

THE MINERAL INDUSTRY OF BURKINA FASO

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Burkina Faso's economy was dominated by services and agriculture, which were estimated to account for about three-fourths of its gross domestic product (GDP) in 1998. In 1997, the last year for which data are available, GDP for this landlocked West African nation north of Ghana was estimated to be \$2.4 billion (World Bank, 1998). The minerals sector contribution to the GDP had declined to less than 1% in 1996 and continued to drop in 1997 and 1998. With the Poura gold mine on care and maintenance since early 1996, artisanal production had become the predominant source of gold, but gold output was expected to begin to rebound in 1999. Gold and manganese shipments had declined to less than 8% of total exports by 1997. On the import side, mineral fuels comprised about 11% of imports in 1997 (World Bank, 1998).

The Government encouraged the mining sector as part of its "Decade for Mining Development in Burkina Faso 1995-2005" Program. Law No. 023/97/II/AN of October 22, 1997, the new mining code, replaced law No. 14/93/ADP and law No. 06/95/ADP. Inaugurated in April 1998, the "Projet de Renforcement des Capacités Nationales du Secteur Minier et de Gestion de l'Environnement" is a 5-year Burkinabe mineral promotion and institutional support program. In October 1998, the Government hosted PROMIN'98, a regional mining promotion conference.

Most of the country is cut by belts of greenstone, the metamorphosed volcanosedimentary rocks that host most of the precious and other metallic mineralization in West Africa. The westernmost part of the country is underlain by Precambrian and Paleozoic sedimentary rocks in which a few small deposits of bauxite and marble are located. A small part of the southeastern corner of the country is underlain by sedimentary rocks that host phosphate deposits.

In 1997, Sahelian Goldfields Inc. of Canada acquired the option to acquire a 90% equity interest in the Poura gold operation, 200 kilometers (km) west of Ouagadougou, from the Société de Recherches et d'Exploitations Minières du Burkina, the state-owned mining company that formerly operated the Poura Mine. International Gold Resources Inc. of Canada, which was acquired by Ashanti Goldfields Co. Ltd. of Ghana, had held the option previously. In March 1998, Sahelian exercised the option and continued rehabilitation of the mine and mill funded by a grant of about \$13 million (ECU 11,000,000)¹ awarded to the Government by the European Development Fund's SYSMIN facility.

In September 1998, Sahelian submitted a positive feasibility

study on reopening the mine to the Government. The Poura Mine was officially reopened on October 29, 1998, and was treating 200 metric tons per day of ore by yearend. The Government retained an option to increase its 10% interest in the Poura operation to 20%. In addition to production at Poura, artisanal production came from about 200 operations scattered around the country.

In 1997, Société des Mines du Faso (Fasomine), a joint venture of Stremco S.A. of Burkina Faso (90%) and the Government (10%), acquired mining permits for the Guiro gold deposit. Griffin Mining Ltd. of Bermuda (formerly European Mining Finance Ltd.) held 51% equity interest in Stremco. Griffin reported that the Guiro deposits had resources of 338,000 metric tons of ore grading 11.3 grams per metric ton (g/t) of gold with a cutoff grade of 2 g/t (Canadian Corporate News, November 6, 1997, European Mining Finance Limited issues mining permits for Guiro Mine in Burkina Faso, accessed May 15, 1998, at URL <http://192.139.81.46/scripts/ccn-release.pl?1997/11/06/1106001n>). In 1998, the International Finance Corp. (IFC), a subsidiary of the World Bank, acquired 18% equity in Fasomine for \$500,000. The IFC also originated a \$1 million loan to develop the Guiro deposit as a small underground mine with an estimated 260 kilograms per year output (Griffin Mining Ltd., [undated], Projects—Guiro Project—Burkina Faso—Gold, accessed on September 11, 1999, at URL http://www.griffinmining.com/projects_guiro.htm). Stremco was prospecting on the rest of the Guiro exploration permit. Phelps Dodge Exploration Inc. of the United States had terminated its interest in an exploration joint venture on the prospect with Stremco in March 1997.

