

BURKINA FASO, MALI, MAURITANIA, AND NIGER

By Thomas R. Yager

BURKINA FASO

Burkina Faso was a producer of cement, dolomite, gold, granite, marble, phosphate rock, pumice and related volcanic materials, and salt. The mining industry was not a significant factor in the economy.

Artisanal miners produced small amounts of gold; industrial and semi-industrial gold production shut down in 2001. Burkina Faso's gold production rose to 390 kilograms (kg) from 209 kg in 2001. Gold exports amounted to 624 kg in 2002 compared with 344 kg in 2001 and 1,600 kg in 1998. In 2002, gold accounted for about 2% of Burkina Faso's exports (International Monetary Fund, 2003, p. 13, 33).

AXMIN Inc. explored for gold at its Bouroum property in 2002. By early 2003, AXMIN and High River Gold Mines planned to finish their feasibility study on Bouroum. Orezone Resources Inc. was continuing to expand its current resource level at Essakan, which stood at 30,000 kg of contained gold. Other companies active in gold exploration included Ashanti Goldfields Co. Ltd. and Semafo Inc. Randgold Resources Ltd. decided to halt exploration in Burkina Faso in 2002 (Africa Mining Intelligence, 2003; African Mining, 2002a, c; Randgold Resources Ltd., 2003, p. 39).

Production of phosphate rock rose to 2,350 metric tons (t) in 2002 from 1,010 t in 2001. In 2002, the Government awarded Afcan Mining Corp. of Canada an exploration license for the Kodjari phosphate deposit, which had resources of 65 million metric tons (Mt) at a grade of 28% phosphorous pentoxide (African Mining, 2002b).

Burkina Faso did not produce petroleum or petroleum products and was dependent upon imports for its petroleum needs. In 2002, imports of petroleum products amounted to \$101 million. Petroleum products accounted for 18.6% of Burkina Faso's imports in 2002, which was an increase from 18.2% in 2001 and 11.2% in 1998 (International Monetary Fund, 2003, p. 34).

References Cited

- Africa Mining Intelligence, 2003, Africa—Ashanti's exploration budget: Africa Mining Intelligence, no. 55, February 12-25, p. 1.
African Mining, 2002a, Country update—Burkina Faso: African Mining, v. 7, no. 4, July-August, p. 6.
African Mining, 2002b, Country update—Burkina Faso: African Mining, v. 7, no. 5, September-October, p. 6.
African Mining, 2002c, Country update—Burkina Faso: African Mining, v. 7, no. 6, November-December, p. 6.

International Monetary Fund, 2003, Burkina Faso—Statistical annex: Washington, DC, International Monetary Fund Country Report No. 03/198, June 30, 46 p.
Randgold Resources Ltd., 2003, Annual report 2002: Jersey, United Kingdom, Randgold Resources Ltd., 92 p.

MALI

In the West African nation of Mali, rising gold production has caused the value of output of the mining sector to more than double from 2000 to 2002. In 2002, the mining sector accounted for nearly 12% of Mali's gross domestic product (GDP) (International Monetary Fund, 2003, p. 23). Mali has also produced cement, gold, gypsum, and salt in recent years.

Mali was Africa's third largest gold producer; in 2002, domestic gold production from large-scale gold mines increased to 56,026 kg from 42,288 kg in 2001 and 28,717 kg in 2000. Artisanal miners were estimated to produce an additional 2,000 kilograms per year (kg/yr) of gold. In 2002, Mali's gold exports amounted to about \$625 million; the share of gold in Mali's total exports amounted to 67% (International Monetary Fund, 2003, p. 27).

Anglogold Ltd. operated the Morila, Sadiola, and Yatela gold mines. In 2002, production at Morila increased to 32,746 kg from 19,647 kg in 2001 because of the higher grades of ore mined. At the Sadiola Mine, production fell to 14,927 kg in 2002 from 16,672 kg in 2001 because of difficulties with the treatment of sulfide ore. The Yatela Mine produced 8,353 kg in 2002, which was the first year of full production for the mine; output was 4,073 kg in 2001. The Syama Mine, which was operated by Randgold Resources Ltd., remained on care and maintenance after shutting down in 2001. In 2003, production at Morila was expected to be about 26,700 kg; Sadiola, 13,800 kg; and Yatela, 7,300 kg (IAMGOLD Corp., 2002, p. 1; 2003, p. 1, 4-5, 10-11; Randgold Resources Ltd., 2003, p. 17, 30).

Nevsun Resources Ltd. of Canada decided to pursue financing for the development of the Tabakoto gold deposit in late 2002. The company planned to produce nearly 3,270 kg/yr of gold for the first 5 years of the mine's life. Nevsun also planned to start a feasibility study on the nearby Segala deposit in early 2003 (Nevsun Resources Ltd., 2002).

