THE MINERAL INDUSTRIES OF

KENYA AND UGANDA

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KENYA

The mineral industry in the East African country of Kenya was chiefly noted for its production of fluorspar, salt, and soda ash. Other industrial minerals produced in recent years included barite, diatomite, feldspar, gypsum, lime, silica sand, and vermiculite. Building materials produced included cement, coral, granite, limestone, marble, and shale. Kenya produced small amounts of gold and secondary aluminum, iron ore, lead, and steel. The country also produced carbon dioxide gas, gemstones, and refined petroleum products (table 1).

In 2002, Kenya's gross domestic product (GDP) increased by 1% after rising by 1.2% in 2001 and decreasing by 0.1% in 2000. The GDP was $39.7 billion at purchasing power parity; per capita GDP at purchasing power parity was nearly $1,300. In 2001, manufacturing accounted for nearly 13% of the GDP; construction, 4%; utilities, 1%; and mining and quarrying, less than 1%. From 1996 to 2001, the mining and quarrying sector grew by an average of 1.4% per year (International Monetary Fund, 2003a, p. 30-31; 2003b, p. 180; 2003§[1]).

Commodity Review

Metals

Gold.—Most of Kenya's gold production was artisanal. International Gold Exploration AB operated the Lolgorien production facilities and the Teng Teng Mine. Exports of gold amounted to 1,477 kilograms (kg) in 2002, compared with 1,545 kg in 2001 and 440 kg in 1997. In 2001, the value of gold exports amounted to $13.1 million (M.J. Njeru, Mines and Geology Department, written commun., 2003; Jerono, 2002§).

Kansai Mining Corp. reported that exploration activities would start at Migori in December 2002. The company planned a drilling program in 2003. In November 2002, the Government awarded AfriOre Ltd. a special prospecting license for the Siaya prospect in western Kenya. AfriOre started a $1.3 million exploration program at Ndori and Siaya. In 2002, the company acquired an option to earn 100% interest in Ndori from San Martin Mining Research and Investment Co. Ltd. (AfriOre Ltd., 2002; 2003, p. 5; Kansai Mining Corp., 2002).

Iron and Steel.—Kenya mined small amounts of iron ore, which were used as one of the raw materials in cement production. The country's four rolling mills (table 2) had a combined capacity of 220,000 metric tons per year (t/yr) and relied upon imported billet.

The International Iron and Steel Institute (2002, p. 81, 91) estimated that Kenya's imports of semimanufactured and finished steel products amounted to 344,000 metric tons (t) in 2001 compared with 303,000 t in 2000 and 265,000 t in 1996. From 1996 to 2001, Kenya's apparent consumption of finished steel rose to 362,000 t from 283,000 t.

Lead and Zinc.—Associated Battery Manufacturers EA operated Kenya's only secondary lead smelter at Athi River. National production of refined lead amounted to about 1,000 t/yr, and consumption, 3,000 t/yr. Kenya consumed 12,000 t/yr of imported zinc for such applications as the production of galvanized steel. In 2002, Anglo American Base Metals Exploration abandoned its exploration for copper and zinc near the Kenyan coast (Opiyo-Akech, 2002; International Lead and Zinc Study Group, 2003, p. 6, 8, 40).

Titanium and Zirconium.—Tiomin Resources Inc. planned to mine the heavy-mineral sands deposits at Kwale starting in the second quarter of 2005. During the first 6 years of the project, Tiomin would produce more than 300,000 t/yr of ilmenite, 75,000 t/yr of rutile, and 38,000 t/yr of zircon; the expected mine life was 13 years. In 2002, the Government approved Tiomin's application for a mining lease and environmental impact assessment license at Kwale. Additionally, the High Court dismissed a lawsuit against Tiomin by local parties opposed to the project on environmental grounds (Tiomin Resources Inc., 2002a, b).

Industrial Minerals

Carbon Dioxide.—Carbacid Ltd. produced natural carbon dioxide gas at Kereita in the Kaimbu District. In 2002, production was 5,662 t compared with 5,645 t in 2001 and 9,214 t in 1997. Carbacid's production has been sharply reduced by the decision of East African Breweries Ltd. to produce its own gas; the company sought alternative markets in Uganda (M.J. Njeru, Mines and Geology Department, written commun., 2003; Wahome, 2002§).

