



# 2015 Minerals Yearbook

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**ETHIOPIA [ADVANCE RELEASE]**

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# THE MINERAL INDUSTRY OF ETHIOPIA

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In 2015, Ethiopia played a significant role in the world's production of pumice and pumicite and tantalum. The country's share of global tantalum mine production was about 6% and pumice and pumicite, 4%. Other domestically significant mining and mineral-processing operations included cement, crushed stone, gemstones, and gold. Ethiopia was not a globally significant consumer of minerals (Mining Journal, 2011; Addis Fortune, 2015; Crangle, 2017; Papp, 2017).

## Minerals in the National Economy

In 2015, the construction sector accounted for 10.1% of the nominal gross domestic product; manufacturing, 3.8%, and mining and quarrying, 0.5%. About 1.5 million miners were estimated to be employed in artisanal mining, including at least 1.24 million in gold mining and about 19,000 in opal mining (African Development Bank Group, 2016; Tadess, 2016, p. 23–24, 30).

Ethiopia's total exports were valued at \$3.02 billion in fiscal year 2015 (July 8, 2014, to July 7, 2015), of which gold accounted for \$319 million. Total imports were valued at \$16.5 billion, of which petroleum products accounted for \$1.97 billion, and fertilizers, \$503 million (National Bank of Ethiopia, 2016, p. 73, 78).

The mining and quarrying sector was governed by Mining Income Tax Proclamation No. 53/1993, Mining Income Tax (Amendment) Proclamation No. 23/1996, Transaction of Precious Minerals Proclamation No. 651/2009, Mining Operations Proclamation No. 678/2010, and Mining Operations (Amendment) Proclamation No. 816/2013. Petroleum exploration and production were governed by Petroleum Operations Income Tax Proclamation No. 296/1986, Petroleum Operations Proclamation No. 295/1996, and Petroleum Operations Income Tax (Amendment) Proclamation No. 226/2000. The Ministry of Mines administered licenses for mining, quarrying, and petroleum. The Ministry of Environment and Forest was responsible for environmental regulation related to mining and quarrying.

## Production

In fiscal year 2015, production of soda ash increased by an estimated 105%; numerous gemstones, by at least 100% each; rhyolite, by an estimated 73%; iron ore, by an estimated 66%; shale, by an estimated 65%; lime, by an estimated 53%; sandstone, by an estimated 50%; cement, by an estimated 44%; limestone, by an estimated 32%; tantalum, by an estimated 26%; salt, by an estimated 22%; niobium (columbium), by an estimated 21%; gypsum, by an estimated 19%; basalt, by an estimated 15%; and pumice and pozzolanic materials and other clays, by an estimated 12% each. Gold production decreased by an estimated 11% in 2015 (table 1).

Between fiscal year 2011 and fiscal year 2015, production of sandstone increased by an estimated 424%; dolomite, by 402%; iron ore, by an estimated 281%; cement, by an estimated 275%; limestone, by an estimated 243%; pumice and pozzolanic materials and salt, by an estimated 183% each; and shale, by an estimated 129%. The production of basalt, clay other than brick or kaolin, gypsum, lime, quartz, and rhyolite also increased sharply (table 1). Most of the longer term increases, other than for quartz and salt, were attributable to growth in the construction sector.

## Structure of the Mineral Industry

At the end of 2015, Ethiopia had 21 cement plants, of which 18 were known to be privately owned; Muger Cement Enterprise and Messebo Cement Factory plc were state owned. Cement producers accounted for all reported clay (other than brick clay and kaolin), gypsum, pozzolanic materials, rhyolite, sandstone, and shale production, and most basalt and limestone production. Gold, silica sand, silver, and soda ash mining companies were privately owned. State-owned Ethiopian Mineral Development Share Co. (EMDSC) produced dolomite, feldspar, kaolin, niobium, quartz, and tantalum (table 2; Moore Stephens LLP, 2016, p. 103–104).

The mineral industry also included a number of small-scale and artisanal operations that produced construction materials, gemstones, gold, niobium, platinum, salt, and tantalum. Capacity, location, ownership, and production information was not readily available for many of these operations. Table 2 lists major mineral industry facilities in Ethiopia.