The gold rush continued in Burkina Faso. About 35 new exploration licenses, most in the southwest, were issued in 1998. Of the more than 100 mining companies in Burkina Faso, about 60% were local and 20% were Canadian. Several companies reduced or terminated their exploration efforts and were searching for additional funding or joint-venture partners. In 1998, relatively few concessions were relinquished despite the adverse funding situation most international gold mining companies encountered, but a number of concessions were technically in default because late surface tax payments or incomplete funding and work obligations on earn-in options.

Golden Eagle Mining Ltd. was earning participating interest in the Batie Sud and the Mdebedo permits of African Selection Mining Corp. of Canada. The joint venture of Ashanti Goldfields Co. Ltd. of Ghana and Echo Bay Mines Ltd. of Canada continued exploration of the Younga/Nangodi gold

¹Where necessary, values have been converted from European Union Ecus to U.S. dollars at the average rate of Ecu0.80=US\$1.00 for 1996, Ecu0.88=US\$1.00 for 1997, and Ecu0.89=US\$1.00 for 1998.

prospect. On the Madina-Foulbe and the Northwest Sabodala properties, AngloGold Ltd. of South Africa was earning 42.5% equity interest from Barrick Gold Corp. of Canada. Carlin Resources Corp. of Canada relinquished its interest in the Tenado gold concession.

Channel Resources Ltd. of Canada held 10 gold exploration permits. Three properties, the Bombore, the Naoube, and the Soubeiga, were part of an exploration joint venture with Solomon Resources Ltd. of Canada. Viceroy Resources Corp. of Canada was earning 60% equity interest in Channel's Bouroum property. Placer Dome Africa Ltd. was earning equity interest in six Channel concessions, including 57% in the Barao permit, 60% in the Bouroum North concession, 55.5% in the Madougou license, 49.2% in the Tounte permit, 60% in the Manaboule property, and 57% in the Somifa license. Channel reported resources of 35 million metric tons (Mt) at an average grade of 1.1 g/t gold, with a 0.5 g/t cutoff grade, on the Bombore concession; 12.4 Mt at a grade of 1.3 g/t gold on the Bouroum permit; and 1.5 Mt at a grade of 2.2 g/t gold on the Tounte permit (Channel Resources Ltd., 1998).

Cluff Mining Ltd. of the United Kingdom was exploring the Yako Arbole gold license. In February, Cluff entered a joint venture with Investissement Moto-Agricole Réalisation Burkina of Burkina Faso on the Kalsaka permit, north of Yako Arbole. Coronation International Mining Corp. of the United Kingdom held 10 gold exploration licenses covering the Doloma, the Dougouasso, the Dountéla, the Gueguere, the Gountela, the Lahrosso, the Loropéni, the Saramassi, and the Zono properties. On the Sebedougou concession, Coronation was exploring in joint venture with Orezone Resources Inc. of Canada.

BF GeoMin Mining Development Corp., a subsidiary of African GeoMine Mining Development Corp., a subsidiary of Etruscan Resources Inc. of Canada, was drilling on the Datambi permit. Emerging Africa Gold Inc. dropped its gold exploration properties in Burkina Faso. Greenhope Resources Inc. of Canada held an exploration permit for the Dassa property. Golden Knight Resources Inc. of Canada was active on the Monlouri and Seguenega gold concession. Sahelian acquired the option to earn 90% equity interest in the Larafella-Balago gold concession from Gold Fields Metals BV.