Cement.—Kenya had three cement producers with a combined capacity of 2.76 million metric tons per year (Mt/yr). National cement production increased by 13.3% in 2002 (table 1). Cement exports were estimated to be 281,000 t at a value of $17 million. In recent years, cement exports have fallen because of high transportation and energy costs (Bal, 2003; International Monetary Fund, 2003a, p. 40).

Bamburi Cement Ltd. had a 60% share of the domestic cement market; East African Portland Cement Co. Ltd., 32%; and Athi River Mining Ltd. (ARM), 8%. In 2002, Kenya's

[1]References that include a section mark (§) are found in the Internet References Cited section.

cement consumption increased by 13.6% because of higher private sector construction activity; most public sector projects were stalled by a lack of funds (Central Bank of Kenya, 2003, p. 30; International Cement Review, 2003a).

Diatomite.—African Diatomite Industries Ltd. produced high-grade diatomite for domestic and export markets at Soysambu and Kariandusi in the Nakuru district. In 2002, diatomite production rose sharply to 1,333 t from 441 t in 2001 and 297 t in 1997 (M.J. Njeru, Mines and Geology Department, written commun., 2003).

Fluorspar.—Kenya Fluorspar Ltd. mined fluorspar in the Keiro Valley. Exports of fluorspar fell to 85,105 t in 2002 from 118,850 t in 2001 and 68,700 t in 1997. In 2001, the value of fluorspar exports amounted to $9.1 million (M.J. Njeru, Mines and Geology Department, written commun., 2003; Jerono, 2002§).

Gemstones.—Kenya produced gemstones that included amethyst, aquamarine, cordierite, green garnet (tsavorite), ruby, sapphire, and tourmaline (table 1). The production of ruby fell to 3,043 kg in 2002 from 5,862 kg in 2001 and 5,175 kg in 1997. Tsavorite output fell to 20 kg in 2002 from 25 kg in 2001 and 50 kg in 1997. In 2001, the value of gemstone exports was $5.7 million (M.J. Njeru, Mines and Geology Department, written commun., 2003; Jerono, 2002§).

Bridges Exploration Ltd. mined tsavorite at Taita Taveta. Rockland (K) Kenya Ltd., which operated the John Saul ruby mine, was the country's largest producer and exporter of ruby. Kikisa Ltd., which produced ruby in the West Pokot District, significantly reduced its mining activities. Many other gemstone mining companies cut their production to minimal levels in 2002; exploration work came to a halt in the gemstone sector because of poor global economic conditions (Opiyo-Akech, 2002).

Salt.—Lake Magadi, which was in the Great Rift Valley, contained notable resources of salt. Magadi Soda Ash Ltd. extracted salt from the lake as a byproduct of the soda ash production process. In 2002, salt output from Lake Magadi rose to 18,848 t from 5,664 t in 2001 and 6,280 t in 1997 (M.J. Njeru, Mines and Geology Department, written commun., 2003).

Silica.—In 2002, national demand for sheet glass was 23,000 t compared with 12,000 t in 1992. Kenya's sheet glass was imported. The Coast Development Authority (CDA) sought investors to build a sheet-glass-manufacturing facility that would use local silica sand, soda ash, and dolomite as raw materials (Mwakio, 2002§).

Soda Ash.—Magadi Soda Ash Ltd. mined trona from Lake Magadi. The production of soda ash rose to 304,110 t in 2002 from 297,780 t in 2001 and 257,640 t in 1997. From 1997 to 2002, the production of crushed refined soda increased to 474,014 t from 3,005 t. Most of Magadi's output was exported to India, the Middle East, South Africa, and Southeast Asia. In 2001, the value of soda ash exports amounted to $29.1 million (Moore, 2003; M.J. Njeru, Mines and Geology Department, written commun., 2003; Jerono, 2002§).

Sodium Silicate.—In 2002, ARM completed its new sodium silicate plant at Athi River; the company also had a plant at Kaloleni. ARM produced more than 50% of the sodium silicate for the East African regional market; exports were shipped to Ethiopia, Madagascar, Malawi, Rwanda, South Africa, Tanzania, and Uganda. Domestic consumers included the local detergent and soap industries (Athi River Mining Ltd., 2003, p. 3; Construction Review, 2003§).