## Commodity Review

### Metals

**Gold.**—In fiscal year 2015, Ethiopia's gold production decreased to 10,600 kilograms (kg) from nearly 12,000 kg in fiscal year 2014. Artisanal miners produced 8,387 kg in fiscal year 2014, of which Oromia Regional State accounted for 40%; Tigray Regional State, 26%; Gambella Regional State, 14%; Benishangul-Gumuz Regional State, 13%; and Southern Regional State, 7% (Moore Stephens LLP, 2016, p. 26–27).

Midroc Gold Mine plc (a subsidiary of Midroc Group of Saudi Arabia) operated the Lega Dembi and the Sakaro Mines; the company produced 3,520 kg of gold and 1,020 kg of silver in fiscal year 2014. In May 2015, Midroc announced plans to start construction of a new mine at the Metekel deposit in Benishangul-Gumuz Regional State by 2018. Mining could start by 2021; planned production was about 2,300 kilograms per year (kg/yr) of gold (Tiret Magazine, 2015; Moore Stephens LLP, 2016, p. 103).

In mid-2015, Kefi Minerals plc of the United Kingdom completed a feasibility study of a new mine at the Tulu Kapi

project with favorable results. The company planned to produce 2,300 kg/yr of gold at Tulu Kapi, which is located in western Ethiopia, during the estimated 13-year life of the mine. In September, Kefi announced a revised production plan of 3,100 kg/yr during an estimated 10-year mine life. Mining was expected to start in 2017 (Andrews, 2015).

In May 2015, East Africa Metals Inc. of Canada estimated that resources at the Adyabo project in northern Ethiopia were 9.32 million metric tons (Mt) at grades of 0.4% copper, 2.26 grams per metric ton (g/t) gold, and 2.2 g/t silver. In October, the company revised its resource estimate at the Terakimti volcanic massive sulfide deposit (which is part of the Harvest project) to 6.48 Mt at grades of 1.43% zinc, 1.18% copper, 19.5 g/t silver, and 1.36 g/t gold. East Africa Metals planned further drilling at Adyabo (East Africa Metals Inc., 2016, p. 6–10).

**Niobium (Columbium) and Tantalum.**—In fiscal year 2015, Ethiopia's production of columbite-tantalite increased to an estimated 180 metric tons (t) from 141 t in fiscal year 2014. EMDSC produced nearly 107 t of columbite-tantalite at Kenticha in fiscal year 2014, and cooperatives of artisanal miners produced nearly 34 t of columbite-tantalite in Oromia Regional State (table 1; Addis Fortune, 2014, 2015; Moore Stephens LLP, 2016, p. 103).

### *Industrial Minerals*

**Cement.**—Domestic cement production increased to an estimated 7.8 Mt in fiscal year 2015 from a revised 5.42 Mt in fiscal year 2014 and 4.49 Mt in fiscal year 2013. Increased production was attributable to the opening of new plants and the expansion of existing plants. Ethiopia had 21 operating cement plants with a total capacity of about 15.1 million metric tons per year (Mt/yr) at the end of 2015 compared with 15 plants with a total capacity of 7.9 Mt/yr at the end of 2011. In May 2015, Messebo Cement Factory plc, Mughher Cement Enterprise, and National Cement Share Co. were producing at 83% of capacity and Derba Midroc Cement plc, at 81% of capacity (International Cement Review, 2012; Kassa, 2015; Dangote Cement plc, 2016, p. 33).

Dangote Cement plc of Nigeria completed a new plant at Mughher with a capacity of 2.5 Mt/yr in May 2015. By yearend, sales from the plant were nearly 1 Mt. Dangote planned to increase its capacity to 5 Mt/yr by the end of 2018. Habesha Cement Share Co. was engaged in the construction of a new plant at Holeta in Oromia State with a capacity of 1.4 Mt/yr. Ethio Cement plc was building a new plant at Chancho in Oromia State with a capacity of 852,000 metric tons per year (t/yr). Ethio Cement and Habesha planned to complete their plants in 2016 (Dangote Cement plc, 2016, p. 33, 70; International Cement Review, 2016).

Cement consumption was estimated to have increased to nearly 7.5 Mt in fiscal year 2015 from 6.28 Mt in fiscal year 2014 and 5.28 Mt in fiscal year 2013 because of the rapid growth in the construction sector. The Government was engaged in the construction of the Grand Ethiopian Renaissance Dam, new railways, and housing (Kassa, 2015).

