

# THE MINERAL INDUSTRY OF CÔTE D'IVOIRE

By Philip M. Mobbs

The mineral industry of Côte d'Ivoire was an increasing significant input in calculating the nation's primarily agrarian-based gross domestic product. Since 1995, the country's offshore hydrocarbon production operations have become an important domestic source of energy. Côte d'Ivoire's gold-bearing Birimian greenstones have attracted the interest of a number of international exploration companies.

The Government promoted the responsible development of the country's mineral resources and had documented numerous mineral deposits, including bauxite, brick clay, ilmenite, iron, manganese, nickel, glass sand, dimension stone, tantalite, and tin (Ministère des Ressources Minières et Pétrolières, 1996). The new Mining Code, loi No. 95-553, and associated regulations contained in Décret No. 96-634 replaced 1964 Mining Code. Petroleum activity was covered by the 1996 Hydrocarbon Code. Mineral development policy was administered by the Ministère des Ressources Minières et Pétrolières. The national mining company, Société pour le Développement Minier (SODEMI), promoted and participated in the exploration and development of nonhydrocarbon mineral resources. La Société Nationale d'Opérations Pétrolières de la Côte d'Ivoire (Petroci) was the Government-owned company charged with managing the national hydrocarbons sector. The state received a 10% carried interest in all mineral operations.

The Société des Mines d'Ity (SMI), a joint venture of LaSource Group of France (51%) and SODEMI (49%), operated the open pit Ity gold mine, about 500 kilometers (km) northeast of Abidjan. LaSource increased its equity interest in SMI from 40% in 1998 and proposed to double gold production to about 2 metric tons per year (Africa Energy & Mining, 1998). The Société des Mines d'Afema (Somiaf), a joint venture of Eden Roc Mineral Corp. of Canada (68%) and SODEMI (32%), mined out the concession's known oxide ore and closed the open pit Afema Mine in 1998. Somiaf began rehabilitation of the site. Anglo American Corp. of South Africa acquired an option on 60% equity interest in Eden Roc's exploration and production licenses (Africa Energy & Mining, 1998; Northern Miner, 1998).

In mid-1998, Compagnie Minière d'Afrique, a subsidiary of LaSource, began construction of a gold mine on the Angovia property. Early in 1999, the La source joint venture was restructured. Joint-venture partner Normandy Mines Ltd. of Australia retained the Ity Mine and exploration permits in Côte d'Ivoire and partner Bureau de Recherches Géologiques et Minières (BRGM) of France retained the \$13.3 million Angovia project (Mining Journal, 1998; Normandy Mining Ltd., 1999).

Occidental Gold (Ivory Coast) SARL, a joint venture of Leo

Shield Exploration NL of Australia and Société Minière Côte d'Ivoire, formed an exploration alliance with Randgold Resources Ltd. of the United Kingdom on the Tengrela East and the Tengrela South gold permits. Resolute Ltd. of Australia acquired the concessions of WMC Ltd. of Australia (formerly Western Mining Corp.). In June 1998, Resolute entered into an exploration alliance with Broken Hill Proprietary Co. Ltd. of Australia. Other companies maintaining gold exploration permits in Côte d'Ivoire included Africwest Gold of Australia and partners on permit recherche (PR) 113 and 114; Anmercosa Exploration Ltd., a subsidiary of Anglo American, on the Hana Lobo permit; BRGM on PR 43; Cluff Mining Ltd. of the United Kingdom on the Niankaramandougou, the Odienne, and the Ouelle-Prikro prospecting licenses; Equigold NL of Australia on PR 104, 105, and 119; GATRO-CI, the local subsidiary of Gencor Ltd. of South Africa, on PR 56 and 94; Goldivoire of Australia on PR 100 and 117; Jandera Resources NL, a subsidiary of Diversified Mineral Resources of Australia, on the Agbaou gold property; Leo Shield Resources Ltd. of Australia on the Korhogo permit; Oxford Resources Inc. of Canada on the Abengourou, the Alangua, the Koyekro, and the N'Douci properties; the joint venture of North Exploration (Overseas) Pty. Ltd. and Pan African Resources Corp. (PARC), a subsidiary of Golden Star Resources Ltd. of Canada, on the Tanda gold concession; PARC on several permits comprising the Comoé project; the joint venture of Randgold and New Mining Côte d'Ivoire on the Nielle, the Tehini East, and the Tehini West permits; Stanley Mining Services Ltd. of Australia; and Winslow Gold Corp. of Canada on PR 70.

Hyder Gold Inc. of Canada and New Sage Resources Ltd. of Canada relinquished their respective exploration concessions in Côte d'Ivoire. In 1998, Vauquelin Mines Ltd. of Canada dropped the Aboisso property after Société d'Exploration Minière en Afrique de l'Ouest of Canada terminated its option on the property. Trillion Resources Ltd. of Canada divested its Alepe and Odienne gold concessions, and Consolidated African Mining Corp. of Canada terminated its partnership with Omnium De Negoce of Côte d'Ivoire in the Mayana SARL, a venture that held four gold concessions.

