2006 Minerals Yearbook

ETHIOPIA

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The Mineral Industry of Ethiopia

By Thomas R. Yager

In 2006, Ethiopia played a significant role in the world's production of tantalum; the country's share of global tantalum mine production amounted to 5%. Other domestically significant mining and mineral processing operations included cement, crushed stone, dimension stone, and gold (Magyar, 2007). Ethiopia was not a globally significant consumer of minerals.

Minerals in the National Economy

In fiscal year 2005-06, the manufacturing sector accounted for 5.3% of the gross domestic product, and mining and quarrying, 0.5%. The value of output in the mining sector increased by 8.3% in fiscal year 2005-06. From fiscal year 2000-01 to fiscal year 2005-06, the value of output in the construction sector increased by an average of 9.9% per year. Gold exports were $64.7 million, or 6.5% of total exports (International Monetary Fund, 2007, p. 5, 26).

Production

In fiscal year 2005-06, dolomite production increased by 496%; sand, 160%; salt, 150%; scoria, 96%; basalt, 58%; and columbite-tantalite, by 18% (table 1). Cement output increased by nearly 90% from fiscal year 2001-02 to fiscal year 2005-06. Higher construction material output may be attributable to growth in the construction sector (Gebre Egziabher Mekonen, Mineral Operations Department Head, Ethiopia Ministry of Mines and Energy, written commun., August 15, 2006).

Structure of the Mineral Industry

Mugher Cement Enterprise and Messebo Building Materials Production Share Company were state-owned; the Dire Dawa cement plant was privatized in 2005 (Nigatu, Zenebe, and Tadessse, 2006). Gold, marble, and platinum, and most salt mining companies were privately owned; niobium (columbium), soda ash, and tantalum mining companies were state-owned (table 2).

Commodity Review

Metals

Gold.—Midroc Gold Mine plc (a subsidiary of Midroc Ethiopia Group) produced most of the county's gold output at the Lega Dembi Mine in southern Ethiopia. In March 2006, the Government announced that it had signed an 11-year agreement with Western Wellega Gold Exploration plc (an Ethiopian- and Russian-owned company) to mine gold at Dengi in Oromia State. The company planned to produce nearly 1,500 kilograms per year of gold from placer deposits, starting in February 2007 (Bekele, 2006a; Ethiopia Ministry of Mines and Energy, 2006a).

Iron and Steel.—Sheba Steel Mills plc planned to increase its capacity to 20,000 metric tons per year (t/yr) from 10,000 t/yr by January 2007. Wallia Steel Factory planned to start production at its new plant with a capacity of 36,000 t/yr in November 2006. Housing construction projects were expected to consume 505,000 metric tons of rebar over a 4-year period; the Government banned scrap exports in early October 2006 to prevent shortages (Addis Fortune, 2006).

Industrial Minerals

Cement.—Ethiopia's cement plants were producing at their full capacity of about 1.7 million metric tons per year (Mt/yr) in 2006. In spite of the recent increases in production, Ethiopia experienced shortages of cement; demand was estimated to be 2.4 Mt/yr. The dam and irrigation canals for the Tendaho Sugar Plantation project consumed more than 150,000 t/yr of cement. Other projects that contributed to shortages included the construction of residential housing, 3 hydroelectric dams, and 5,561 kilometers (km) of new roads (Nigatu, Zenebe, and Tadessse, 2006; Zenebe, 2006).

Mugher Cement Enterprise planned to start an expansion of its capacity to 2.3 Mt/yr from 900,000 t/yr in late December 2006; the project was expected to be completed in September 2008. National Cement SC planned to increase capacity at the Dire Dawa plant to about 180,000 t/yr from 72,000 t/yr. Falath Petroleum Company of Saudi Arabia planned to complete a new cement plant at Melka Jedu with a capacity of about 660,000 t/yr in 2009. Midroc Ethiopia Group and Star Business Group planned to build new plants in the Dejen area with capacities of 110,000 t/yr and 73,000 t/yr, respectively. The Addis Ababa city government was considering the reopening of the Addis Ababa Cement Factory, which had a capacity of 120,000 t/yr (Building Bulletin, 2006; Nigatu, 2006; Nigatu, Zenebe, and Tadessse, 2006; Zenebe, 2006).