**Gemstones.**—Artisanal miners produced gemstones, including aquamarine, emerald, garnet, opal, peridot, sapphire, and tourmaline. In the first 9 months of fiscal year 2015, gemstone exports were 48,147 kg of opal and 153 kg of other gemstones. In the first 9 months of fiscal year 2014, gemstone exports were 28,038 kg, of which nearly 62 kg were cut and polished. Most exporters lacked gemstone cutting and polishing machinery (Tadesse, 2014; Addis Fortune, 2015).

**Nitrogen and Phosphate Rock.**—Metal & Engineering Corp. (MetEC) was engaged in the construction of a new fertilizer plant at Yayu Wereda in Oromia Regional State. The plant had a planned capacity of 300,000 t/yr of urea and 250,000 t/yr of diammonium phosphate fertilizer. Ammonia and urea would be produced from coal sourced from new domestic coal mines. MetEC planned to complete the plant by the end of fiscal year 2015. In March 2014, the plant was 20% completed when construction was halted because of a dispute between MetEC and a subcontractor. Construction resumed in January 2015 (Tadesse, 2015).

**Potash.**—In April 2013, Allana Potash Corp. of Canada completed a feasibility study with favorable results on a new mine at the Dallol potash deposits. Allana planned to produce 1 Mt/yr of potash at Dallol, which is located in the Dankali Depression, in the first phase of mining. The company planned to mine 400,000 t of potash in the first year of production, 750,000 t in the second year, and 1 Mt in the third year. Muriate of potash would be produced from the sylvinitic layer of the deposits. Israel Chemicals Ltd. (ICL) purchased Allana in 2015; the company was considering the production of higher value sulfate of potash from the kainitic layer at yearend. Mining could start in 2020 (Cornish, 2015; Israel Chemicals Ltd., 2016, p. 111).

Yara International ASA of Norway completed a feasibility study on a new mine at its Danakil project with favorable results. The company planned to produce 600,000 t/yr of sulfate of potash at Danakil during the estimated 23-year life of the mine; production could start in the third quarter of 2018. The estimated capital cost of the project was \$740 million. In February 2015, Yara was seeking joint-venture partners for the project (Ethiopian Reporter, 2015).

In July 2015, Circum Minerals Ltd. of Bermuda completed a feasibility study on a new mine at its Danakil project in northern Ethiopia with favorable results. Circum planned to produce 2 Mt/yr of muriate of potash and 750,000 t/yr of sulfate of potash; mining could start in 2018. Reserves at the project were estimated to be 454 Mt at a grade of 23.8% potassium chloride. Estimated capital costs were about \$2.6 billion (Circum Minerals Ltd., 2015a, b).

**Pumice and Pumicite.**—Ethiopia's production of pozzolanic material and pumice was an estimated 720,000 t in fiscal year 2015 compared with 640,895 t in fiscal year 2014. East Cement S.C. produced 452,478 t in fiscal year 2014; Derba Midroc, 96,643 t; Mughher Cement Enterprise, 46,526 t; and Messebo, 45,248 t (Moore Stephens LLP, 2016, p. 103–104).

**Soda Ash.**—Abijata-Shalla Soda Ash Share Co. [National Mining Corp. plc (NMiC), 62%, and Government, 38%] produced about 8,000 t of soda ash from Lake Abijata for domestic consumption in fiscal year 2015. NMiC and the

Government were engaged in an expansion of the operations to 200,000 t/yr in the first phase and to 1 Mt/yr in the second phase. In plans announced in 2012, the first phase of the expansion could start production after 5 years (Tiret Magazine, 2012, 2015).

### **Mineral Fuels**

**Coal.**—MetEC planned to mine coal for consumption in the production of ammonia and urea at its fertilizer plant and in a new coal-fired power station with a capacity of 90 megawatts. In March 2014, the project was put on hold because of a dispute between MetEC and a subcontractor. Construction resumed in January 2015 (Tadesse, 2015).

**Natural Gas.**—POLY-GCL Petroleum Group Holdings Ltd. of China planned to develop the Calub and Hilala gasfields, which were located in the southeast Ogaden Basin. The company planned to export natural gas from Calub and Hilala to a liquefied natural gas plant in Djibouti. The plant would start production in 2018 and process 4.1 billion cubic meters per year of natural gas at full capacity in its first phase and 13.8 billion cubic meters per year in its second phase. Total resources at Calub and Hilala were estimated to be about 130 billion cubic meters (Maasho, 2015).

