

2016 Minerals Yearbook

UGANDA

THE MINERAL INDUSTRY OF UGANDA

By Thomas R. Yager

In 2016, the East African country of Uganda accounted for 4% of the world's mine production of pumice and pumicite. In recent years, the country also produced aggregates, brick clay, cement, refined cobalt, gold, iron ore, kaolin, refined lead, limestone, niobium (columbium), salt, steel, tantalum, tin, tungsten, and vermiculite. Uganda was not a globally significant consumer of most minerals in 2016; it is likely that domestic consumption of pumice and pumicite (including pozzolanic materials) in cement production and other construction uses was globally significant (Crangle, 2018).

The mineral sector of Uganda, except for the petroleum and natural gas subsector, is governed by the Mining Act (2003). The petroleum and natural gas subsector is governed by the Petroleum (Exploration, Development, and Production) Bill 2012 (the Upstream Act) and the Petroleum (Refining, Conversion, Transmission, and Midstream Storage) Act 2012 (the Midstream Act). The Upstream Act and the Midstream Act were enacted into law in 2013.

The Ministry of Energy and Mineral Development is responsible for geologic mapping, issuing exploration and mining licenses, and administering the Mining Act (2003), the Midstream Act, the Upstream Act, and their accompanying regulations. At the end of 2015 (the latest year for which data were available), 818 licenses were in operation, including 499 exploration licenses, 153 prospecting licenses, 81 mineral dealer licenses, 43 location licenses, 39 mining leases, and 3 retention licenses (Uganda Ministry of Energy and Mineral Development, 2016, p. xiv).

Minerals in the National Economy

In 2016, the manufacturing sector (which included cement, refined lead, and steel production) accounted for 9% of the gross domestic product, and the mining and quarrying sector, 0.7%. The value of output in the mining and quarrying sector decreased by 1.8% in 2016 compared with an increase of 19% in 2015. The mining and quarrying sector employed an estimated 190,000 artisanal and small-scale miners, including 50,000 in gold mining (Turyahikayo, 2016; Uganda Bureau of Statistics, 2017, p. 213–214).

Uganda's total value of exports was \$2.48 billion in 2016, of which gold and gold compounds accounted for 13.7%; petroleum products 4.6%; iron and steel, 2.9%; and cement, 2.5%. All petroleum products exports were reexports. Total imports were valued at \$4.83 billion in 2016, of which petroleum products accounted for 16%; iron and steel, 4.3%; nonmetallic mineral products, 3%; and fertilizers and crude minerals other than coal, gemstones, or petroleum, 1.6% (Uganda Bureau of Statistics, 2017, p. 255–256, 263–266).

Production

In 2016, the output of vermiculite increased by 199%; tungsten, by 17%; kaolin, by 13%; and pozzolanic materials (pumice and pumicite), by 11%. Niobium (columbium) and tantalum production also increased sharply, and beryl, copper, and dimension stone (marble) mining restarted in 2016. Iron ore production decreased by 76% in 2016, and that of tin, by 54% (Uganda Bureau of Statistics, 2017, p. 196). Data on mineral production are in table 1.

Structure of the Mineral Industry

Most of Uganda's mining and mineral-processing facilities were privately owned, including the cement and steel plants, the lead refinery, and the vermiculite mine. Artisanal miners produced pozzolanic materials in the Kabarole District, gold in districts that included Busia and Mubende, and salt at Lake Katwe. Table 2 is a list of major mineral industry facilities.

Commodity Review

Metals

Copper.—Tibet Hima Industry Company Ltd. of China reopened the Kilembe mines near the border of the Democratic Republic of the Congo [Congo (Kinshasa)]. The company planned to produce between 6,100 and 7,200 metric tons per year (t/yr) of copper in concentrate. By April 2016, copper production was estimated to be about 550 metric tons (t) when the Government shut down operations because of environmental concerns regarding the stockpiling of tailings in open pits. As of October, Tibet Hima was awaiting a waste disposal permit that would allow mining to resume (Uganda Chamber of Mines & Petroleum, 2016d).

