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The Mineral Industry of Turkey

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Turkey had a diverse mineral industry that primarily produced metals and industrial minerals. In 2015, Turkey was the world's leading producer of boron (accounting for 78% of world production, excluding that of the United States), pumice and pumicite (40%), and feldspar (22%). It was also the world's second-ranked producer of magnesite (ccounting for 10% of world production, excluding that of the United States); the third-ranked producer of perlite (21%) and chromite ore (12%); the fourth-ranked producer of cement (2%), bentonite (7%), and barite (tied with Iran and Kazakhstan) (4%); the sixth-ranked producer of kaolin (6%); and the ninth-ranked producer of raw steel (2%). In Europe, Turkey was the leading producer of cement and the second-ranked producer of steel (table 1; World Steel Association, 2016, p. 1–2; Bennett, 2017; Bray, 2017; Crangle, 2017a, b; Fenton, 2017; Flanagan, 2017; McRae, 2017; Papp, 2017; Tanner, 2017; van Oss, 2017).

The U.S. Geological Survey estimated that Turkey held the world's largest reserves of boron and perlite, the third-largest reserves of barite, and the fourth-largest reserves of magnesite and feldspar. The country contained substantial deposits of barite, bentonite, boron, chromite, feldspar, kaolin, magnesite, manganese, perlite, quartzite, and quartz sand (Bennett, 2016; Bray, 2016; Crangle, 2016; Maden Tetkik ve Arama Genel Müdürlüğü, 2016; McRae, 2016; Tanner, 2016).

Minerals in the National Economy

In 2015, Turkey's real gross domestic product (GDP) increased by 4.0% compared with a 3.0% (revised) rate of growth in 2014. The nominal GDP in 2015 was $717.9 billion. Mining and quarrying accounted for 1.3% of the nominal GDP in 2015 compared with 1.5% in 2014. The real gross value of the mining and quarrying sector decreased by 1.8% in 2015. The real gross value of manufacturing, which included the production of value-added processed minerals, increased by 5.9% and accounted for 16.7% of the GDP in 2015 compared with 16.8% in 2014. Construction, which was a major consumer of domestic industrial mineral output, accounted for 8.2% of the GDP, and its real gross value increased by 4.9% in 2015 (European Commission, 2016, p. 132; Türkiye Istatistik Kurumu, 2016a, b; World Bank Group, 2016).

Government Policies and Programs

Mineral exploration and extraction activities in Turkey are regulated by Mining Law No. 3213 of June 15, 1985, and the Mining Activities Regulation of February 18, 2015. The law classifies minerals into five groups subject to different exploration, operating, and licensing procedures. Groups I and II cover construction materials, such as crushed and dimension stone, and sand and gravel. Group III includes carbon dioxide, hydrogen sulfide, and salt. Group IV covers other industrial minerals, metals, coal, and radioactive minerals. Group V covers precious metals and gemstones, such as diamond and sapphire. To obtain an operating license, the holder must submit an operating plan before the expiration of an exploration license. An operating permit for ore extraction is granted only after an environmental impact assessment (EIA) is approved. The Maden İşleri Genel Müdürlüğü (MIGEM) [General Directorate of Mining Affairs], which is the primary mineral regulatory agency, issues nonfuel mineral and coal licenses and permits (Arseven and Ersin, 2015).

As of yearend 2015, 18,285 mineral licenses were in effect, of which 5,569 were exploration licenses and 12,716 were operating licenses. Of the total exploration licenses, 4,097, or 74%, were for Group IV minerals, and 1,280, or 23%, were for Group II minerals. Of the total licensed operations, 5,727 were active in 2015. Among those that were active, 3,500 were for Group II minerals (61% of the total) and 1,799 were for Group IV minerals (31%). In 2015, 1,169 new applications for licenses were filed; of these, 870 were approved. MIGEM issued a total of 2,210 new licenses in 2015, including for applications submitted in previous years. Most of the licenses were for Group II minerals. The number of active licenses and new applications decreased in 2015 owing to regulatory delays and perceived changes in macroeconomic risk (Maden İşleri Genel Müdürlüğü, 2016a, c, d).

