

THE MINERAL INDUSTRY OF ERITREA

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The East African country of Eritrea, which became independent from Ethiopia in 1993, produced a variety of minerals, rock products, and semimanufactured goods. These included basalt, cement, common clay, coral, gold, granite, gravel, gypsum, kaolin, lime, limestone, marble, pumice, quartz, salt, sand, and silica sand. The country also has deposits of such metals as chromium, copper, iron, lead, magnesium, nickel, silver, and zinc and such industrial minerals as barite, feldspar, and potash (tables 1, 3).

In 2004, Eritrea's gross domestic product (GDP) was about \$4.1 billion based on purchasing power parity. The GDP increased by 1.8% in 2004 after rising by 3% in 2003. In 2002, the building and construction and the manufacturing sectors accounted for 9% each of the GDP; electricity and water, 1%; and mining and quarrying, less than 1% (International Monetary Fund, 2003, p. 79; 2005, p. 208; 2005¹).

Sub-Sahara Resources NL of Australia held the Adi Nefas, the Adi Rassi, the Debarwa, and the Medrizien exploration licenses near Asmara. In 2004, Sub-Sahara and its joint-venture partner Sunridge Gold Corp. of Canada conducted drilling at the Debarwa copper-gold deposit. The companies also conducted exploration at the Gupo Gold (formerly known as Adi Nefas Doop) deposit in the Adi Nefas License and the Adi Nefas Gossan deposit in the Medrizien License. Sub-Sahara and joint-venture partner Dragon Mining NL of Australia conducted a sampling program at the Zara project in northwestern Eritrea (Sub-Sahara Resources NL, 2004, p. 5-6, 9-11).

Nevsun Resources Ltd. held the Akurdet, the Augaro, the Bisha and the Okreb properties, which are located to the west of Asmara. In 2004, the company spent \$5.9 million on exploration at Bisha compared with \$5 million in 2003. In October, Nevsun announced that resources of contained zinc amounted to about 1.32 million metric tons; copper, 435,000 metric tons (t); silver, 1,300 t; and gold, 48 t (Nevsun Resources Ltd., 2005a, p. 8; 2005b).

In 2004, Sanu Resources Inc. of Canada explored at its Fanco, Guluj, Hurum, Kerkebet, Kerkebet West, Lokage, and Mogoraib properties in Western Eritrea. The company spent \$697,000 on exploration in Eritrea in 2004 (Sanu Resources Ltd., 2004).

In early 2004, Explorations Minières du Nord Ltée. (MDN) acquired a controlling interest in Eritrean Minerals Corp., which held the Harab Suit, the Matite, the Seroa, and the Seroa Hill exploration licenses. MDN started exploration at Harab Suit in June (Explorations Minières du Nord Ltée., 2005, p. 5).

In September 2004, the Government ordered a halt to all exploration activity in Eritrea. The suspension was still in effect at the end of 2004 (Sub-Sahara Resources NL, 2004, p. 4).

Since the closure of the Assab Oil Refinery in 1997, Eritrea's demand for refined petroleum products has been met through

imports. Perenco S.A. held an exploration license for the Defnin block in northeastern Eritrea, which covered 13,860 square kilometers in the offshore and onshore. In early 2004, Korea National Oil Corp. and SK Corp. of the Republic of Korea acquired stakes in the Defnin block (Africa Energy Intelligence, 2004b).

In January 2004, Afrex Ltd. and its joint-venture partners Hardman Ltd. and PanContinental Oil & Gas NL of Australia signed a memorandum of understanding with the Government for the Massawa block, which covered one-third of Eritrea's offshore and the Dahlek Islands. In December, the Government declared the agreement to be null and void (Africa Energy Intelligence, 2004a; PanContinental Oil & Gas NL, 2005).

The state-owned Eritrean Electricity Authority (EEA) was responsible for the generation, transmission, and distribution of electricity. After repairs were completed on the Hirgigo plant near Massawa in March 2003, EEA produced more power than the country consumed. In July 2004, the World Bank approved \$29 million in loans and \$21 million in grants to rehabilitate the power distribution system and to expand rural electrification. About 86% of urban households had access to grid electricity compared with 3% of rural households (World Bank Group, 2004).