In 2002, Randgold Resources Ltd. was conducting a feasibility study at the Loulo gold deposit. The company also explored near Morila. Robex Resources Inc. decided to conduct a prefeasibility study at the Diangounte gold deposit. Great Quest Metals Ltd. explored for gold at the Kenieba concession (African Mining, 2002a; Randgold Resources, 2003, p. 24-27, 29).

North Atlantic Nickel Corp. planned to start gold exploration at Dalakan, Diokeba, and Sinzeni in December. Ashanti planned exploration in 2003. Other companies with gold projects in Mali included AXMIN Inc. at Kofi, Etruscan Resources Inc. at Mali West, and Orezone Resources Ltd. at Kantela (Africa Mining Intelligence, 2002, 2003; African Mining, 2002b).

References Cited

- Africa Mining Intelligence, 2002, Mali—Nevsun ready to go it alone: Africa Mining Intelligence, no. 33, March 6, p. 1.
- Africa Mining Intelligence, 2003, Africa—Ashanti's exploration budget: Africa Mining Intelligence, no. 55, February 12-25, p. 1.
- African Mining, 2002a, Country update—Mali: African Mining, v. 7, no. 3, May-June, p. 13.
- African Mining, 2002b, Country update—Mali: African Mining, v. 7, no. 6, November-December, p. 11, 13.
- IAMGOLD Corp., 2002, IAMGOLD reports another record year of production: Toronto, Ontario, Canada, IAMGOLD Corp. press release, February 22, 16 p.
- IAMGOLD Corp., 2003, 2002 year-end results: Toronto, Ontario, Canada, IAMGOLD Corp. press release, March 21, 21 p.
- International Monetary Fund, 2003, Mali—Sixth review under the poverty reduction and growth facility—Staff report and press release on the executive board discussion for Mali: Washington, DC, International Monetary Fund Country Report No. 03/246, August 7, 46 p.
- Nevsun Resources Ltd., 2002, Final feasibility study—IRR and cash flow improve: Vancouver, British Columbia, Canada, Nevsun Resources Ltd. press release, 3 p.
- Randgold Resources Ltd., 2003, Annual report 2002: Jersey, United Kingdom, Randgold Resources Ltd., 92 p.

MAURITANIA

The Islamic Republic of Mauritania was Africa's second largest producer of iron ore; the country also produced cement, gypsum, petroleum products, salt, and steel. In 2002, Mauritania's mining sector accounted for 11% of the GDP compared with 12.6% in 2001 and 14.2% in 1998 (International Monetary Fund, 2003, p. 5).

Société Nationale Industrielle et Minière (SNIM) was Mauritania's only iron ore producer. In 2002, SNIM's production fell to 9.55 Mt from 10.3 Mt in 2001. SNIM was making investments in new plants and equipment that would increase its capacity to more than 13.5 million metric tons per year (table 1; Memady, 2003).

In 2002, Mauritania's exports of iron ore amounted to 10.5 Mt at a value of \$183.8 million compared with 10.1 Mt at a value of \$178.5 million in 2001. Iron ore accounted for nearly 56% of Mauritania's total exports in 2002. In 2001, France accounted for 31% of Mauritania's iron ore exports; Italy, 22%; Belgium, 18%; and Germany, 11% (Memady, 2002; International Monetary Fund, 2003, p. 46).

The Nouadhibou petroleum refinery shut down in 2001. In September 2002, the Government awarded Belhasa Trade and Development Co. and Link Resources of the United Arab Emirates two petroleum exploration concessions in the Taoudeni Basin in northeastern Mauritania. International Petroleum Grouping of Russia started drilling in block 11 in December (Africa Energy Intelligence, 2002a, b; Ford, 2003).

Imports of petroleum products increased to \$107.6 million in 2002 from \$94.5 million in 2001 and \$49.5 million in 1998. In 2002, imports of oil-exploration-related machinery and equipment amounted to \$22 million. Petroleum products

accounted for 26% of Mauritania's total imports in 2002, and oil-exploration-related machinery and equipment, 5% (International Monetary Fund, 2003, p. 47).

References Cited

- Africa Energy Intelligence, 2002a, Mauritania—Russia's IPG starts drilling: Africa Energy Intelligence, no. 335, December 4-17, p. 5.
- Africa Energy Intelligence, 2002b, Mauritania—UAE firms in onshore move: Africa Energy Intelligence, no. 331, October 9-22, p. 3-4.
- Ford, Mark, 2003, Reassessing Africa's neglected refineries: African Energy, no. 69, December, p. 18-19.
- International Monetary Fund, 2003, Islamic Republic of Mauritania—Statistical annex: Washington, DC, International Monetary Fund Country Report No. 03/315, October 10, 63 p.
- Memady, El Gaouth, 2003, Mauritania, in Mining annual review 2002: London, United Kingdom, Mining Journal Ltd. CD-ROM.