### **Outlook**

Cement production is expected to increase from 2016 through 2021 to meet the increased demand of infrastructure and housing projects. The production of clay, gypsum, limestone, and pumice is likely to increase because of increased demand from cement plants; output of other construction materials is also likely to increase. Lime output is expected to increase in 2016. Gold and soda ash mining are likely to increase starting in 2017 and 2019, respectively. Natural gas and potash production could start in 2018. The production of ammonia, fertilizers, and urea also could start and coal production could increase in the near future.

Mining and mineral processing operations could be constrained by increased power costs. As of the end of October 2015, the Government planned to increase power rates by 50% because the cost of power generation was \$0.09 per kilowatt hour compared with rates of \$0.06 per kilowatt hour (Fikade, 2015).

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TABLE 1  
ETHIOPIA: PRODUCTION OF MINERAL COMMODITIES<sup>1,2</sup>

(Metric tons unless otherwise specified)

Commodity <sup>3</sup>		2011	2012 <sup>e</sup>	2013 <sup>e</sup>	2014	2015 <sup>e</sup>
<b>METALS</b>						
Columbite-tantalite, ore and concentrate:						
Gross weight	kilograms	285,000 <sup>e</sup>	380,000	50,000	141,000 <sup>r</sup>	180,000
Nb content	do.	24,500 <sup>e</sup>	26,000	3,500	14,000 <sup>r</sup>	17,000
Ta content	do.	94,500 <sup>e</sup>	91,000	9,800	50,000 <sup>r</sup>	63,000
Gold, mine output, Au content	do.	10,891	12,311 <sup>4</sup>	12,581 <sup>4</sup>	11,970 <sup>r</sup>	10,600
Iron ore, gross weight		6,300 <sup>e</sup>	6,800	7,600	14,454	24,000
Platinum, mine output, Pt content	do.	1 <sup>r</sup>	--	--	--	5
Silver, mine output, Ag content	do.	715 <sup>r</sup>	800 <sup>r</sup>	900 <sup>r</sup>	1,020 <sup>r</sup>	1,000
Steel:						
Crude		130,000	130,000	130,000	130,000	130,000
Semimanufactured		NA <sup>r</sup>	NA <sup>r</sup>	NA <sup>r</sup>	NA <sup>r</sup>	NA
<b>INDUSTRIAL MINERALS</b>						
Cement, hydraulic		2,082,366	3,547,880 <sup>r,4</sup>	4,493,245 <sup>r,4</sup>	5,423,745 <sup>r</sup>	7,800,000
Clay:						
Brick clay		NA <sup>r</sup>	NA <sup>r</sup>	NA <sup>r</sup>	15,400 <sup>r</sup>	16,000
Kaolin		4,000	4,200 <sup>r</sup>	4,400 <sup>r</sup>	4,530 <sup>r</sup>	4,600
Other clay		19,000 <sup>r,e</sup>	210,000	520,000 <sup>r</sup>	883,464 <sup>r</sup>	990,000
Diatomite <sup>e</sup>		4,000	4,500	4,800	5,000 <sup>r</sup>	5,000
Feldspar		441	500	550 <sup>r</sup>	596 <sup>r</sup>	600
Gemstones:						
Aquamarine	kilograms	667	700	1,100	1,600 <sup>e</sup>	3,200
Citrine	do.	3	3	5	8 <sup>e</sup>	16
Emerald	do.	15 <sup>e</sup>	15	23	35 <sup>e</sup>	70
Garnet	do.	29	30	45	68 <sup>e</sup>	140
Morganite	do.	1	1	2	3 <sup>e</sup>	6
Opal	do.	13,839	14,000	21,000	32,000 <sup>e</sup>	64,000
Peridot	do.	7	10	15	23 <sup>e</sup>	46
Quartz	do.	1,492	1,500	2,300	3,400 <sup>e</sup>	6,800