Sulfur.—Kenya produced about 20,000 t/yr of sulfuric acid for domestic industrial consumption (table 1). East African Heavy Chemicals in Webuye and Kel Chemicals Ltd. in Thika produced sulfuric acid from imported sulfur.

Mineral Fuels

Petroleum.—Kenya's refinery produced petroleum products from imported crude petroleum. In 2002, the value of imported crude petroleum and petroleum products rose to an estimated $785 million from $721 million in 2001 and $519 million in 1997. Petroleum and petroleum products accounted for 24% of total imports. Exports of petroleum products fell to an estimated $158 million in 2002 from $177 million in 2001 and $170 million in 1997. Petroleum products accounted for 8% of total exports (International Monetary Fund, 2003a, p. 59).

In 2002, the Government signed production-sharing agreements with Pancontinental Oil and Gas NL and its joint venture partner Afrex Ltd. for offshore blocks L6, L8, and L9. During the first phase of exploration, Afrex and Pancontinental were to carry out a new seismic survey (Minebox, 2002§).

Infrastructure

Wood was the predominant fuel in Kenya and accounted for 70% of the primary energy supply. In rural areas, wood provided more than 93% of household energy needs; charcoal was the dominant fuel in urban areas (World Energy Council, undated§).

In fiscal year 2001-02, Kenya Electricity Generating Co. Ltd. (Kengen) had powerplants with an installed capacity of 937 megawatts (MW), of which 858 MW was effective capacity. Hydroelectric power stations accounted for 633 MW of effective capacity; fossil fuels, 180 MW; geothermal, 45 MW; and wind, less than 1 MW. Kengen produced 3,229 gigawatt hours (GWh) in fiscal year 2001-02 compared with 2,559 GWh in fiscal year 2000-01 and 3,983 GWh in fiscal year 1997-98. Production had fallen in fiscal year 2000-01 because of a severe drought (Kenya Electricity Generating Co. Ltd., 2002, p. 58-59).

The Okaria II geothermal project, which had a capacity of 64 MW, was expected to be commissioned by September 2003. The Sondu-Miriu hydropower project, which is under construction, will have a capacity of 60 MW. This project could be commissioned by mid-2006 if funding from the Government of Japan were in place by March 2003 (Kenya Electricity Generating Co. Ltd., 2002, p. 9).

Kenya had about 63,800 kilometers (km) of roads, of which less than 9,000 km was paved. The rail network covered 2,778 km. Pipelines for petroleum products covered about 480 km. The Governments of Kenya and Uganda planned to

build a 320- km pipeline that would carry petroleum products to Namanve in Uganda from Eldoret in Kenya. In 2002, a feasibility study found the $80 million project to be viable (Africa Energy Intelligence, 2002; Bal, 2003).

Outlook

GDP growth was forecasted to be 1.3% in 2003 and 2.6% in 2004. In 2003, the resumption of international donor support was expected to support public sector construction projects that would increase cement demand. The outlook for soda ash and titanium minerals depended heavily upon global market trends. World demand for soda ash was expected to increase by 2.5% per year from 2003 to 2007, and production capacity was expected to increase by 0.5% per year in the same period. Demand for titanium dioxide pigment is expected to increase by about 3% per year from 2002 to 2006. Increases in supply from new projects, however, are likely to offset the rise in demand (Central Bank of Kenya, 2003, p. 30; Chemical Week, 2002; Gambogi, 2003, p. 79.6; International Monetary Fund, 2003b, p. 180).

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UGANDA

In recent years, the East African country of Uganda was known to produce cobalt, columbium (niobium), gold, iron ore, steel, tantalum, tin, and tungsten. Uganda also has produced such industrial minerals as gypsum, kaolin and other clays, lime, phosphate rock, salt, and vermiculite, and such building materials as cement, limestone, and pozzolanic materials.

