

# THE MINERAL INDUSTRY OF SIERRA LEONE

By Philip M. Mobbs

Sierra Leone's mineral production, restricted by civil unrest during most of 1995, was limited to artisanal mining of diamonds and gold. The mineral industry normally generated from 15% to 18% of the gross domestic product, 90% of export earnings, and employed about 250,000 people. The forces of the Revolutionary United Front (RUF) have disrupted diamond mining operations intermittently since 1992. With the exception of offshore diamond exploration, most mineral operations were suspended during 1995, owing to the hostilities. Bauxite and rutile operations were completely closed down in January 1995. The Government had regained control of most of the mining areas by yearend with the assistance of Nepalese and South African security firms.

The mining law, the Mines and Minerals Decree, (N.P.R.C. Decree No. 5) became effective on March 4, 1994. The Mineral Resources Development Policy (Government Notice No. 105 of March 9, 1995) required that proposals for the rehabilitation of mining sites be submitted and approved by the Department of Mineral Resources prior to the commencement of large-scale mining operations. Notice No. 105 also required small miners to assist with the rehabilitation of artisanal sites.

The Government has estimated that perhaps as much as two-thirds of the artisanal diamond and gold mining and trading activity continued to bypass Government revenue collection channels. Peak diamond production recorded in 1992 was achieved by the National Diamond Mining Co., which has since ceased operations. A diminished world market forced a temporary shutdown of bauxite mining in the first half of 1994 and operations were again suspended in January 1995. (*See table 1.*)

The value of Sierra Leone's mineral exports was reported at \$25 million<sup>1</sup> in 1995, down from \$102 million in 1994. Diamonds and gold replaced rutile, ilmenite, and bauxite as the Nation's principal mineral exports.

The Nation's sole bauxite producer, Sierra Leone Ore and Metal Co. (SIERMCO), operated in the southern Mankanji area. The company mined deposits within 4 kilometers of the Gondama washing plant until January 19, 1995, when the facilities were overrun by rebel troops. Preparations for mining the Gbonge deposits, 16 kilometers from the washing plant, continued. SIERMCO estimated that the Gbonge deposits will sustain mining in the region for another 10 to

15 years.

The Scandinavian joint venture, Scancem International, purchased Seracem, the Government's 120,000-tons per year clinker grinding mill in Freetown during 1995. Olympus Ventures (Pty.) Ltd. of South Africa initiated development of a dimension stone quarry.

Diamond production in 1995 was primarily by small-scale artisanal miners. While recent production was almost entirely from alluvial deposits, exploration interest focused on the kimberlite pipes in the Yengema and Tongo regions. Development of Diamond Fields Resources of Canada's Koidu Kimberlite project east of Yengema in the Kono District was restricted by RUF activity in the region and possibly by the distraction of Diamond Fields' new nickel discovery at Voisey's Bay in Canada. RUF operations also adversely affected prospect development adjacent to the Koidu kimberlite by AmCan Minerals Ltd. of Canada and their exploration activities along the Sewa River, as well as Branch Energy Ltd. of the United Kingdom's exploration along the Sewa.

Offshore, relatively unaffected by insurgent operations, The Diamond Corporation West Africa Ltd., a wholly owned affiliate of De Beers, completed its initial offshore geophysical program and was sampling at yearend. Casierra Development Fund Inc. of Canada also was sampling its offshore prospect along the southeast coast.

Gold was recovered mainly in the streams draining the northern Sula Mountains. Official gold production figures remained low due to smuggling and the fighting. Pan African Resources, a subsidiary of Golden Star Resources Ltd. of Canada, suspended its proposed 2-year exploration program in Sierra Leone in March 1995. The company prepared to write off its Baomahun gold property expenditures at yearend.<sup>2</sup>

Sierra Leone's petroleum refinery had closed in 1992. The 10,000-barrel-per-day capacity Freetown facility was sold to Unipetrol Nigeria PLC, a former crude oil supplier, in 1994. Unipetrol's rehabilitation of the plant during 1995 reportedly included test runs at full capacity.

The mining facilities of Sierra Rutile Holdings Ltd., a 50% Nord Resources Corp. of the United States and 50% Consolidated Rutile Ltd. of Australia joint venture, also were overrun by RUF forces. Company personnel managed to return briefly in October 1995 to inspect the facilities and

equipment and reported minimal equipment damage.

Interest in developing the rutile deposit at Rotifunk continued. Upon completion of a feasibility study in 1994, Pioneer Resources NL of Australia reportedly applied for a Mining Lease.

The port at Freetown received most of the country's imports and all of its petroleum import traffic. Ports at Niti and Pepel were operated by private mining firms and normally handled bulk exports of bauxite and rutile.

With a large part of the surface alluvials effectively high-graded by artisanal activity, increasingly deeper strata and undeveloped kimberlites will be targeted by international concerns interested in entering the Sierra Leone diamond industry. Sierra Leone has additional mineral potential, including low-grade chromite occurrences in the Gori Hills near Hangha. Graphite, iron ore, kaolin, lignite, and platinum also offered some potential. However, inadequate infra-

structure, poor resource management, and continued insurgency in the interior has severely hampered development.

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<sup>1</sup>Where appropriate, values have been converted from Sierra Leone leones to U.S. dollars at the rate of LE900=US\$1.00 in 1995 and LE578.17=US\$1.00 in 1994.

<sup>2</sup>Golden Star Resources Ltd. Denver, CO, press release, Dec. 8, 1995.

### **Major Source of Information**

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TABLE 1  
SIERRA LEONE: PRODUCTION OF MINERAL COMMODITIES 1/

(Thousand metric tons unless otherwise specified)

Commodity	1991	1992	1993	1994	1995 e/
Aluminum: Bauxite, gross weight	1,290	1,250	1,170	735	--
Diamond thousand carats	243	296	158	255	213
Gold 2/ kilograms	26	92	157	125 r/	4
Gypsum e/ metric tons	4,000	4,000	4,000	4,000	2,000
Petroleum refinery products thousand 42-gallon barrels	805	1,010	--	--	-- 3/
Salt e/	200	200	200	200	--
Titanium:					
Rutile ore and concentrate 96% TiO <sub>2</sub> , gross weight	155	149	152	137	--
Ilmenite ore and concentrate 60% TiO <sub>2</sub> , gross weight	60	60	63	47	--
Zircon metric tons	1,100	1,330	--	1,300	--

e/ Estimated. r/ Revised.

1/ Table includes data available through Aug. 29, 1996.

2/ Data includes only officially reported production.

3/ The refinery was reactivated in 1995 for test runs.