Production

In 2015, significant increases in production were reported for serpentine (956%); barite (222%); bentonite (185%); illite (172%); asphalt (149%); salt (106%); building stone (104%); emery and diaspore (95%); talc (92%); pumice (59%); travertine (52%); aluminum (51%); diabase and fluorspar (46% each); jet fuel and kerosene (42%); diatomite, diesel fuel, and magnesium (40% each); dolomite (37%); zircon (36%); marble (33%); feldspar (31%); gasoline (30%); phosphate rock (18%); ignimbrite (14%); quartzite and silica sand (13% each); copper ore, Cu content of copper ore, crude petroleum, and zeolites (12% each); and bituminous schist (11%). Significant decreases in production were reported for basalt (79%); andesite (58%); other mica (49%); pyrite (48%); sepiolite and palygorskite (46%); leonardite and vermiculite (41% each); onyx (35%); chalcedony and fuel oil (32% each); other clays and boron (31% each); olivine and dunite, and natural gas (24% each); gabbro (22%); lead ore (20%); chromium (19%); zinc ore and Zn content of ore (18% each); granite and sodium sulfate (17% each); iron ore and Fe content of ore (14% each); gold (11%); and lignite coal (10%) (table 1; Maden İşleri Genel Müdürlüğü, 2016b).

Structure of the Mineral Industry

Turkey's industrial minerals and metals production was undertaken mainly by privately owned companies, which

also extracted some mineral fuels and produced all refined petroleum products. The Government's involvement in the mineral industry was primarily in boron, coal, and hydrocarbon exploration, production, and distribution. Table 2 is a list of major mineral-producing companies, mines, and facilities (Matthews and Incesulu, 2015, p. 165).

Mineral Trade

The leading mineral exports were those of iron and steel, which decreased by 26.7% to $7.9 billion, and fabricated metal products, which decreased by 13.8% to $5.7 billion in 2015. Exports of petroleum and petroleum products decreased by 26.7% to $4.1 billion; industrial minerals, including cement, ceramics, glass, lime, and stone, by 10.3% to $3.6 billion; nonferrous metals, by 8.2% to $2.4 billion; fertilizers, by 11.4% to $132 million; and natural gas, by 20.8% to $325 million. Imports of iron and steel, which consisted primarily of scrap steel, increased by 0.8% to $11.3 billion. Imports of nonferrous metals decreased by 11.4% to $7.0 billion in 2015; fabricated metal products, by 2.4% to $3.8 billion; and industrial minerals, by 10.5% to $2 billion. Imports of petroleum and petroleum products decreased by 40.6% to $9.6 billion. Imports of natural gas and fertilizers were unchanged at $1.5 billion and $1.2 billion, respectively (table 3; T.C. Kalkınma Bakanlığı, 2016a, b).

In 2015, the value of Turkey's exports of mined minerals decreased by 16% to $3.91 billion; they accounted for 2.7% of the country's exports, by value, in 2015 compared with 2.9% in 2014. China remained the leading recipient of such exports, in particular those of natural stone and marble, accounting for 36% of the total in 2015. It was followed by the United States (11%), and Italy, Saudi Arabia, and Sweden (3% each) (İstanbul Maden ve Metaller İhracatçıları Birlikleri, 2016, p. 2–3).

Turkey's mineral exports to East Asia decreased by 20.7%; the European Union (EU), by 13.4%; North America, by 5.7%; and the Middle East, by 4.9%. Turkey's mineral exports to the United States included semifinished iron and steel products valued at $1.1 billion; and stone, sand, cement, and lime, $401 million. Turkey's imports from the United States included steelmaking products valued at $926 million; other petroleum products, $178 million; and metallurgical-grade coal, $172 million (İstanbul Maden ve Metaller İhracatçıları Birlikleri, 2016, p. 2–3; U.S. Census Bureau, 2016a, b).

Commodity Review

Metals

Aluminum and Bauxite and Alumina.—Eti Alüminyum A.Ş. was the only primary aluminum producer in Turkey and provided about 13.5% of domestic annual aluminum consumption. The company continued the multiyear modernization of the Seydisehir aluminum smelter in Konya. Eti Alüminyum's alumina refinery was supplied by seven bauxite mines within 25 kilometers, and the fully integrated smelter was supplied by the alumina refinery. The facility processed 550,000 metric tons per year (t/yr) of bauxite ore. It had the capacity to produce 260,000 t/yr of alumina by converting 400,000 t/yr of aluminum hydroxide. Seydisehir's production capacity for primary aluminum increased to 82,000 t/yr in mid-2015 through ongoing technological upgrades. To reduce the cost of energy input, Eti Alüminyum acquired nearby coal mines spanning 4,000 hectares with 26 million metric tons (Mt) of lignite reserves (Cengiz Holding A.Ş., 2016a; Eti Alüminyum A.Ş., 2016a, b).