Uganda's GDP increased by 6.6% in 2002 after rising by 5.5% in 2001, 5.3% in 2000, and 7.9% in 1999. The GDP was $34.5 billion at purchasing power parity, and per capita GDP at purchasing power parity was about $1,400. In fiscal year 2001-02, manufacturing accounted for 9% of the GDP; construction, 8%; water and electricity, 2%; and mining and quarrying, 1%. From fiscal year 1997-98 to fiscal year 2001-02, the mining and quarrying sector grew by an average of 10% per year. This increase was partially attributable to the rising output of cobalt and colombite-tantalite. During the same period, the construction sector grew by 6.8% per year (International Monetary Fund, 2003a, p. 3-4; 2003b, p. 180; 2003§).

In 2002, the Government granted a total of 103 mineral licenses, most of which were prospecting and exclusive prospecting licenses. During the same year, 80 licenses expired, and 157 were still current (Uganda Ministry of Energy and Mineral Development, 2003, p. 39).

In 2002, the Government of Uganda started to withdraw its military forces from the Democratic Republic of the Congo [Congo (Kinshasa)]. In October, the United Nations Security Council issued a report that accused Ugandan military officers and businessmen of illegally exploiting columbium (niobium), diamond, gold, and tantalum from Congo (Kinshasa) to enrich themselves and finance their country's military presence in Congo (Kinshasa). A commission of inquiry chaired by a judge on Uganda's High Court has been investigating these accusations. Others accused of taking advantage of the war in Congo (Kinshasa) to exploit Congolese mineral resources included Rwandan military officers and businessmen; rebel forces that operated in Congo (Kinshasa); a network of Congolese and Zimbabwean commercial, military, and political

interests; and Lebanese diamond traders who were alleged to have ties with Hezbollah (United Nations Security Council, 2002, p. 5, 19-26).

Commodity Review

Metals

Cobalt.—Kasese Cobalt Co. Ltd. (KCCL) produced refined cobalt from the Kilembe stockpile. In August 2002, MFC Bancorp Ltd. acquired a 75% equity interest in KCCL when it took over Banff Resources Ltd. and purchased the shares held by International Finance Corp. and Société de Promotion et de Participation pour la Cooperation Economique. In September, KCCL put its operations on care and maintenance because of low world cobalt prices (Banff Resources Ltd, 2002, p. 19-20).

Columbium (Niobium) and Tantalum.—National production of colombite-tantalite fell to 6,463 kg in 2002 from 11,092 kg in 2001; exports fell to 3,350 kg from 14,960 kg. In 2002, Uganda Gold Mining Ltd. continued exploration at its Nyanga tantalite property (African Mining, 2002; Uganda Ministry of Energy and Mineral Development, 2003, p. 40).

Gold.—Uganda produced about 3 kg of gold in 2002 (table 1). National gold exports rose to 7,589 kg in 2002 from 6,090 kg in 2001. Gold accounted for more than 99% of the value of Uganda's mineral exports in 2002. The majority of gold exports were reported to be reexports from Congo (Kinshasa) (Uganda Ministry of Energy and Mineral Development, 2003, p. 40).

In 2002, Busitema Mining Company CIE Ltd. completed its gold-ore-processing plant at the gold mine in Tira. Kisita Mining Company Ltd. also commissioned a gold recovery plant and explored for gold at Kisita Ridge and in the Nabisoga Valley. Gold Empire Ltd. explored for gold at the Kahnegyere prospect; and Anglo-Ugandan Corp., in the Kamalenge Valley. Cresta Mining Co., Gold Empire Ltd., and Roraima Mining Co. had licenses granted or renewed (Uganda Ministry of Energy and Mineral Development, 2003, p. 33, 35-36, 39).

Tin.—UGA Ltd., which had been exploring for tin at Kikagati, ceased its activities in April 2002. Uganda did not produce tin in 2002 (Uganda Ministry of Energy and Mineral Development, 2003, p. 38).

Tungsten.—In 2002, the production of tungsten fell to 16 t from 17 t in 2001. Krone (U) Ltd. completed the construction of an access road to its small-scale mining operation at Nyamuliro in the Kabale district. Signficant mine development, however, was inhibited by other infrastructure problems. Uganda's exports of wolframite remained unchanged at 50 t in 2002 (Uganda Ministry of Energy and Mineral Development, 2003, p. 34, 40).