Gold.—In late 2016, Africa Gold Refinery (AGR) was engaged in the construction of a new gold refinery with a capacity to produce more than 70,000 kilograms per year of gold at Entebbe. The company planned to source gold from domestic artisanal miners; gold also could be sourced from artisanal miners in Congo (Kinshasa), South Sudan, Tanzania, and West African countries (Uganda Chamber of Mines & Petroleum, 2016b).

Iron and Steel and Iron Ore.—Guangzhou Dongsong Energy Group of China planned to mine iron ore at the Sukulu carbonatite complex for use in a new steel mill with a capacity of 300,000 t/yr. The first phase of production was expected to start in the first quarter of 2018. Resources at Sukulu were estimated to be 61.8 million metric tons (Mt) grading 30.1% iron (Uganda Chamber of Mines & Petroleum, 2016a).

Niobium (Columbium) and Tantalum.—In 2015, 3T Mining Ltd. started columbite-tantalite production at its Wampero Mine in Waksio District. The company produced 13 t of columbite-tantalite in 2016 (Uganda Bureau of Statistics, 2017, p. 196).

Cement.—Uganda’s cement production was 2.49 Mt in 2016 compared with 2.34 Mt in 2015 and 1.78 Mt in 2012. Increased output in recent years was attributable to capacity expansions at Tororo Cement Ltd. to 1.8 million metric tons per year (Mt/yr) from 1.1 Mt/yr, and at Hima Cement Ltd., to 850,000 t/yr from 350,000 t/yr. Tororo Cement was engaged in a further expansion to 3 Mt/yr, which was expected to be completed by March 2017. Hima Cement planned to start an expansion to 1.9 Mt/yr by the end of 2016. National Cement Company Ltd. of Kenya planned to complete a new plant at Mbale with a capacity of 1 Mt/yr in the first quarter of 2017 (Uganda Chamber of Mines & Petroleum, 2016c, e, f; Uganda Bureau of Statistics, 2017, p. 73).

Phosphate Rock and Sulfur.—Guangzhou Dongsong planned to mine 2 Mt/yr of low-grade ore for use in a new phosphate fertilizer plant with a capacity of 300,000 t/yr at the Sukulu carbonatite complex. The company also planned to produce 200,000 t/yr of sulfuric acid. The first phase of production was expected to start in the first quarter of 2018. Phosphate rock resources at Sukulu were estimated to be 62.5 Mt grading 11.3% phosphorus pentoxide (Uganda Chamber of Mines & Petroleum, 2016a).

Pumice and Pumicite.—National production of pozzolanic materials was 846,604 t in 2016 compared with 762,768 t in 2015 and 690,611 t in 2011. In 2015, Tororo Cement produced 410,779 t in Kapchorwa District, and Industrial Minerals Ltd. produced 112,448 t in Rubirizi District. Producers in Kabarole District included Seahorse International Ltd., which mined 57,864 t in 2015; Hillmarks Ltd., 36,152 t; and Royal Transit Ltd., 35,472 t (Uganda Ministry of Energy and Mineral Development, 2016, p. 81–82; Uganda Bureau of Statistics, 2017, p. 196).

Artisanal miners produced pozzolanic material at mines in the Kabarole District; the miners sold their production to Hima Cement for use in pozzolanic cement and to local construction companies. More than 98,000 t was estimated to be produced by artisanal miners in 2015. In September 2016, Hima Cement announced plans to obtain 90% of its pozzolanic materials from mechanized mining operations because of concerns about reported use of child labor in artisanal mining operations (Uganda Ministry of Energy and Mineral Development, 2016, p. 81–82, 119–122; Bread for All, 2017).

Stone, Dimension.—DAO Marble produced marble from its quarries in Moroto District. In 2016, the company was processing marble slabs at its plant in Kampala at the rate of 240,000 square meters per year. DAO Marble planned to invest \$40 million in an expansion that could double production by late 2018 (Uganda Chamber of Mines & Petroleum, 2016g).