Gemstones.—In September 2006, Romso Minerals plc (an Ethiopian- and Swiss-owned company) signed an agreement with the Government to mine peridot and olivine at Romso Kebele in Oromia State. The value of production was expected to be $17.3 million over the course of the 10-year mining license (Ethiopian Herald, 2006).

Salt.—In 2006, Ethiopia was producing salt at a rate of 218,000 t/yr; domestic consumption amounted to nearly 400,000 t/yr. Salt was imported from Djibouti. Afar Salt Production Share Company had a capacity of 50,000 t/yr in early 2006; the company planned to increase its capacity to 250,000 t/yr and to import salt iodization machinery. The Government mandated that all table salt be iodized by November 2006; only 4.3% of the population consumed iodized salt in 2003 (Ethiopian Reporter, 2006a; Tadesse, 2006).

Mineral Fuels

Natural Gas.—In February 2006, the Government cancelled the license held by Si Tech International of Jordan

for development of the Calub and Hilala gasfields because the company failed to start work on the project. In August, the Government awarded the license to Petronas Carigali Overseas Sdn. Bhd. of Malaysia. Petronas planned to build a gas-to-liquids plant at Calub and a petroleum products pipeline to Djibouti at an estimated cost of $1.9 billion (Bekele, 2006b; Xinhua News Agency, 2006).

Petroleum.—Petronas explored for crude petroleum at Block G in the Gambella Basin. In 2006, the Government signed production sharing agreements with Afar Exploration LLC of the United States for areas in Afar National Regional State, and Lundin Petroleum AB of Sweden for the onshore Blocks 2 and 6 in the Ogaden Basin. The Government also signed an exploration agreement with White Nile Ltd. of the United Kingdom for an onshore block in Gambella Basin (Bekele, 2006b; Ethiopia Ministry of Mines and Energy, 2006b; Ethiopian Reporter, 2006b).

Outlook

The low level of mineral exploration in Ethiopia was likely to constrain production increases for niobium (columbium), gold, silver, and tantalum. Cement demand was likely to continue to increase because of Government plans to build 20,000 km of new roads, 500,000 new houses, and 5 hydroelectric dams in the next 5 years. The road construction projects were expected to consume 3 million metric tons of cement. Cement production was unlikely to increase until late 2008 because of capacity constraints. The production of other construction materials was likely to increase (Nigatu, Zenebe, and Tadessse, 2006; Zenebe, 2006).

References Cited

Addis Fortune, 2006, Traders object to scrap metal export ban: Addis Fortune [Addis Ababa, Ethiopia], October 15, 2 p.

Bekele, Kalyesus, 2006a, NBE buys over 600 kgs of gold: Ethiopian Reporter [Addis Ababa, Ethiopia], December 23, 2 p.

Bekele, Kalyesus, 2006b, 19 companies submit expression of interest for gas fields development: Ethiopian Reporter [Addis Ababa, Ethiopia], April 1, 2 p.

Building Bulletin, 2006, Mugher Cement to construct new line: Building Bulletin, no. 104, December, p. 4.

Ethiopia Ministry of Mines and Energy, 2006a, Gold mining agreement signed: Addis Ababa, Ethiopia, Ethiopia Ministry of Mines and Energy press release, March 22, 2 p.

Ethiopia Ministry of Mines and Energy, 2006b, Petroleum production sharing agreement signed: Addis Ababa, Ethiopia, Ethiopia Ministry of Mines and Energy press release, March 29, 2 p.

Ethiopian Herald, 2006, Company signs accord with Ministry to extract peridot/olivine: Ethiopian Herald [Addis Ababa, Ethiopia], September 15, 1 p.

Ethiopian Reporter, 2006a, Economic highlight—Company worth 50mln birr begins trial production of salt: Ethiopian Reporter [Addis Ababa, Ethiopia], January 28, 1 p.

Ethiopian Reporter, 2006b, Ministry signs oil exploration accord: Ethiopian Reporter [Addis Ababa, Ethiopia], November 11, 1 p.

International Monetary Fund, 2007, The Federal Democratic Republic of Ethiopia—Statistical appendix: Washington, DC, International Monetary Fund, July 19, 37 p.

Magyar, M.J., 2007, Tantalum: U.S. Geological Survey Mineral Commodity Summaries 2007, p. 164-165.

Nigatu, Derese, 2006, MIDROC, Star eye Dejen for cement production: Addis Fortune [Addis Ababa, Ethiopia], July 9, 2 p.

