

THE MINERAL INDUSTRY OF CÔTE D'IVOIRE

By Philip M. Mobbs¹

Primarily an agrarian economy, Côte d'Ivoire had a mineral industry that contributed less than 2% to the nation's gross domestic product in 1995. Mineral commodities accounted for only about 14% of the country's total exports. Current mineral production was relatively limited. (*See table 1.*) However, the variety of mineral resources in Côte d'Ivoire was considerable. The state mining company, Société pour le Développement Minier (SODEMI) had documented numerous mineral deposits in Côte d'Ivoire, including bauxite, ilmenite, iron ore, manganese, rutile, and glass sand.²

The Government actively encouraged the responsible development of the country's mineral resources. The Mining Code (law No. 64-249 of July 3, 1964) was being replaced by a new mining law. The Petroleum Code (law No. 70-849 of August 3, 1970), as amended, covered the oil and gas segment of the mineral industry.

The Ministère des Mines et de l'Energie held the primary role of mineral development in Côte d'Ivoire. The Ministry had 100% equity ownership in SODEMI. SODEMI promoted the exploration and exploitation of mineral resources other than hydrocarbons. La Société Nationale d'Opérations Pétrolières de la Côte d'Ivoire (Petroci) was the state-owned company charged with managing the hydrocarbons sector.

The Société des Mines d'Ity, a joint venture of Cie. Française des Mines de France (40%) and SODEMI (60%), operated the open pit Ity Gold Mine, 90 kilometers (km) southwest of Man in the west of the country. Production capacity of the heap leach operation was anticipated to rise to 1,500 kilograms per year of gold in 1995.

The Société des Mines d'Afema (Somiaf) operated the Afema Mine, a three-pit heap-leach operation, 120 km east of Abidjan. Eden Roc Mineral Corp. of Canada held 68% of Somiaf, and SODEMI held the remaining 32%. Somiaf increased gold output by 68% in 1995 to 811 kilograms. The increased production was attributed to new and upgraded equipment as well as to opening the third pit. Despite significantly increased leach times caused by clay in the oxide ore, additional production increases were expected in 1996 because Somiaf was expanding the recovery plant.

Eden Roc acquired exploration permits for the area surrounding the Afema Mine from Marshall Minerals, its parent company, and completed nearly 20,000 meters of

exploration drilling for gold on the new properties.

Anmercosa, the local subsidiary of Anglo American Corp. of South Africa and SODEMI were prospecting for gold on the Hana Lobo permit in the Soubré region in the southwest. Cie. Minière d'Afrique, the local subsidiary of the Bureau de Recherches Géologiques et Minières/La Source/Mine Or Group, secured an exploration permit near Zouan Hounien in the west.

Randgold Resources of South Africa and SODEMI were working their Odienné gold prospect. Trillion Resources Ltd. of Canada also was exploring in the northwest on the Odienné-Nord gold exploration permit, as well as on the Alepe permit near the Afema Mine in the southeast.

In the east, SODEMI began exploring in the Bondoukou region. Pan African Resources Corporation, a subsidiary of Golden Star Resources Ltd. of Canada, initiated reconnaissance work near Bongouanou, and Winslow Gold Corp. of Canada prepared to explore near Abengourou. Artisanal gold activity exists in Côte d'Ivoire, but production was clandestine and unreported.

Falconbridge Ltd. of Canada completed a 397-hole drilling program on the Biankouma-Touoba nickel prospect in June 1995. Biankouma-Touoba, approximately 500 km northwest of Abidjan, consisted of several lateritic nickel deposits, including the Sipilou deposits. The partners (Falconbridge, 60%; Government, 25%; and Trillion, 15%) reported reserves of more than 112 million metric tons grading approximately 1.9% nickel and 0.07% cobalt.

Diamond mining at Tortiya and Séguéla was primarily artisanal.

Côte d'Ivoire's petroleum production had ceased in 1992 when the Béliér Field was abandoned. However, it resumed during 1995 when United Meridian International Corp. (UMIC), the Ivorian subsidiary of United Meridian Corp. of the United States, began oil production in April 1995 and natural gas delivery in October 1995 on block CI-11.

UMIC operated the Lion and Panthere Fields, approximately 13 km offshore. Partners include Petroci, the state oil company; the International Finance Corp., an affiliate of the World Bank; Global Natural Resources Inc. of the United States; and Pluspetrol S.A. of Argentina. Partnership interest varied from well to well in the fields.

A 20-centimeter (cm) diameter oil pipeline from the Lion and Panthere Fields to the refinery of the Société Ivoirienne

de Raffinage (SIR) and a 36-cm-diameter gas pipeline to the Vridi powerplant near Abidjan were laid during 1995. According to the December 25, 1995 issue of the *Oil & Gas Journal*, Lion Field had five oil and gas wells completed, and Panthere Field had two gas wells on-line at yearend. UMIC also acquired blocks CI-1 and CI-2 and completed a 3-D seismic survey west of block CI-11 during 1995.

Apache International (a subsidiary of Apache Corp. of the United States), Petroci, and Electricité de France-SAUR of France proceeded with seismic data reprocessing on their C-27 block, which included the undeveloped Foxtrot Gasfield. Addax, a Swiss oil trader, proposed to redevelop the Espoir Field on block CI-26. The field had been abandoned in 1988.

Cie. de Production d'Electricité de Côte d'Ivoire (CIPREL) added three 33-megawatt (MW) turbines at the Vridi generating plant. By yearend, they were being powered by natural gas from the Lion and Panthere Fields. CIPREL planned to install two additional 33-MW turbines.

CIPREL could be in the position to become an electricity exporter if its natural gas supply from Panthere Field is increased as projected, and CIPREL's fuel supply is further augmented by the proposed gas production from the Foxtrot Field. Gas also has been proposed as a power source for the SIR refinery and as a power source and feedstock for the fertilizer plant.

¹Text prepared June 1995 by Thomas P. Dolley, revised Sept. 1996 by Philip M. Mobbs.

²Ministère des Mines et de l'Energie. An Outline of Geology, Mining and Mining Potential in Côte d'Ivoire. 1994, 10 pp.

Other Sources of Information

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TABLE 1
COTE D'IVOIRE: PRODUCTION OF MINERAL COMMODITIES 1/

Commodity 2/	1991	1992	1993	1994	1995 e/
Cement e/ 3/ thousand metric tons	500	510	500	500	500
Diamond e/ 4/ carats	15,000	15,000	15,000	84,400 r/	75,300
Gold 4/ kilograms	1,100	1,500	1,500	1,860 r/	1,983 5/
Natural gas million cubic meters	--	--	--	--	50
Petroleum:					
Crude thousand 42-gallon barrels	730	300	--	--	3,200
Refinery products e/ do.	14,200 r/	17,200 r/	18,300 r/	18,300 r/	18,300
Tantalite kilograms	--	--	--	--	500

e/ Estimated. r/ Revised.

1/ Includes data available through Sept. 1996.

2/ In addition to the commodities listed, Côte d'Ivoire produces clays, stone, sand and gravel, and crushed granite for the local construction industry. Information is inadequate to make reliable estimates of output levels.

3/ Output based entirely on imported clinker.

4/ Does not include artisanal production smuggled out of the country.

5/ Reported figure.