Industrial Minerals

Cement.—Two local factories with a combined capacity of about 460,000 t/yr supplied Uganda's cement market (table 2). The International Cement Review (2003b) reported that Tororo Cement Industries Ltd. may increase its capacity slightly by the end of 2002. Cement production fell to 261,788 t in 2002 from 429,624 t in 2001; the value of cement production amounted to $2.04 million. Cement was exported to Congo (Kinshasa), Rwanda, and Tanzania. Cement imports were sourced from Egypt, India, and Kenya (John Odida, Ministry of Energy and Mineral Development, written commun., 2003).

Clay and Shale.—Uganda produced kaolin and other clays (table 1); in 2002, the value of national clay production amounted to about $130,000. In 2001, the output of clay bricks and tiles rose to 29,570 t from 20,744 t in 2000 and 17,427 t in 1997. Uganda had eight producers of bricks and tiles (International Monetary Fund, 2003b, p. 19-20; John Odida, Ministry of Energy and Mineral Development, written commun., 2003).

Limestone.—In 2002, the Government granted and renewed exploration and mining licenses for Tororo Cement. New lime kilns were installed at the Muhokya limestone mine in 2002. The production of limestone and pozzolanic materials, however, fell in 2002; this decrease was probably related to falling cement production (Uganda Ministry of Energy and Mineral Development, 2003, p. 32-34, 40).

Phosphate Rock.—Foskor SA, Madhvani International SA, and Rhodia Chimie SA promoted the Sukulu phosphate project. The companies planned to produce 1 Mt/yr of phosphate rock and 100,000 t/yr of granulated triple superphosphate from the Sukulu deposits. In December 2002, a study established the viability of the project, which was expected to cost $300 million. Foskor, Madhvani, and Rhodia Chimie planned to launch a bankable feasibility study (Africa Mining Intelligence, 2003).

Canmin Resources Ltd. (a subsidiary of International Business Investments Corp.) held an exclusive prospecting license for the Busumbu phosphate deposit, which was located 1 km from the Namekara vermiculite mine. In 2002, the company was considering the development of the Busumbu phosphate resources (International Business Investments Corp., 2002a).

Vermiculite.—Canmin signed agreements with vermiculite buyers in Europe, the Middle East, Thailand, and the United States. In 2003, the company planned to raise output to between 15,000 and 20,000 t; problems with finalizing buyers had restrained production in 2002. Canmin increased production capacity at the Namekara Mine to 25,000 t/yr in December 2002. The Government granted Canmin an exclusive prospecting license for vermiculite in other areas of the Bukusu carbonatite complex (International Business Investments Corp., 2002b; Indian Ocean Newsletter, 2003).

Mineral Fuels

Petroleum.—Uganda did not have production facilities for crude petroleum or petroleum products. In 2002, Uganda consumed 3.54 million barrels (Mbbl) of imported petroleum products compared with 3.43 Mbbl in 2001 and 2.7 Mbbl in

1997 (Uganda Ministry of Energy and Mineral Development, 2003, p. p).

In 2002, Heritage Oil and Gas Co. drilled an exploration well in the Semliki Basin (in Exploration Area 3) that yielded a mixture of hydrocarbons. Heritage planned further exploration in 2003. Hardman Resources NL held a license for Exploration Area 2, which covered the northern part of Lake Albert. Hardman and Heritage planned to conduct seismic surveys over the entire area of Lake Albert in 2003 (Uganda Ministry of Energy and Mineral Development, 2003, p. 23-24).

Infrastructure

Uganda's electricity production increased to 1,593 GWh in 2001 from 1,555 GWh in 2000 and 1,130 GWh in 1996. After electricity losses of 535 GWh, domestic electricity sales amounted to nearly 913 GWh, most of which came from hydroelectric power sources. In 2002, the production of electricty increased by 7.8%, and exports of electricity rose by 82.5%. The increase in exports represented a recovery from unusually low exports to Kenya in 2001 (Uganda Ministry of Energy and Mineral Development, 2003, p. 4).

