

THE MINERAL INDUSTRY OF

MALI

By Philip M. Mobbs¹

Gold was the only mineral commodity produced that was of significance to the economy of Mali in 1995. The country had a wide variety of other mineral deposits, but few have been developed because of a lack of infrastructure and local demand. Gold accounted for more than 95% of the estimated total value of mineral commodities produced in Mali and about 20% of the country's total exports of goods.

Mali's geology was dominated by Precambrian rocks in the southwestern and central parts of the country and Paleozoic to Cenozoic rocks over most of the remainder. The Precambrian rocks are of the greatest economic importance, particularly those in the Birimian Series greenstone belts occurring near Kéniéba, Bougouni, and Sikasso. The greenstone belts, as elsewhere in west Africa, host gold deposits, commonly within shear zones and quartz veins. There was extensive gold exploration underway during the year, and a number of kimberlites near Kéniéba continued to be explored for diamond. Artisanal mining of gold and diamond was reported in the area, but no data exist on the output. (*See table 1.*)

Mali has a number of deposits of metals and industrial minerals according to the Government.² Mining was overseen by the Direction Nationale de Géologie et des Mines which was part of the Ministry of Mines, Energy, and Water. The Government continued to upgrade and coordinate existing geological data on Mali to attract foreign exploration and mining investment and to stimulate and make more efficient Mali's artisanal mining sector. The mining law was Ordonnance No. 91-065/P-CTSO of September 19, 1991. Petroleum exploration and exploitation were regulated by Decree No. 30 of May 23, 1969, and by Decree No. 21, April 20, 1970. The Government had the right to 20% equity in all new mining ventures, of which 10% was a free share and the remainder a buy-in option.

There were four exploitation permits outstanding during 1995. The Société des Mines d'Or de Syama (SOMISY) [owned by BHP Minerals, 65%; the Government of Mali, 20%; and the International Finance Corp. (IFC), a division of the World Bank, 15%] operated the country's sole commercial gold mine at Syama, 75 kilometers (km) southwest of Sikasso. During 1995, SOMISY transitioned operations from extracting and processing oxide ore to mining the sulfide ore. The Société d'Exploitation des Mines d'Or de Sadiola (SEMOS) [Anmercosa Mining (West Africa)

Ltd., an affiliate of Anglo American of South Africa, 38%; AGEM Ltd., a subsidiary of International African Mining Gold of Canada (Iamgold), 38%; the Government of Mali, 18%; and the IFC, 6%] was developing a mine at Sadiola Hill, about 75 km southwest of Kayes in western Mali. The SEMOS consortium announced reserves of approximately 49.2 million metric tons of ore grading 2.86 grams per ton of gold. The proposed open pit was to exploit the 50 meters (m) to 130 m of clayey gold-bearing oxide ore at Sadiola. The company was having the isolated site's infrastructure upgraded. A contractor was constructing operational and residential facilities and was improving the road from Sadiola to Kayes. Initial gold production was expected in January 1997.

A consortium of Ashanti Goldfields of Ghana (50%), Johannesburg Consolidated Investment Co. Ltd. of South Africa (30%), and the Government of Mali (20%) obtained the right to redevelop the Kalana Mine. The state company Société de Gestion et d'Exploration des Mines d'Or de Kalana (SOGEMORK) had produced 2.6 metric tons of gold at Kalana from 1985 through 1992. In late 1988, the Société Minière de Loulo (SOLILO), a joint venture between the Government (51%) and Compagnie Française de Mines of France (49%), was formed to exploit the Loulo concession. Loulo was under option during 1995 by BHP.

A number of exploration permits were authorized in 1995 in the west along the Senegal frontier, including the following: Barrick Gold Corp. of Canada, CMOD, International Tournigan Corp. of Canada, Ngary Transport, OUKOU, Pan African Resources Corp., Randgold Resources of South Africa, and SADEX, a joint venture of Anmercosa and Iamgold of Canada. The area encompasses the Kéniéba region and the mine development at Loulo and Sadiola.

Companies receiving exploration permits for the region south of Bamako included the following: Alagona Trading, Anmercosa, Barrick Gold Corp., BHP Minerals, and Young Poong Mining and Construction of Korea. A total of 18 exploration permits and 2 prospecting licenses were issued in 1995, bringing the number of concessions up to almost 60.

Diamonds were recovered as byproduct by artisanal gold miners. However, the Mali Diamond Exploration (MADE) joint venture of Ashton Mining of Australia (51% interest) and Mink Mineral Resources Inc. of Canada (49%) proposed to set up a large-scale diamond operation. MADE evaluated

prior exploration data on their Kéniéba-area diamond prospect and initiated a sampling program.

Mali's transportation infrastructure in 1995 was underdeveloped and has proven to be a deterrent to mineral exploration and development. The highway network totaled approximately 15,700 km, mostly in the south. The 642-km segment in Mali of the 1,286-km railroad connected Bamako with Dakar, Senegal. Railroad service was subject to interruptions during the rainy season. The railroad and the major roads to Côte d'Ivoire were used to import mineral commodities, particularly fuels, as well as equipment and supplies. Mali's electrical grid was inadequate to service mineral development. The gold rush and subsequent anticipated development activity will strain Mali's electrical power deliverability. The Government proposed to rehabilitate the 48-megawatt Selingué dam and was planning the Manantali hydroelectric generating station on Senegal River.

Development of most of Mali's mineral resources, with the exception of gold and possibly diamond, was hindered by the country's general lack of infrastructure and local markets. Gold will likely continue to dominate the country's mineral economy, and output is forecast to increase significantly in

1997. The probability for occurrence of additional gold deposits is considered high. There appears to be significant potential for Mali to become a modest producer of diamond.

¹Text prepared May 1995 by Hendrik G. van Oss, updated Sept. 1996 by Philip M. Mobbs.

²Direction Nationale de la Géologie et des Mines, Mineral Resources of Mali: United Nations UNDP/DTCD MLI/85/007 Project, 1987, 64 pp.

Major Sources of Information

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TABLE 1
MALI: PRODUCTION OF MINERAL COMMODITIES e/ 1/

(Metric tons unless otherwise specified)

Commodity 2/		1991	1992	1993	1994	1995
Cement, hydraulic		20,000	20,000	20,000	20,000	20,000
Gold, mine output, gold content 3/	kilograms	4,900	5,700	5,500	5,500	7,800
Gypsum		700	700	700	700	700
Salt		5,000	5,000	5,000	5,000	5,000
Silver 4/	kilograms	210	200	190	190	270

e/ Estimated.

1/ Includes data available through Sept. 1996.

2/ In addition to the commodities listed, Mali produced clays, stone, and sand and gravel for local construction purposes and diamond and tin; but information is inadequate to make reliable estimates of output levels.

3/ Includes estimate of artisanal production and may include some gold smuggled into Mali.

4/ Estimated silver content of doré bullion.