Vermiculite.—In early 2016, Black Mountain Resources Ltd. of Australia signed an agreement with Namekara Mining Company Ltd. (a subsidiary of African Phosphate Pty Ltd. of Australia) to purchase the Namekara vermiculite mine from Namekara Mining. Black Mountain was planning to start a feasibility study on increasing the capacity at Namekara to at least 80,000 t/y from 30,000 t/yr. At yearend, the feasibility study had not yet started (Washbourne, 2016).

Natural Gas and Petroleum.—China National Offshore Oil Corp. (CNOOC), Total S.A. of France, and Tullow Oil plc of the United Kingdom each held a one-third share in the following exploration areas (EA): EA–1, EA–1A, EA–2, and EA–3 on Lake Albert. Total was the operator of EA–1 and EA–1A; Tullow, of EA–2; and CNOOC, of EA–3 (formerly EA–3A). In late August 2016, the Government granted production licenses for EA–1 and EA–2. Combined production at EA–1 and EA–2 was expected to be between 200,000 and 230,000 barrels per day (bbl/d) of crude petroleum. Total and Tullow could make a final investment decision by the first quarter of 2018 and start production by 2020 (Biryabarema, 2016).

In 2016, the Governments of Tanzania and Uganda agreed to build a new crude petroleum pipeline from Lake Albert to the Tanzanian Port of Tanga. The route for the pipeline was chosen instead of a route to the Kenyan Port of Lamu because of its lower costs and environmental sensitivity. The pipeline to Tanga could be completed by mid-2020; the pipeline to Lamu was unlikely be completed until 2022 (Mwesigwa, 2016).

In 2015, the Government selected a consortium led by RT Global Resources LLC of Russia to take a 60% interest in a planned new petroleum products refinery in Hoima District. RT Global Resources planned to complete the refinery and a pipeline to Kampala by 2018. The initial expected capacity was 30,000 bbl/d, with an expansion to 60,000 bbl/d by 2020. In 2016, RT Global Resources withdrew from the project because of unsuccessful negotiations with the Government regarding several clauses of the agreement. As of October, the Government was seeking agreements with potential new joint-venture partners (Brelsford, 2015; Ssekika, 2016).

Outlook

Uganda’s mineral industry could expand in the next few years with the restart of phosphate rock mining, the expansion of cement production and iron ore and vermiculite mining, and the opening of downstream processing plants for phosphate fertilizers and steel. Significant growth in the mineral industry could take place in the longer term depending on the viability of crude and refined petroleum production. The costs of the petroleum products refinery and the export pipeline to the Indian Ocean could be increased by long distances, poor road conditions, and the acidic and waxy nature of the Lake Albert crude petroleum (Quinlan, 2013).

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TABLE 1
UGANDA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons, gross weight, unless otherwise specified)

Commodity ²	2012	2013	2014	2015	2016
METALS					
Beryllium, beryl	--	--	--	--	14
Cobalt, refinery, metal	556	376	--	--	--
Copper, mine, Cu content	--	--	--	--	550 ^e
Gold, mine, Au content ^e	kilograms	2,000 ^r	3,000 ^r	3,000 ^r	3,000
Iron ore, mine:					
Gross weight	4,431	2,282	41,959	9,000	2,163
Fe content ^e	2,800	1,500	27,000	5,800	1,400
Iron and steel, raw steel ^e	60,000	64,000	66,000 ^r	72,000 ^r	71,000
Lead, refinery, secondary ^e	800	800	800	800	800
Niobium and tantalum, mine, columbite-tantalite concentrate:					
Gross weight	kilograms	--	--	370 ^r	13,000
Nb content	do.	--	--	16 ^{r,e}	550 ^e
Ta content	do.	--	--	85 ^{r,e}	3,000 ^e
Tin, mine, Sn content	--	18	31	135	62
Tungsten, mine, W content	34 ^r	57 ^r	63 ^r	36 ^r	42
INDUSTRIAL MINERALS					
Cement, hydraulic	1,780,000	2,023,000	2,141,000	2,340,000 ^r	2,494,000
Clay and shale:					
Brick clay ^e	54,000	47,000	52,000	52,000	58,000
Kaolin	42,886	43,875	46,286	40,774 ^r	45,909
Lime ^e	180,000	180,000	180,000	190,000	190,000
Pumice and pumicite	650,324	623,471	742,425 ^r	762,768 ^r	846,604
Salt ^e	15,000	15,000	15,000	15,000	15,000
Stone, sand, and gravel:					
Stone, crushed:					
Limestone	936,264	922,372	1,090,240	1,166,741 ^r	1,203,074
Syenite	20,472	109,906	64,604	82,716	81,413
Stone, dimension, marble	--	-- ^r	--	--	18,000 ^e
Vermiculite	11,251	243	2,620 ^{r,3}	1,118	3,341