In July, the Kiira hydroelectric plant's capacity was increased to 120 MW from 80 MW; national hydroelectric capacity rose to 300 MW from 260 MW. In August, Alstom Power Sweden AB signed a contract with the Government to increase the capacity at Kiira to 200 MW. The expansion was expected to be completed by April 2005 (Uganda Ministry of Energy and Mineral Development, 2003, p. 4-6).

In January, AES Nile Power Ltd. started work on the 250-MW Bujagali hydroelectric powerplant. Construction, however, has been stalled since April 2002 because of allegations of corruption against AES Nile. The Government was investigating the allegations (Uganda Ministry of Energy and Mineral Development, 2003, p. 6).

Other projects included new hydroelectric plants in the West Nile region with a combined capacity of 6.1 MW; the 5-MW Kakira Sugar Works Ltd. (KSW) plant to generate power from residues of sugar cane; and solar water heating. KSW was expected to start producing electricity in June 2005 (Uganda Ministry of Energy and Mineral Development, 2003, p. 7-10).

Uganda had about 27,000 km of roads, of which approximately 1,800 km was paved. The rail network covered about 1,240 km. Lake Albert, Lake George, Lake Edward, Lake Yoga, Lake Victoria, the Albert Nile River, and the Victoria Nile River were the principal waterways.

Outlook

The International Monetary Fund (2003b, p. 80) predicted that Uganda's GDP would grow by 5.4% in 2003 and 6% in 2004. If the construction industry grows at a similar rate, then the production of such construction materials as brick clay, cement, gypsum, limestone, pozzolanic materials, and sand and gravel could increase substantially.

Columbium (niobium) demand is driven primarily by the steel and aerospace industries. Global consumption of finished steel was predicted to increase by about 1.3% in 2003 and rise by 2.2% per year from 2004 to 2007. Global tantalum demand was expected to decline until mid-2003, when the market would start to recover. KCCL indicated that cobalt production was unlikely to resume until cobalt prices rise to $10 to $11 per pound (Metal Bulletin, 2002; Reuters, 2002; MEPS (International) Ltd., 2003§).

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TABLE 1
KENYA AND UGANDA: PRODUCTION OF MINERAL COMMODITIES [1]

(Metric tons unless otherwise specified)

Country and commodity		1998	1999	2000	2001	2002[e]
KENYA[2]						
Aluminum, secondary[e]		2,400	2,400	2,400	2,400	2,400
Barite		10 [e]	--	--	-- [e]	--
Carbon dioxide gas, natural		8,998 [r]	10,006	7,744	5,645	5,662 [3]
Cement, hydraulic	thousand tons	1,426	1,204	1,146	1,085	1,229 [3]
Clays:						
Bentonite		NA	--	64	50	50
Kaolin		500 [e]	192	793	700	700
Kyanite		NA	NA	(4)	--	--
Other		NA	15,000	18,000	15,000 [r, e]	15,000
Diatomite		468	507 [r]	448 [r]	441 [r]	1,333 [3]
Feldspar		115 [e]	115 [e]	82	73	75
Fluorspar, acid grade[5]		60,854	93,602	100,102	118,850 [r]	85,015 [5]
Gemstones, precious and semiprecious:						
Amethyst[5]	kilograms	166	514	1,107	1,100 [e]	570
Aquamarine[5]	do.	15	1,216	132	130 [e]	70
Cordierite; iolite[5]	do.	34	444	280	280 [r, e]	150
Garnet, green	do.	14 [r]	26 [r]	20 [r]	25 [r]	20 [3]
Rhodolite garnet	do.	NA	1,214 [5]	3,409 [5]	3,400 [r, e]	1,800
Ruby	do.	4,001	4,488	5,896	5,862	3,043 [3]
Sapphire[5]	do.	3,313	7,232	10,686	10,700 [r, e]	5,600
Tourmaline	do.	3,790	4,617 [5]	18,844 [5]	18,800 [r, e]	9,800
Gold, mine output, Au content[5]	do.	388	990	1,243	1,545	1,477 [5]
Gypsum and anhydrite		11,300 [e]	9,500 [e]	8,416	8,200	9,300
Iron ore		NA	NA	790	920	1,000
Lead, refined secondary		1,000	1,000	1,000	1,000	1,000 [3]
Lime		16,000 [e]	4,473	1,282	1,100 [r, e]	1,100
Petroleum refinery products:						
Gasoline	thousand 42-gallon barrels	2,555	2,481	2,828	3,200 [r, e]	3,200
Kerosene and jet fuel	do.	2,555	2,676	3,175	3,600 [r, e]	3,600
Distillate fuel oil	do.	3,285	3,798	4,531	5,100 [r, e]	5,100
Residual fuel oil	do.	3,650	2,871	3,402	3,800 [r, e]	3,800
Liquefied petroleum gas	do.	365	314	395	450 [r, e]	450
Other	do.	730	127	134	150 [r, e]	150
Total	do.	13,140	12,267	14,465	16,300 [r, e]	16,300
Salt, crude		21,742	44,886	16,359	5,664	18,848 [3]
Soda ash		242,910	245,680	238,190	297,780	304,110 [3]
Soda, refined crushed		70,904	335,230	382,556	207,647	474,014 [3]
Steel, crude	thousand tons	25 [e]	--	--	-- [e]	--
Stone, sand and gravel:						
Coral	do.	500 [e]	--	--	-- [e]	--
Granite for dimension stone		1,619 [5]	860	182	160 [e]	160
Limestone for cement	thousand tons	700	700	670 [r, e]	630 [r, e]	710
Limestone for dimension stone	do.	32,000	32,000	32,000	31,000	31,000
Marble for dimension stone		84 [5]	433	116	100 [r, e]	100
Sand, industrial; glass[e]		12,000	12,000	8,500 [r]	7,300 [r]	7,300
Shale[e]		180,000	180,000	130,000 [r]	110,000 [r]	110,000
Sulfuric acid		20,000	20,000	20,000	20,000	20,000 [3]
Vermiculite		353	164 [5]	124 [5]	--	--
UGANDA[6]						
Cement, hydraulic		321,329	347,274	367,500	429,624 [r]	261,788 [3]
Clays:						
Kaolin		NA	198	14	90	178 [3]
Other		NA	NA	NA	73,505	44,790 [3]
Cobalt		--	77	420 [r]	634	450