NIGER

Niger was Africa's largest producer of uranium. In recent years, Niger has also produced cement, clays, coal, gold, gypsum, limestone, salt, sand and gravel, and sulfuric acid. Other mineral resources included iron ore, molybdenum, phosphate rock, and petroleum.

In 2002, Niger's production of uranium (contained in uranium oxide) rose to 3,076 t from 2,919 t in 2001 (table 1). Compagnie Minière D'Akouta produced about 2,000 t of uranium in 2002, and Société des Mines l'Air, 1,000 t; both mines were operated by Compagnie Générale des Matières Nucléaires. In 2002, exports of uranium amounted to \$89 million; uranium accounted for 31% of national exports. Niger's uranium was exported to France and Japan (Africa Mining Intelligence, 2003; International Monetary Fund, 2003, p. 30).

Coal and sulfuric acid were consumed during the uranium production process; Niger's output of sulfuric acid rose to 62,000 t in 2002 from 55,000 t in 2001. Niger imported sulfur from France and the United States. In 2002, domestic coal production rose to 182,916 t from 163,275 t in 2001 (table 1).

Artisanal miners produced gold at Koma Bangou and tin in northern Niger. In 2002, gold production fell by 7%, and tin production rose by 22%. Etruscan Resources and Semafo sought funding for the development of the Samira Hill gold project, which was expected to produce about 3,100 kg/yr of gold. The companies planned to have funding in place during the first half of 2003. Geoafrica Gold Corp. held exploration licenses for gold, and Secomi, for tin (Etruscan Resources Inc., 2003, p. 2; Knopf, 2003).

Niger did not produce petroleum or petroleum products and was dependent upon imports for its petroleum needs. In 2002, fuel and energy imports amounted to \$43 million. Fuel and energy accounted for nearly 12% of total imports in 2002 compared with 21% in 2000 (International Monetary Fund, 2003, p. 31).

References Cited

- Africa Mining Intelligence, 2003, Niger—Bargaining over uranium price: Africa Mining Intelligence, no. 56, February 26-March 11, p. 3.
- Etruscan Resources Inc., 2003, 2002 annual report: Windsor, Nova Scotia, Canada, Etruscan Resources Inc., 36 p.

TABLE 1
BURKINA FASO, MALI, MAURITANIA, NIGER: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Country and Commodity	1998	1999	2000	2001	2002
BURKINA FASO²					
Cement	170,000 ^r	180,000 ^{r, e}	100,000 ^r	50,000	30,000 ^e
Dolomite cubic meters	NA	NA	NA	3,000	3,000
Gold kilograms	1,091	869 ^r	553 ^r	209 ^r	390
Granite cubic meters	NA	NA	NA	280,000	300,000
Manganese, Mn content of ore ^e	1,000	--	--	--	--
Phosphate rock:					
Gross weight	NA	NA	NA	1,010	2,350
P ₂ O ₅ content	NA	NA	NA	280	650
Pumice and related volcanic materials ^e	10,000	10,000	10,000	10,000	10,000
Salt ^e	5,000	5,000	5,000	5,000	5,000
Stone, marble ^e	100,000	100,000	100,000	100,000	100,000
MALI³					
Cement, hydraulic	-- ^r	-- ^r	-- ^r	-- ^r	-- ^e
Gold, mine output, gold content ⁴ kilograms	20,562	23,690	28,717	42,288	56,026
Gypsum ^e	500	500	500	500	500
Salt ^e	6,000	6,000	6,000	6,000	6,000
MAURITANIA⁵					
Cement	100,000	100,000	120,000 ^r	200,000 ^r	200,000 ^e
Gypsum ^e	100,000	100,000	100,000	100,000	100,000
Iron ore:					
Gross weight ⁶ thousand metric tons	11,373	10,401	11,345 ^r	10,302 ^r	9,553
Iron content ^e do.	7,410 ⁷	7,475 ⁷	7,500	6,700 ^r	6,200
Petroleum refinery products: ^e					
Liquefied petroleum gas thousand 42-gallon barrels	440	440	440	440	-- ⁷
Gasoline do.	1,900	1,900	1,900	1,900	-- ⁷
Kerosene do.	470	470	470	470	-- ⁷
Distillate fuel oil do.	1,100	1,100	1,100	1,100	-- ⁷
Residual fuel oil do.	2,450	2,450	2,450	2,450	-- ⁷
Other do.	700	700	700	700	-- ⁷
Total do.	7,060	7,060	7,060	7,060	-- ⁷
Salt ^e	5,500	5,500	5,500	5,500	5,500
Steel, crude	5,000	5,000	5,000	5,000 ^e	5,000 ^e
NIGER⁸					
Cement, hydraulic	30,000	30,000	40,000	40,000	40,000 ^e
Coal, bituminous	181,213 ^r	168,466 ^r	158,200 ^r	163,275 ^r	182,916
Gold ⁹ kilograms	20 ^{r, e}	21 ^r	25 ^r	30 ^r	28
Gypsum	2,559 ^r	1,502	1,474	3,205 ^r	3,200 ^e
Limestone	NA	68,672	60,535	103,726	147,000 ^e
Molybdenum concentrate, Mo content ^e	-- ^r	-- ^r	-- ^r	-- ^r	-- ^e
Salt ^e	2,000	2,000	2,000	2,000	2,000
Sulfuric acid:					
Gross weight	95,000	60,000	52,000	55,000	62,000
Sulfur content	31,000	20,000	17,000	18,000	20,000
Tin, mine output, Sn content	26 ^r	32	22	9 ^r	11
Uranium, U content	3,731	2,916	2,895	2,919 ^r	3,076