^eEstimated. ^rRevised. do. Ditto. -- Zero.

¹Table includes data available through January 17, 2018. All data are reported unless otherwise noted. Estimated data are rounded to no more than three significant digits.

²In addition to the commodities listed, corundum, sand and gravel, silica sand, and soapstone may have been produced in Uganda, but available information was inadequate to make reliable estimates of output.

³Sales.

TABLE 2
UGANDA: STRUCTURE OF THE MINERAL INDUSTRY IN 2016

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement	Tororo Cement Ltd.	Plant at Tororo	1,800,000.
Do.	Hima Cement Ltd. (Bamburi Cement Ltd., 70%)	Plant at Kasese	850,000.
Do.	Kampala Cement Company Ltd.	Plant at Namataba	90,000.
Do.	do.	NA	90,000.
Clay, kaolin	Muhindo Enterprises Ltd.	Mine in Buhweju District ¹	50,000. ^c
Cobalt, refined	Kasese Cobalt Company Ltd. (KCCL) (MFC Industrial Ltd., 75%, and Government, 25%)	Plant at Kasese ¹	720.
Copper, mine	Tibet Hima Industry Company Ltd.	Mine in Kasese District ¹	7,200.
Gold, mine	Artisanal miners	Various locations	3,000. ^c
Iron ore, mine	Kamuntu Investment Ltd.	Mine in Kabale District	10,000. ^c
Lead, refined secondary	Uganda Batteries Ltd.	Kanungu District	1,000.
Lime	Small-scale producers	Various locations including Kasese and Tororo Districts	210,000. ^c
Niobium (columbium) and tantalum, columbite-tantalite ore and concentrate	3T Mining Ltd.	Wampero Mine in Waksio District	120 concentrate; 28 ^c tantalum; 5 ^c niobium.
Pozzolanic material	Tororo Cement Ltd.	Kapchorwa District	460,000. ^c
Do.	Industrial Minerals Ltd.	Rubirizi District	130,000. ^c
Do.	Seahorse International Ltd.	Kabarole District	65,000. ^c
Do.	Hillmarks Ltd.	do.	40,000. ^c
Do.	Royal Transit Ltd.	do.	39,000. ^c
Do.	Artisanal miners	do.	110,000. ^c
Salt	do.	Lake Katwe	15,000.
Stone:			
Crushed, limestone	Hima Cement Industries Ltd.	Mines in Kasese District	760,000. ^c
Do.	do.	Mine in Kamwenge District	140,000. ^c
Do.	Tororo Cement Industries Ltd.	Mines in Moroto District	310,000. ^c
Do.	do.	Mines in Tororo District	88,000. ^c
Dimension, marble	DAO Marble	Mines in Moroto District	18,000. ^c
Do.	do.	Plant in Kampala	18,000.
Tin, mine	African Panther Resources (U) Ltd.	Mine in Isingiro District	23. ^c
Tungsten, mine, W content of wolframite	Krone Uganda Ltd.	Bjardal Mine in Kabale District	240 wolframite; 120 ^c tungsten.
Do.	3T Mining Ltd.	Buyaga Mine in Lyantonde District	72 wolframite; 36 ^c tungsten.
Vermiculite	Black Mountain Resources Ltd.	Namekara Mine in Manafwa District	30,000.

^cEstimated. Do., do. Ditto. NA Not available.

¹Not operating at the end of 2016.