See footnotes at end of table.

TABLE 1--Continued
KENYA AND UGANDA: PRODUCTION OF MINERAL COMMODITIES [1]

(Metric tons unless otherwise specified)

Country and commodity		1998	1999	2000	2001	2002[e]
UGANDA--Continued						
Columbite-tantalite, ore and concentrate:						
Gross weight	kilograms	--	--	2,712	11,092	6,463 [3]
Nb content	do.	--	--	992 [r]	5,211 [r]	3,036 [3]
Ta content	do.	--	--	689 [r]	2,979 [r]	1,736 [3]
Gold, mine output, Au content	do.	8	5	56	(4)	3 [3]
Gypsum		143 [r]	256	--	--	5 [3]
Iron ore:						
Limonite		NA	3,169	2,231	--	--
Other		785 [r]	-- [r]	2,401	1,236	-- [3]
Lime, hydrated and quick[e]		10,000	10,000	10,000	10,000	10,000
Limestone		140,235 [r]	121,521 [r]	253,032	229,792	140,022 [3]
Phosphate minerals, apatite		(4) [e]	(4) [e]	--	--	-- [3]
Pozzolanic materials		NA	20,213	35,603	22,782	12,388 [3]
Salt[e]		5,000	5,000	5,000	5,000	5,000
Steel[e]		7,400	7,900	7,000	7,000	7,000
Tin, mine output, Sn content		1	(4)	(4) [r]	18	-- [3]
Tungsten, mine output, W content		5 [r]	(4)	(4) [r]	17	16 [3]
Vermiculite		--	--	--	100	664 [3]

[e]Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. [r]Revised. NA Not available. -- Zero.

[1]Includes data available through September 26, 2003.

[2]In addition to the commodities listed, a variety of minerals and construction materials [brick clays, coal, gravel, meerschaum, mica, murram (laterite), crushed rock, and construction sand] may be produced, but quantities are not reported, and information is inadequate to make estimates of output.

[3]Reported figure.

[4]Less than one-half unit.

[5]Exports.

[6]In addition to the commodities listed, the following are presumably produced but information is inadequate to estimate output: clay, copper content of slag, corundum, lead, marble, sand and gravel, and silica sand.