Nigatu, Derese, Zenebe, Wudineh, and Tadesse, Habte, 2006, Cement prices strike at the heart of the urban economy: Addis Fortune [Addis Ababa, Ethiopia], June 4, 7 p.

Tadesse, Habte, 2006, Ministry counts down moratorium for iodised salt: Addis Fortune [Addis Ababa, Ethiopia], June 4, 4 p.

Xinhua News Agency, 2006, Petronas wins Ethiopia's gas field tender: Xinhua News Agency, August 7, 2 p.

Zenebe, Wudineh, 2006, City considers reopening old factory for cement production: Addis Fortune [Addis Ababa, Ethiopia], June 28, 2 p.

TABLE 1
ETHIOPIA: PRODUCTION OF MINERAL COMMODITIES[1, 2]

(Metric tons unless otherwise specified)

Commodity[3]		2002[e]	2003	2004	2005	2006[e]
Cement, hydraulic		900,000 [4]	1,130,066	1,315,934	1,568,624 [r]	1,700,000
Clays:[5]						
Brick[e]		150,000 [r]	100,000 [r]	106,609 [4]	120,000 [r]	120,000
Kaolin, China clay		3,534 [4]	3,088	4,251	3,726 [r]	1,641 [4]
Other clay[e]	cubic meters	26,000 [r]	28,000	30,000 [r]	33,000 [r]	33,000
Columbite-tantalite, ore and concentrate:						
Gross weight	kilograms	55,000 [4]	58,350	70,730	92,500 [r]	108,900 [4]
Nb content[e]	do.	5,500	5,800	7,100	9,300 [r]	11,000
Ta content	do.	33,000	35,000 [e]	45,000	59,000 [r]	70,000 [4]
Diatomite		500	700	2,000	400 [r]	400
Feldspar		230	208	361	445 [r]	478 [4]
Gemstones:[6]						
Amethyst	kilograms	NA	NA	1	1	43 [4]
Aquamarine	do.	NA	NA	2	2	2
Emerald	do.	NA	--	1	-- [r]	--
Garnet	do.	NA	6	11	20 [r]	20
Opal	do.	NA	187	370	496 [r]	516 [4]
Peridot	do.	NA	1	--	--	4 [4]
Quartz	do.	NA	31	469	31 [r]	31
Sapphire	do.	NA	8	1	-- [r]	--
Tourmaline	do.	NA	5	5 [e]	1 [r]	1
Gold, mine output, Au content[6]	do.	3,670 [4]	3,875	3,443	4,376 [r]	4,028 [4]
Gypsum and anhydrite, crude		22,500 [4]	48,058	51,200	34,729 [r]	35,000
Lime		4,500	3,400	3,800	3,800 [e]	3,800
Platinum, mine output, Pt content[7]	kilograms	-- [4]	--	--	--	5 [4]
Quartz		NA	115	170	99 [r]	40 [4]
Salt, rock		120,000	145,070	200,000	87,354 [r]	218,000 [4]
Silver, mine output, Au content	kilograms	900 [4]	999	1,133	886 [r]	900
Soda ash, natural		3,843 [4]	4,377	6,444	8,207 [r]	8,200
Steel:[e]						
Crude		6,000	6,000	30,000	60,000	60,000
Semimanufactured		40,000	40,000	70,000	110,000	110,000
Stone, sand and gravel:[5]						
Basalt:						
Construction stone		NA	506,100	477,100	651,700	1,029,000 [4]
Other		NA	620,000	18,700	52,900	57,700 [4]
Dolomite		NA	1,600	2,250	2,148 [r]	12,812 [4]
Granite	square meters	10,000	4,087	19,499	21,000 [r, e]	21,000
Ignimbrite	cubic meters	NA	229,013	229,277	258,829 [r]	204,516 [4]
Limestone:						
Slab/tiles	square meters	NA	6,420	3,078	3,300 [r, e]	3,300
Other	thousand metric tons	2,000	2,290	2,380	1,635 [r]	1,750
Marble:						
Slab/tiles	square meters	110,000	106,241	122,008	130,000 [r, e]	130,000
Terrazzo	do.	NA	144,045	114,446	120,000 [r, e]	120,000
Block and other		14,000	16,200	14,600	22,000 [r, e]	22,000
Pumice		210,000	218,676	270,994	255,334 [r]	255,622 [4]
Rhyolite		NA	33,700 [r]	20,700 [r]	22,000 [r, e]	22,000
Sand[e]	thousand metric tons	840 [r]	660 [r]	490 [r]	312 [r, 4]	810 [4]
Sandstone	do.	NA	318	1,221	1,300 [r, e]	1,300
Scoria[e]		120,000 [r]	100,000 [r]	85,000 [r]	68,351 [r, 4]	133,706 [4]
Silica sand		6,000	5,400	4,550	4,900 [r, e]	4,900

[e]Estimated; estimated data are rounded to no more than three significant digits. [r]Revised. NA Not Available. -- Zero.