Purity Metals of South Africa was exploring for manganese at Moka, about 150 km west of Abidjan, and near Ziemougoula, about 650 km north-northwest of Abidjan. The joint venture of Falconbridge International (Investments) Ltd. of Canada (60%), the Government (25%), and Trillion Resources (15%) continued exploration on the Touba-Biankouma laterite nickel prospect, approximately 500 km northwest of Abidjan.

Carnegie Minerals NL of Australia and PARC acquired diamond exploration licenses. Most existing diamond production at Séguéla and Tortiya was primarily artisanal.

In the petroleum sector, Ocean Energy of the United States (formerly United Meridian Corp.) operated the Lion and the Panthere Fields on block CI-11. Partners on the block included Daewoo Corp. of South Korea; Global Natural Resources Inc., a subsidiary of Seagull Energy Corp. of the United States; the International Finance Corp., an affiliate of the World Bank; Petroci; and Pluspetrol S.A. of Argentina. Partnership interest varied from well to well in the fields. Santa Fe Energy Resources of the United States held block CI-24. The development plans for block CI-26, submitted by the joint venture of Addax Petroleum Ltd. of Switzerland, Ranger Oil Ltd. of Canada, and Tullow Oil plc. of Ireland, were approved in late 1998. The consortium of Apache International, a subsidiary of Apache Corp. of the United States; Electricité de France; Gaz de France; Petroci; and SAUR International of France were developing the Foxtrot natural gas prospect on block CI-27. Addax, Petroci, Ranger, and a subsidiary of Corral Petroleum Holding AB of Sweden held block CI-40. In 1997, the joint venture of Clyde Expro Plc, Energy Africa Ltd., Gentry International (Côte d'Ivoire) Inc., Petroci, Ranger Oil Côte d'Ivoire SARL, and T.C. Petroleum Inc. acquired block CI-102. In 1998, the joint venture of Ranger Oil (35%), Clyde Expro (35%), Gentry (17%), Petroci (10%), and T.C. Petroleum (3%) acquired blocks CI-101 and CI-103. Petroci and Seagull Energy Corp. of the United States held block CI-104. Ocean Energy, Petroci, and Shell Côte d'Ivoire Exploration Production B.V. of the Netherlands held the deepwater concession CI-105.

The Société Multinationale des Bitumes ran the 10,000-barrel-per-day (bbl/d) asphalt plant in Abidjan, and the Société Ivoirienne de Raffinage (SIR) managed the 59,000-bbl/d oil

refinery. In 1998, an expansion to 88,000 bbl/d for the refinery and the divestment of some of the Government's equity interest in SIR were proposed.

The Governments of Côte d'Ivoire and Guinea commissioned a study of a proposed rail line from the Nimba iron deposit in Guinea to the port of San Pedro in Côte d'Ivoire. The proposed railway would pass through the Touba-Biankouma nickel concession and bypass Liberia, which was the originally proposed export route.

### References Cited

- Africa Energy & Mining, 1998, Ivory Coast—Developments in mining sector: Africa Energy & Mining, no. 230, June 10, p. 8.  
Mining Journal, 1998, CMA begins new Ivorian gold mine: Mining Journal [London], v. 331, no. 8491, July 31, p. 78.  
Ministère des Ressources Minières et Pétrolières, 1996, Geology and mining potential of Côte d'Ivoire: Abidjan, Côte d'Ivoire, Ministère des Ressources Minières et Pétrolières, 12 p.  
Normandy Mining Ltd., 1999, LaSource unbundled & Yamfo equity increased: Adelaide, Australia, Normandy Mining press release, February 1, 1 p.  
Northern Miner, 1998, Anglo joins Eden Roc in Côte d'Ivoire: Northern Miner, June 15, p. 20.

### Major Sources of Information

- Ministère des Ressources Minières et Pétrolières  
B.P. V 50  
Abidjan, Côte d'Ivoire  
Telephone: (225) 21-66-17  
Fax: (225) 21-53-20  
Société pour le Développement Minier (SODEMI)  
01 BP 2816  
Abidjan 01, Côte d'Ivoire  
Telephone: (225) 44-29-94  
Fax: (225) 44-08-21

TABLE 1  
CÔTE D'IVOIRE: ESTIMATED PRODUCTION OF MINERAL COMMODITIES 1/

Commodity 2/	1994	1995	1996	1997	1998
Cement thousand metric tons	1,100 r/	1,000 r/	1,000 r/	1,100 r/	650
Diamond carats	84,400	75,300	301,591 3/	306,665 3/	310,000
Gold kilograms	1,860	1,983 3/	1,883 3/	2,419 3/	1,500
Natural gas million cubic meters	--	36	547 3/	879	1,000
Petroleum:					
Crude thousand 42-gallon barrels	--	2,000	5,833 3/	5,334 3/	7,300
Refinery products do.	19,300	19,300	7,620 3/	7,850 3/	7,500
Tantalite kilograms	--	500	500	1,350 3/	1,400

r/ Revised.

1/ Includes data available through August 16, 1999.

2/ In addition to the commodities listed, Côte d'Ivoire produced clays, crushed granite, manganese, sand and gravel, and stone. Information is inadequate to make estimates of output levels.

3/ Reported figure.