TABLE 2
KENYA AND UGANDA: STRUCTURE OF THE MINERAL INDUSTRIES IN 2002

(Metric tons unless otherwise specified)

Country and commodity	Major operating companies	Location of main facilities	Annual capacity
KENYA			
Carbon dioxide gas, natural	Carbacid Ltd.	Kereita	NA
Cement	Bamburi Cement Ltd.	Mombasa	1,100,000
Do.	do.	Nairobi	1,000,000
Do.	East African Portland Cement Co. Ltd.	Athi River	550,000
Do.	Athi River Mining Ltd.	Kaloleni	110,000
Diatomite	African Diatomite Industries Ltd.	Kariandusi and Soysambu	4,000
Fluorspar	Kenya Fluorspar Ltd.	Kerio Valley	120,000
Geothermal power megawatts	Kenya Electricity Generating Co. Ltd.	Olkaria	45
Glass	Central Glass Industries Ltd.	Nairobi	51,100
Do.	Impala Glass Industries Ltd.	do.	NA
Gold kilograms	International Gold Exploration AB	Akala, Lolgorien, and Kisii	155
Lead, refined secondary	Associated Battery Manufacturers EA	Athi River	3,000
Lime	Athi River Mining Ltd.	Kaloleni	27,000
Do.	Homa Lime Company Ltd	Koru	30,000
Petroleum, refined thousand barrels	Kenya Petroleum Refineries Ltd. [Government, 50%; British Petroleum plc, Caltex Oil (Kenya) Ltd., and the Royal Dutch/Shell Group, 50%]	Mombasa	32,850
Salt	Magadi Soda Ash Ltd.	Magadi	40,000
Do.	Krystalline Salt Ltd.	Nairobi	NA
Do.	Mombasa Salt Works Ltd.	Mombasa	NA
Do.	Salt Manufacturers Kenya Ltd.	do.	NA
Soda ash	Magadi Soda Ash Ltd. (Brunner Mold Group Ltd, 100%)	Magadi	300,000
Sodium silicate	Athi River Mining Ltd.	Athi River and Kaloleni	20,000
Steel:			
Crude[1]	Kenya United Steel Co. Ltd. (E.A. Wire Industries Ltd., 81%)	Mombasa	20,000
Rolled	Mabati Rolling Mills Ltd.	do.	120,000
Do.	Standard Rolling Mills Ltd.	do.	40,000
Do.	Kenya United Steel Co. Ltd.	do.	30,000
Do.	Steelmakers Ltd.	do.	30,000
Sulfuric acid	East African Heavy Chemicals	Webuye	NA
Do.	Kel Chemicals Ltd.	Thika	NA
Vermiculite[2]	Kenmag Investments Ltd.	Lodosoit	2,000
UGANDA			
Cement	Hima Cement Industries Ltd. (Bamburi Cement Ltd., 70%)	Kasese	240,000
Do.	Tororo Cement Industries Ltd.	Tororo	220,000
Cobalt[3]	Kasese Cobalt Company Ltd. (Banff Resources Ltd., 63%; Government, 25%; International Finance Corp., 8%; Société de Promotion et de Participation pour la Coopération Economique, 4%)	Kasese	1,000
Lead, refined secondary	Uganda Batteries Ltd.	Kampala	1,000
Steel:			
Crude	East African Steel Corp. Ltd (subsidiary of Madhvani Group)	Jinja	25,000
Do.	Steel Rolling Mills Ltd. (subsidiary of Alam Group Ltd.)	do.	21,000
Billet	Steel Corporation of East Africa Ltd	do.	60,000
Rolled	do.	do.	101,200
Do.	Steel Rolling Mills Ltd.	do.	24,000
Do.	BM Technical Services Ltd.	Mbarara	20,000
Do.	Sembule Steel Mills Ltd.	Kampala	20,000
Tungsten	Krone Uganda Ltd.	Nyamurilo	115
Vermiculite	Canmin Resources Ltd. (subsidiary of International Business Investments Corp.)	Namekara	25,000

NA Not available.
[1]Has not operated since 1998.
[2]Has not operated since 2000.
[3]Ceased cobalt production in August 2002.