[1]Includes data available through June 20, 2007.

[2]Data are for the Ethiopian calendar year ending July 7 of the year listed, except for platinum and steel.

[3]In addition to the commodities listed, some lignite, sulfuric acid, and talc reportedly were produced, but information is inadequate to estimate output.

[4]Reported figure.

[5]When reported as volume or pieces, conversions to metric tons are estimated.

[6]Does not include smuggled artisanal production.

[7]Yubdo Mine only. Platinum was also reportedly contained in gold ingots from the Lega Dembi Mine, but information is inadequate to estimate output.

TABLE 2
ETHIOPIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2006

(Metric tons unless otherwise specified)

Commodity		Major operating companies	Location of main facilities	Annual capacity
Caustic soda		Abiyata Soda Ash Enterprise (Government-owned)	Plant at Ziway	10,000.
Cement		Mugher Cement Enterprise (Government-owned)	Plant at Mugher	900,000.
Do.		Messebo Building Materials Production Share Company (Government-owned)	Plant at Mekele	700,000.
Do.		Mugher Cement Enterprise	Plant at Addis Ababa[1]	120,000.
Do.		National Cement SC	Plant at Dire Dawa	72,000.
Crushed stone		CGC Overseas Construction Ethiopia	Plant at Addis Ababa	930,000.[e]
Glass		Addis Ababa Bottle and Glass Share Company	do.	8,000.
Gold		Midroc Gold Mine plc (subsidiary of Midroc Ethiopia Group)	Mine at Lega Dembi	1,500,000 ore processing.
Do.	kilograms	do.	do.	4,300 gold.
Kaolin		Ethiopian Mineral Resources Development Enterprise (Government-owned)	Mine at Bamba Wuha	15,000.
Marble		Ethiopian Marble Industries	Mines at Harar and various sites in western Ethiopia	NA.
Do.		National Mining Corp. (subsidiary of Midroc Ethiopia Ltd.)	Mine at Boka	NA.
Do.	square meters	do.	Plant at Awash	500,000.
Do.		Saba Stones	Mine in Tigre Province	NA.
Niobium (columbium) and tantalum	kilograms	Ethiopian Mineral Development Share Company (Government-owned)	Kenticha Mine near Borena	112,000 tantalum;[e] 17,000 niobium.[e]
Platinum	do.	Golden Prospect plc	Mine at Yubdo	5.[e]
Salt		Afar Salt Production Share Company (Government-owned)	Mine at Afdera Lake	50,000.
Do.		Afdera Production Share Company, Bashanafer Trading plc, Eretale Production Share Company, and Lucy Production Share Company	Mines at Afdera Lake	NA.
Soda ash		Abiyata Soda Ash Enterprise	Mine at Lake Abiyata	20,000.[e]
Steel:				
Crude		Abyssinia Integrated Steel plc	Plant at Debre Zeit	60,000.[e]
Do.		Sheba Steel Mills plc	do.	10,000.[e]
Do.		Ethiopia Steel Smelting Enterprise (Government-owned)	NA	7,000.
Semimanufactured		Abyssinia Integrated Steel plc	Plant at Debre Zeit	60,000.
Do.		Zuquala Steel Rolling Mill Enterprise (Government-owned)	do.	36,000.
Do.		Wallia Steel Factory	NA	36,000.
Do.		Sheba Steel Mills plc	Plant at Debre Zeit	10,000.
Do.		Ethiopia Steel Smelting Enterprise	NA	7,000.
Galvanized		Akaki Metal Products Factory	Plant at Akaki	NA.
Sulfuric acid		Melkasa Aluminum Sulfate and Sulfuric Acid Factory	Plant at Melkasa	NA.

[e]Estimated. NA Not available.
[1]Not operating in 2006.