Niger and the largest foreign exchange earner for the immediate future; however, the projected shallow, open pit gold mines have excellent potential to allow the gold sector to become a significant factor in the nation's economy. Development of other resources, such as iron ore, petroleum, and phosphates, have the potential to provide additional jobs and foreign exchange revenue for the country.

Major Sources of Information

Ministère de l'Energie, des Mines et de l'Hydraulique Office Béninoise des Mines

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¹Ministry of Energy, Mining, and Hydraulics. Benin Mining Resources, 1992, 23 pp.

²Mining Journal. Burkina Faso Country Supplement. V 321, No. 8237, Aug. 13, 1993, 8 pp.

³Ministère des Mines et de l'Energie, Guide of the Mining Investor, 1993, 53 pp.

⁴Bureau of Geological Consultancy, Golden Opportunities in Liptako, 1993, 30 pp.

TABLE 1

OTHER COUNTRIES OF WEST AFRICA: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

		1001	1000	1000	1001	1005 /
Commodity 2/		1991	1992	1993	1994	1995 e/
BENIN			250.000	200.000	200.000	
Cement, hydraulic e/		320,000	370,000	380,000	380,000	380,000
Iron and steel, steel, crude e/		8,000	8,000	2,000 3/		
Petroleum, crude	thousand 42-gallon barrels	1,353	931	950 e/	884 r/	570
BURKINA FASO e/						
Gold	kilograms	5,600	5,400	5,000	4,000 r/	3,000
Manganese, Mn content of ore	thousand metric tons			17	30	9
Pumice and related volcanic materials	do.	10	10	10	11	11
Salt		6,500	6,500	6,500	6,500	6,500
Stone, marble	thousand metric tons	100	100	100	110	110
LIBERIA						
Cement, hydraulic		2,311	8,282	8,300 e/		
Diamond e/	carats	100,000	150,000	150,000	100,000	150,000
Gold e/	kilograms	600	700	700	700	800
Iron ore	thousand metric tons	1,100	1,742			
NIGER e/						
Cement, hydraulic		20,109 4/	29,288 4/	29,200	29,200	30,000
Coal, bituminous		156,542 4/	133,525 4/	133,500	133,500	135,000
Gold		1	1	1	1	1
Gypsum		1,000 4/	1,750	1,700	1,700	1,800
Molybdenum concentrate, Mo content		10	10	10	10	10
Salt	thousand metric tons	3 4/	3 4/	3	3	3
Tin, mine output, Sn content		20	20	20	20	20
Uranium, U3O8 content of concentrate		3,330 4/	2,970 4/	2,900	2,900	3,500

e/ Estimated. r/ Revised.

1/ Includes data available through Sept. 1996.

2/In addition to the commodities listed, a variety of industrial minerals and construction materials (clays, gypsum, sand and gravel, and stone) are produced; but information is inadequate to make reliable estimates of output.

3/ Plant closed in 1993.

4/ Reported figure.