Chromium and Ferrochromium.—Eti Krom A.Ş. remained Turkey's leading chromite ore and ferrochromium producer in 2015 and was reportedly the world's leading lumpy marketable chromite ore producer. Eti Krom had more than 130 Mt of chromite reserves and 22 licenses for mostly underground mines with a total production capacity of 1 million metric tons per year (Mt/yr). The company produced metallurgical and refractory ore grades and exported chromite ore in hard lumpy and concentrate form. Its 165,000-t/yr fully integrated ferrochrome Elazig plant used high-grade chromite ore extracted from its mines to produce high-carbon ferrochrome in four arc furnaces with a slag recovery rate of 15,000 t/yr. Eti Elektrometalurji A.Ş. was Turkey's sole low-carbon ferrochromium and ferrosilicochromium producer and had production capacities of 35,000 t/yr, and 23,000 t/yr, respectively. The company also operated seven chromite mines in Fethiye and Gocek in the Province of Mugla (Eti Elektrometalurji A.Ş., 2016a, b; Yıldırım Group, 2016).

Cobalt and Nickel.—Meta Nikel Kobalt A.Ş. began operating a nickel- and cobalt-processing plant in Gordes in Manisa Province in 2015, which was Turkey's first hydrometallurgy processing plant. The plant would initially produce 10,000 t/yr of nickel and 750 t/yr of cobalt. The production capacity would be doubled to 20,000 t/yr of nickel by 2018. The Gordes deposit contained 300,000 metric tons (t) of nickel in proven reserves. In 2015, Meta Nikel Kobalt made additional investments in the Gordes plant and the extraction of nickel-cobalt reserves in Eskisehir and Usak Provinces (Zorlu Group, 2015; Vestel Group, 2016, p. 47).

Copper, Molybdenum, and Zinc.—Eti Bakır A.Ş., which was Turkey's leading copper company, had the capacity to produce about 130,000 t/yr of copper concentrate grading 22% copper from 3.5 Mt of crude ore at its Murgul facility in Artvin and about 110,000 t/yr of copper concentrate and 400,000 t/yr of pyrite concentrate from 1.1 Mt of crude ore at the Kure facility in Kastamonu. Eti Bakır also had the capacity to produce 42,000 t/yr of electrolytic copper and 220,000 t/yr of sulfuric acid at its smelter and electrolysis plant in Samsun (Cengiz Holding A.Ş., 2016b; Eti Bakır A.Ş., 2016).

Park Elektrik Üretim Madencilik San. ve Tic. A.Ş. operated the Madenkoy copper mine in Siirt, which was the largest open pit mine in Turkey; the mine had a resource of 41.5 Mt that consisted of 36.3 Mt of measured resources at a grade of 1.95% copper, 5.0 Mt of indicated resources at a grade of 2.45% copper, and 225,000 t of inferred resources at a grade of 3.52% copper. In 2015, Park Elektrik increased its copper concentrate output in Madenkoy by 6% to 96,542 t, reaching its highest level; the increase was mainly owing to a higher average grade of 1.28%. The company planned to increase production to 100,000 t in 2016 (Park Elektrik Üretim Madencilik San. ve Tic. A.Ş., 2016, p. 2, 6, 7, 11, 13).

In 2015, Çayeli Bakır İşletmeleri A.Ş., which was a subsidiary of First Quantum Minerals Ltd. of Canada, produced 24,304 t of copper, 125 kilograms (kg) of gold, and 19,808 t of zinc at its Cayeli copper mine located in Rize Province compared with 29,360 t of copper, 174 kg of gold, and 36,218 t of zinc in 2014. Copper recovery was 81% and zinc recovery, 54%, compared with 80% and 63% in 2014, respectively. As of yearend 2012, total mineral reserves of the Cayeli Mine were 7.1 Mt at average grades of 3.06% copper, 3.64% zinc, and 0.39 gram per metric ton (g/t) gold (First Quantum Minerals Ltd., 2016a, p. 7, 25; 2016b, c).

Özdoğu İnşaat ve Ticaret Ltd. Şti, through its subsidiary Kuzey Ege Bakır İşletmeleri A.Ş. operated Turkey's sole molybdenum mine in Tepeoba in Balikesir Province; the mine had estimated reserves of 23.5 Mt grading 0.32% copper and 0.04% molybdenum. The company planned to process 2.5 Mt/yr of ore for 12 years. At a processing rate of 8,000 metric tons per day, Özdoğu produced 54,750 t/yr of copper concentrate at average grades of 29% to 31% copper and 3,285 t/yr of molybdenum concentrate at average grades of 50% to 55% molybdenum (Maden Ocak Teknolojileri, 2014; Özdoğu İnşaat ve Ticaret Ltd. Şirketi, 2014; Metso Corp., 2015).