See footnotes at end of table.

TABLE 1--Continued
 BURKINA FASO, MALI, MAURITANIA, NIGER: PRODUCTION OF MINERAL COMMODITIES ¹

⁶Estimated; estimated data are rounded to no more than three digits. ⁷Revised. NA Not available. -- Zero.

¹Table includes data available through December 1, 2003.

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

³In addition to the commodities listed, Mali produced clays, stone, and sand and gravel for local construction purposes in addition to diamond, marble, silver, and tin, but information is inadequate to make reliable estimates of output levels.

⁴Excludes artisanal production, estimated to be about 2,000 kilograms per year.

⁵In addition to the commodities listed, modest quantities of crude construction materials (clays, sand and gravel, and stone) presumably were produced, but output was not reported quantitatively. The minimill of Société Arabe de Fer et d'Acier en Mauritanie produced rebar and wire, but available information is inadequate to make reliable estimates of output levels.

⁶Reported by National Industrial and Mining Company.

⁷Reported figure.

⁸In addition to the commodities listed, phosphate rock, tungsten ore, and a variety of construction materials (clays, sand and gravel, and stone) were produced, but information is inadequate to make reliable estimates of output levels.

⁹Does not include unreported production; total output of gold was estimated to be roughly 1,000 kilograms per year.

TABLE 2
 BURKINA FASO, MALI, MAURITANIA, AND NIGER: STRUCTURE OF THE MINERAL INDUSTRIES IN 2002

(Metric tons unless otherwise specified)

Country and Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
BURKINA FASO			
Cement	Ciment du Burkina (Holcim Ltd. of Switzerland, 100%)	Ouagadougou plant	200,000.
MALI			
Cement	Diamou Cement (private, 100%)	Plant 45 kilometers west of Bamako	50,000.
Do.	Société Lou Kouma (private, 100%)	Bamako plant	236,000.
Gold	Société d'Exploration des Mines d'Or de Sadiola S.A. (Anglogold, 38%; Iamgold, 38%; Government, 18%; World Bank, 6%)	Sadiola Hill mine	5,300,000 ore.
Do.	Anglogold Ltd., 40%; Randgold Resources Ltd., 40%; Government, 20%	Morila mine	3,000,000 ore.
Do.	Anglogold Ltd., 40%; IAMGOLD Corp., 40%; Government, 20%	Yatela mine	2,500,000 ore.
MAURITANIA			
Cement	Ciment de Mauritanie (private, 100%)	Nouakchott grinding plant	400,000.
Gypsum	Société Arabe des Industries Métallurgiques [Société Nationale Industrielle et Minière (Government, 78%; private, 22%)]	Nouakchott mine	100,000.
Iron ore	Société Nationale Industrielle et Minière	Mines in northern Mauritania	12,000,000.
Petroleum products ¹	thousand 42-gallon barrels Société Mauritanienne d'Industrie de Raffinage	Nouadhibou refinery	8,000.
Salt	Société Mauritanienne des Industries du Sel	Lekhcheime mines	5,500.
NIGER			
Cement	Société Nigérienne de Cimenterie (Holderbank, 77%; Government, 23%)	Malbaza plant	40,000.
Coal	Société Nigérienne de Charbon d'Anour-Araren (Government, 100%)	Anour-Araren opencast operation	170,000.
Gold	kilograms Artisans	Liptako regin	1,000.
Salt	Sonisalt (Government, 100%)	Adebour and Tegguida n'tessoum	3,000.
Uranium	Société des Mines de l'Air (Cogema, 63.4%; Government, 36.6%)	Arlit mine	1,400.
Do.	Compagnie Minière D'Akouta (Cogema, 34%; Government, 36.6%; Overseas Uranium Resources of Japan, 25%; Empresa Nacional del Uranio of Spain, 10%)	Akouta mine	2,000.

¹Shut down in 2001.