Ruby	do.	56	55	85	130 <sup>e</sup>	260
Sapphire	do.	45	45	70	110 <sup>e</sup>	220
Tourmaline	do.	103	110	170	250 <sup>e</sup>	500
Gypsum and anhydrite, crude		26,000 <sup>r,e</sup>	74,000 <sup>r</sup>	150,000 <sup>r</sup>	243,678 <sup>r</sup>	290,000
Lime		2,481	5,621 <sup>4</sup>	6,000 <sup>r</sup>	36,000 <sup>r,e</sup>	55,000
Pumice and pozzolanic materials		254,152	380,000 <sup>r</sup>	510,000 <sup>r</sup>	640,895 <sup>r</sup>	720,000
Quartz		363	1,300 <sup>r</sup>	2,300 <sup>r</sup>	3,358 <sup>r</sup>	3,400
Salt, rock		388,153	500,000 <sup>r</sup>	700,000 <sup>r</sup>	900,000 <sup>r,e</sup>	1,100,000
Soda ash, natural		4,500 <sup>e</sup>	5,000	5,000	3,896 <sup>r</sup>	8,000
Stone, sand and gravel:						
Basalt:		13,000 <sup>e</sup>	41,000 <sup>r</sup>	130,000	182,863	210,000
Construction stone		NA <sup>r</sup>	NA <sup>r</sup>	NA <sup>r</sup>	NA <sup>r</sup>	NA
Other		NA <sup>r</sup>	NA <sup>r</sup>	NA <sup>r</sup>	NA <sup>r</sup>	NA
Dolomite		3,190	7,000 <sup>r</sup>	11,000 <sup>r</sup>	15,824 <sup>r</sup>	16,000
Granite <sup>e</sup>	square meters	18,000 <sup>r</sup>	27,000 <sup>r</sup>	19,000 <sup>r</sup>	19,000 <sup>r</sup>	20,000
Ignimbrite	cubic meters	NA <sup>r</sup>	NA <sup>r</sup>	NA <sup>r</sup>	NA <sup>r</sup>	NA
Limestone:	thousand metric tons	1,400 <sup>e</sup>	2,400	3,000	3,640	4,800
Slab and tiles	square meters	NA <sup>r</sup>	NA <sup>r</sup>	NA <sup>r</sup>	NA <sup>r</sup>	NA
Other	thousand metric tons	NA <sup>r</sup>	NA <sup>r</sup>	NA <sup>r</sup>	NA <sup>r</sup>	NA
Marble:						
Slab and tiles	square meters	143,820	219,743 <sup>r,4</sup>	153,738 <sup>r,4</sup>	150,000 <sup>r,e</sup>	160,000
Terrazzo	do.	NA <sup>r</sup>	NA <sup>r</sup>	NA <sup>r</sup>	NA <sup>r</sup>	NA
Block	cubic meters	NA <sup>r</sup>	NA <sup>r</sup>	3,807 <sup>r,4</sup>	3,797 <sup>r</sup>	3,800
Other		NA	NA	NA	42,623	43,000
Rhyolite		10,000 <sup>r,e</sup>	10,000 <sup>r</sup>	10,000 <sup>r</sup>	92,604 <sup>r</sup>	160,000
Sand	thousand metric tons	NA <sup>r</sup>	NA <sup>r</sup>	NA <sup>r</sup>	NA <sup>r</sup>	NA
Sandstone		21,000 <sup>r,e</sup>	33,000 <sup>r</sup>	57,000 <sup>r</sup>	73,572 <sup>r</sup>	110,000
Scoria		NA <sup>r</sup>	NA <sup>r</sup>	NA <sup>r</sup>	NA <sup>r</sup>	NA
Shale		48,000 <sup>e</sup>	50,000	58,000	66,569	110,000
Silica sand		15,000 <sup>r,e</sup>	11,000 <sup>r</sup>	9,800 <sup>r</sup>	16,290 <sup>r</sup>	17,000

See footnotes at end of table.

TABLE 1—Continued  
ETHIOPIA: PRODUCTION OF MINERAL COMMODITIES<sup>1, 2</sup>

(Metric tons unless otherwise specified)

Commodity <sup>3</sup>	2011	2012 <sup>c</sup>	2013 <sup>c</sup>	2014	2015 <sup>c</sup>
<b>MINERAL FUELS AND RELATED MATERIALS</b>					
Coal, lignite <sup>c</sup>	20,000	20,000	20,000	30,000	30,000

<sup>c</sup>Estimated; estimated data are rounded to no more than three significant digits. <sup>1</sup>Revised. do. Ditto. NA Not available. -- Zero.

<sup>1</sup>Table includes data available through December 22, 2016.