In 1998, the joint venture of High River Gold Mines Ltd. of Canada (61.5%), the Government (20%), and Resources Incanore Burkina (18.5%) commissioned a feasibility study on the development of a mine on the Taparko gold concession. High River indicated that Taparko had resources of 9.7 Mt grading 3.43 g/t gold (Delorme, 1998). Hyder Gold Inc. of Canada held the Kampti exploration permit. Kenor ASA of Norway was earning 72.5% equity interest in the Manga and the Nobere gold exploration permits. Kinbaouri Gold Corp. of Canada held the Oula, the Soukoura, and the Toutou concessions. A joint venture of Incanore Gold Mines Ltd. of Canada (75%) and Kinbaouri (25%) explored the PEM gold concession. Kinbaouri also was part of a joint venture acquiring

65% equity interest in the Dossi property.

Leo Shield Exploration NL of Australia held the Bougouriba and the Serakoro concessions. In 1998, Leo Shield acquired the Kabolo and the Kaikan gold exploration permits. Mutual Resources Ltd. of Canada held the Seguenega permit. In 1997, Orezone Resources had acquired the Diapaga gold concession and interest in the IntiéDougou property from Geomaque Explorations Ltd. of Canada and also held the Ouairé Kérboulé license.

Oxford Resources Inc. of Canada was earning interest in the Bola-Niobaré and Kari gold properties. In November 1998, Avgold Ltd. of South Africa acquired the option to earn equity interest in the Kari and the Piela properties. The joint venture of Randgold Resources Ltd. of the United Kingdom and North Exploration (Overseas) Pty. Ltd. of Australia was examining the Sanmatenga license area. In 1998, Randgold also drilled on the Bissa prospect and acquired the Diarabokoko permit. The African exploration alliance of Australian companies, Resolute Ltd. and the Broken Hill Proprietary Co. Ltd., was evaluating the Belahoro, the Essakane, and the Loumana gold licenses. In 1998, Resolute also acquired the exploration license on the Nogbale property from WMC Ltd. of Australia. Local companies affiliated with SEMAFO Inc. of Canada held the Baho-Kari, the Bantole, the Bitou Nord, the Bogandé I, the Bogandé II, the Boulgou, the Kaba, the Kodyel, the Koumbia, the Lopal, the Mana, the Nayarara, the Oullo, Pilimpikou, the Tiefora, and the Tin Edia gold concessions.

In March 1998, InterStar Mining Group Inc. of Canada suspended operations at the Tambao manganese project in the northeastern corner of the country, and the property was placed under care and maintenance. InterStar reported that the Tambao ore had passed the various ore quality furnace trials of several ferroalloy facilities, but the cost of moving the manganese ore about 250 km to the nearest railhead and then on to ocean ports became prohibitive with the continued decline in the price of manganese ore. The Tambao deposit had more than 19 Mt of ore averaging 51.45% manganese (InterStar Mining Group Inc., 1999).

Billiton Plc of the United Kingdom explored the Perkoa zinc deposit and completed a prefeasibility study.

In August, granite quarrying and tile-processing operations at Burkina Granit in Ziniaré were inaugurated. Burkina Granit operated quarries at Kaya and Tampore and proposed to begin mining rock at the Béguéra, Kongoussi, and Pama quarries.

References Cited

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TABLE 1
BURKINA FASO: ESTIMATED PRODUCTION OF MINERAL COMMODITIES 1/

(Thousand metric tons unless otherwise specified)

Commodity 2/	1994	1995	1996	1997	1998
Gold 3/ kilograms	1,637 r/ 4/	1,319 r/ 4/	1,063 r/ 4/	1,000 r/	1,100
Manganese, Mn content of ore	30	9	10	1	1
Pumice and related volcanic materials	11	11	11	10	10
Salt	7	7	7	5	5
Stone, marble	110	110	110	100	100

r/ Revised.

1/ Includes data available through September 2, 1999.

2/ In addition to the commodities listed, granite, phosphate, sand and gravel, and other construction material are produced, but information is inadequate to make reliable estimates of output.

3/ New reported series. Prior production data includes 2,458 kilograms in 1991, 2,302 kilograms in 1992, and 2,296 kilograms in 1993.

4/ Reported figure.