Outlook

Eritrea's mineral industry will change little in the short run. Demand for such construction materials as basalt, granite, gravel, limestone, marble, and sand depends upon the strength of the domestic economy. Development of metals deposits depends upon favorable global market conditions, the continuation of peace with Ethiopia, and land-mine clearing. According to predictions by the International Monetary Fund (2005, p. 208), the GDP could increase by 0.7% in 2005 and by 0.1% in 2006.

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¹A reference that includes a section mark (§) is found in the Internet Reference Cited section.

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TABLE 1
 ERITREA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2000	2001	2002	2003	2004
Basalt	122,928	161,759	148,424	111,677 ^r	499,349
Cement ^c	45,000	45,000	45,000	45,000	45,000
Clays:					
Common	63,427	282,518	225,504	218,539 ^r	173,412
Kaolin	943	588	250	281 ^r	101
Coral	74,130	38,596	49,297	70,000 ^{r, e}	95,131
Gold kilograms	264	107	--	9 ^r	33
Granite	122,017	145,193	150,053	140,418 ^r	192,803
Gravel	113,769	339,692	220,928	340,125 ^r	169,254
Gypsum	330	985	504	1,284 ^r	500
Laterite	2,049	3,575	5,200	832 ^r	1,240
Lime	40,000 ^c	42,610	47,406	5,400 ^r	2,915
Limestone ^{e, 3}	2,690 ⁴	2,800 ^r	2,900	2,900	2,900
Marble blocks square meters	1,990	17,656	12,851	1,777,814 ^r	780,733
Pumice	41	195	212	50 ^r	439
Quartz	600 ^c	350	215	370 ^r	4,496
Salt	47,498	77,853	116,268	5,241 ^r	3,075
Sand thousand metric tons	593	685	605	788 ^r	611
Silica sand	--	--	36	40 ^c	46

^cEstimated; estimated data are rounded to no more than three significant digits. ^rRevised. -- Zero.

¹Includes data available through July 26, 2005.

²In addition to the commodities listed, feldspar and talc reportedly were produced, but information is inadequate to estimate output.

³For other than cement.

⁴Reported figure.

TABLE 2
 ERITREA: STRUCTURE OF THE MINERAL INDUSTRY IN 2004

(Metric tons unless otherwise specified)

Commodity	Major operating companies	Location of main facilities	Annual capacity
Cement	Eritrea Cement Works	Massawa	45,000 cement; 45,000 clinker.
Petroleum products thousand barrels	Petroleum Corp. of Eritrea ¹	Assab	5,320.

¹Has not operated since 1997.

TABLE 3
ERITREA: MINERAL RESOURCES IN 2004

Commodity	Deposit	Tonnage	Grade	Mineral content
Copper and gold ^{2,3}	Debarwa:			
	Main and Footwall Zones	1.65 Mt	5.1% Cu, 1.4 g/t Au	84,000 t Cu, 2 t Au.
Do.	Leached Zone	0.47 Mt	7.07 g/t Au	3 t Au.
Gold ³	Gupo Gold (Adi Nefas Doop)	1.9 Mt	2.99 g/t Au	6 t Au.
Zinc, copper, gold, and silver	Bisha	28.6 Mt	4.63% Zn, 1.52% Cu, 1.68 g/t Au, 45.1 g/t Ag	1.32 Mt Zn, 435,000 t Cu, 48 t Au, 1,300 t Ag.
	Do. ³	Emba Derho	2.59 Mt	2.36% Zn, 0.39% Cu, 0.1 g/t Au, 4.5 g/t Ag
Zinc, copper, lead, gold, and silver ³	Adi Nefas Gossan	1.4 Mt	9.3% Zn, 1.4% Cu, 1.6% Pb, 4.28 g/t Au, 160 g/t Ag	130,000 t Zn, 20,000 t Cu, 22,000 t Pb, 6 t Au, 220 t Ag.

¹Abbreviations used for commodities in this table include the following: Ag--silver; Au--gold; Cu--copper; Pb--lead; Zn--zinc. Abbreviations used for units of measure include the following: g/t--grams per metric ton; Mt--million metric tons; t--metric tons.

²Sub-Sahara Resources NL reported that additional resources at Debarwa were 1.3 Mt; grades were not available.

³Sub-Sahara indicated that these resource estimates were not in compliance with the standards set by the Australasian Joint Ore Reserves Committee; readers were advised to treat these estimates with caution.

Sources:

Nevsun Resources Ltd., 2005, Annual financial statements—December 31, 2004: Vancouver, British Columbia, Canada, Nevsun Resources Ltd., 15 p.

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