<sup>2</sup>Data are for the Ethiopian fiscal year ending July 7 of the year listed, except for steel, which are for the calendar year ending December 31 of the year listed.

<sup>3</sup>In addition to the commodities listed, construction sand, glass, ignimbrite, semimanufactured steel, sulfuric acid, and talc reportedly were produced, but information was inadequate to make reliable estimates of output.

<sup>4</sup>Reported figure.

TABLE 2  
ETHIOPIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Caustic soda	Caustic Soda Share Co.	Plant at Ziway	10,000.
Cement	Derba Midroc Cement plc	Plant at Derba	2,500,000.
Do.	do.	do.	90,000.
Do.	do.	Plant at Dejen	90,000.
Do.	Dangote Cement plc	Plant at Mughher	2,500,000.
Do.	Mughher Cement Enterprise (Government, 100%)	do.	2,276,000.
Do.	Messebo Cement Factory plc (Government, 100%)	Plant at Mekele	2,240,000.
Do.	National Cement Share Co.	Plants at Dire Dawa	1,350,000.
Do.	East Cement Share Co.	Plant at Dukem	750,000.
Do.	Ture Dire Dawa Cement Factory Share Co.	Plant at Dire Dawa	500,000.
Do.	Capital Clinker and Packaging plc	Plant at Addis Ababa	450,000.
Do.	Pioneer Cement Manufacturing plc	Plant at Dire Dawa	450,000.
Do.	Huang Shan Cement plc	Plant near Modijo	435,000.
Do.	Encheni Medrock Cement plc	NA	300,000.
Do.	Jiangsu Zhongshun Import and Export Trade Company Ltd.	Plant at Dukem	250,000.
Do.	Hua Yu Cement	NA	150,000.
Do.	Red Fox International Investment plc	Plant at Adama	100,000.
Do.	Abyssinia Cement plc	Plant at Chanco	90,000.
Do.	Derbasina Business Industries plc	Plant at Holeta	90,000.
Do.	Jema Cement plc	Plant in North Shoa zone	45,000
Clay:			
Kaolin	Ethiopian Mineral Development Share Co. (Government, 100%)	Mine at Bamba Wuha	7,500.
Other	East Cement Share Co.	Mine in Oromia Regional State	1,800,000. <sup>c</sup>
Do.	National Cement Share Co.	Mine in Amhara Regional State	280,000. <sup>c</sup>
Do.	Pioneer Cement Manufacturing plc	Mine at Dire Dawa	120,000. <sup>c</sup>
Do.	Mughher Cement Enterprise (Government, 100%)	Mine near Mughher	67,000. <sup>c</sup>
Coal, lignite	Delbi Coal Mining Share Co.	Mine at Delbi	30,000. <sup>c</sup>
Feldspar	do.	do.	600. <sup>c</sup>
Gemstones, opal	Artisanal miners	Mine at Wegel Tena	NA.
Do.	do.	Mine near Gashena	NA.
Glass	Ethiopia Hansom International Glass plc [CGC Overseas Construction Ltd. (CGCOC) and China-Africa Development Fund]	Plant at Addis Ababa	42,000.
Do.	Addis Ababa Bottle and Glass Share Co.	do.	8,000.
Gold	kilograms Midroc Gold Mine plc (subsidiary of Midroc Group)	Lega Dembi and Sakaro Mines	3,600. <sup>c</sup>
Do.	do. Artisanal miners	Mines in Oromia Regional State	3,400. <sup>c</sup>
Do.	do. do.	Mines in Tigray Regional State	2,200. <sup>c</sup>
Do.	do. do.	Mines in Gambella Regional	1,200. <sup>c</sup>

See footnotes at end of table.

TABLE 2—Continued  
ETHIOPIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Gold—Continued	kilograms	Artisanal miners	Mines in Benishangul-Gumuz Regional State	1,100. <sup>c</sup>
Do.	do.	do.	Mines in Southern Nations Nationalities, and Peoples' Regional State	600. <sup>c</sup>
Do.	do.	do.	Mines in Amhara Regional State <sup>1</sup>	300. <sup>c</sup>
Gypsum		Derba Midroc Cement plc	Mine in Oromia Regional State	150,000. <sup>c</sup>
Do.		East Cement Share Co.	do.	140,000. <sup>c</sup>
Do.		Pioneer Cement Manufacturing plc	Mine in Somali Regional State	85,000. <sup>c</sup>
Lime		Derba Lime and Chemicals (DLC) (Midroc Group, 100%)	Plant near Derba	73,000.
Do.		Senkele Lime Factory	Plant at Ambo	6,000. <sup>c</sup>
Do.		Caustic Soda Share Co. (Government, 100%)	Plant at Ziway	NA.
Do.		Wonji Shoa Sugar Factory	Plant near Wonji	NA.
Niobium (columbium) and tantalum, ore and concentrate		Ethiopian Mineral Development Share Co. (Government, 100%)	Kenticha Mine near Borena	90 tantalum; 20 niobium.
Do.		Artisanal miners	Mines in Oromia Regional State	25 tantalum; 14 niobium.
Platinum	kilograms	do.	Mine at Yubdo	10. <sup>c</sup>
Pumice and pozzolanic materials		East Cement Share Co.	Mine in Oromia Regional State	1,100,000. <sup>c</sup>
Do.		Derba Midroc Cement plc	do.	170,000. <sup>c</sup>
Do.		Mugher Cement Enterprise (Government, 100%)	Mine near Mugher	120,000. <sup>c</sup>
Do.		Messebo Cement Factory plc	Mine in Tigray Regional State	110,000. <sup>c</sup>
Quartz		Ethiopian Mineral Development Share Co. (Government, 100%)	Kenticha Mine near Borena	3,400. <sup>c</sup>
Salt		Artisanal miners	Mines at Afdera Lake	1,100,000. <sup>c</sup>
Silica sand		Ethiopian Hansom International Glass PLC	Mine in Oromia Regional State	35,000. <sup>c</sup>
Silver	kilograms	Midroc Gold Mine plc (subsidiary of Midroc Group)	Mine at Lega Dembi	1,100. <sup>c</sup>
Soda ash		Abijata-Shalla Soda Ash Share Co. [National Mining Corp. plc (NMIc), 62%, and Government, 38%]	Mine at Lake Abijata	20,000.
Steel, crude		Abyssinia Integrated Steel plc	Plant at Debre Zeit	150,000. <sup>c</sup>
Stone:				
Basalt		Derba Midroc Cement plc	Mine in Oromia Regional State	290,000. <sup>c</sup>
Do.		Target Industries plc	Mine near Addis Ababa	14,000. <sup>c</sup>
Dolomite		Ethiopian Mineral Development Share Co. (Government, 100%)	Kenticha Mine near Borena	16,000. <sup>c</sup>
Limestone		Derba Midroc Cement plc	Mine in Oromia Regional State	2,700,000. <sup>c</sup>
Do.		National Cement Share Co.	Mine near Dire Dawa	1,600,000. <sup>c</sup>
Do.		Messebo Cement Factory plc	Mine in Tigray Regional State	1,500,000. <sup>c</sup>
Do.		Pioneer Cement Manufacturing plc	Mine at Dire Dawa	1,100,000. <sup>c</sup>
Do.		East Cement Share Co.	Mine in Oromia Regional State	770,000. <sup>c</sup>
Do.		Mugher Cement Enterprise (Government, 100%)	Mine near Mugher	390,000. <sup>c</sup>
Marble		A Zeyneba Mining Plc	Mine in Benishangul-Gumuz Regional State	32,000. <sup>c</sup>
Do.		National Mining Corporation Plc	do.	10,000. <sup>c</sup>
Do.	square meters	do.	Plant at Awash	250,000. <sup>2</sup>
Do.	do.	Saba Dimension Stone Factory plc	Plant at Adwa	180,000. <sup>2</sup>
Rhyolite		National Cement Share Co.	Mine at Dire Dawa	240,000. <sup>c</sup>
Sandstone		Messebo Cement Factory plc	Mine in Tigray Regional State	80,000. <sup>c</sup>
Do.		Derba Midroc Cement plc	Mine in Oromia Regional State	70,000. <sup>c</sup>
Shale		do.	do.	170,000. <sup>c</sup>
Sulfuric acid		Melkasa Aluminum Sulfate and Sulfuric Acid Factory	Plant at Melkasa	14,600.

<sup>c</sup>Estimated. Do., do. Ditto. NA Not available.

<sup>1</sup>Not operating at the end of 2015.

<sup>2</sup>Also includes granite and limestone.