Gold and Silver.—Turkey's gold production was 27.8 t in 2015 compared with 31.3 t in 2014. As output remained below annual consumption, about 151 t/yr of gold was imported. Kisladag and Copler were the country's largest gold deposits, with reserves containing 230,103 kg and 125,471 kg of gold, respectively. The Kisladag open pit gold porphyry mine remained the leading gold mine, by output. In 2015, the Kisladag Mine (located in Usak Province) and the Efemcukuru Mine (located in Izmir Province), which were operated by Eldorado Gold Corp. of Canada, produced 8,748 kg of gold from ore grading 0.7 g/t and 3,125 kg of gold from ore grading 7.82 g/t, respectively, compared with 9,680 kg of gold (1.01 g/t) and 3,074 kg (8.34 g/t), respectively, in 2014. The Copler open pit mine (operated by Alacer Gold Corp. of the United States) was the country's second largest gold mine by output. In 2015, gold production at the mine was 6,370 kg from ore grading 1.23 g/t compared with 7,090 kg from ore grading 1.68 g/t in 2014 (Alacer Gold Corp., 2016a, b; Altın Madencileri Derneği, 2016a, b; Eldorado Gold Corp., 2016a–c).

Koza Altın İşletmeleri A.Ş., which was Turkey's sole domestically owned gold company, produced 5,599 kg of gold from ore grading 2.15 g/t and 2,550 kg of silver from ore grading 3.82 g/t in the first 9 months of 2015 compared with 7,900 kg of gold (5.6 g/t) and 3,610 kg of silver (4.21 g/t) during the same period in 2014. As of September 2015, Koza Altın held 56 operating licenses and 211 exploration licenses across the country. In January, the company obtained an interim activity certificate for the Himmetdede Mine in Kayseri Province after operations were temporarily suspended in December 2014 by a court order. The company also planned to build a processing plant in Himmetdede (Koza Altın İşletmeleri A.Ş., 2015, p. 3–4).

Iron and Steel.—Turkey's production of crude steel decreased by 7.4% to 31.5 Mt in 2015 after decreasing by 1.8% in 2014. About 65% of total crude steel production was by electric arc furnace (EAF) mills in 2015. Crude steel production by EAF mills, which used mostly scrap steel as input, decreased by 13.8%, whereas output from integrated mills, which used iron ore, increased by 7.3%. Of total steel output, 74% consisted of billet. Total crude steel production capacity expanded slightly to 50.4 Mt/yr, 77% of which was provided by EAF mills. The capacity utilization rate in the steel sector decreased to 62.5% in 2015 from 67.8% in 2014. The capacity utilization rate of EAF mills and slab producers decreased to 53% and 44%, respectively, in 2015 from 61% and 53% in 2014, respectively, whereas that of integrated plants increased to 94% from 89% in 2014. Finished steel output decreased by 2.3% to 36.9 Mt in 2015. Long steel accounted for 71.9% of total finished steel production and flat steel accounted for the remaining 28.1% (Türkiye Çelik Üreticileri Derneği, 2016).

Erdemir Group, which was Turkey's leading iron and steel producer, produced 2.4 Mt of beneficiated iron ore and pellets in 2015 compared with 2.7 Mt in 2014. The company's pellet production remained about the same at 1.55 Mt in 2015, and its output of lump ore, fine ore, byproducts, and pellet cake decreased to 874,000 t in 2015 from 1.1 Mt in 2014. Erdemir produced about 7.4 Mt of flat-finished steel products and 1.6 Mt of long-steel products in 2015 compared with 7 Mt and 1.2 Mt, respectively, in 2014. Erdemir Madencilik Sanayi ve Ticaret A.Ş., which was a subsidiary of the Erdemir Group, accounted for 50% of Turkey's total iron ore production from nine mines in Divrigi, Sivas Province, and supplied about 20% of domestic consumption. The company operated Turkey's only iron ore pelleting facility in Ekinbasi, Sivas Province, with a production capacity of 1.5 Mt/yr of pellets and 750,000 t/yr of lump ore. Reserves in Ekinbasi were 14.4 Mt, 5.4 Mt of which was supplied by the Ekinbasi Mine (Erdemir Madencilik Sanayi ve Ticaret A.Ş., 2016; Erdemir Group, 2016a, p. 17, 38–39; 2016b, p. 12).

Industrial Minerals

Boron.—Refined borates production by Eti Maden İşletmeleri Genel Müdürlüğü (Eti Maden), which was the world's leading producer and exporter of boron, was 1.83 Mt in 2015 compared with 2 Mt in 2014. Eti Maden mined borax, colemanite, kernite, and ulexite and produced 16 types of boron products, including borax decahydrate, boric acid, boron oxide, concentrated colemanite, ground colemanite, calcined tincal, and ulexite. In 2015, exports, primarily of boron products, made up 97% of the company's total sales and amounted to $787 million compared with $871 million in 2014. Countries in Asia received 56% of Eti Maden's exports, followed by Europe (18%), and the Americas (25%). The remaining 3% of output, or 66,000 t, met domestic demand for boron products, 51% of which was consumed by the glass and ceramics industries (Eti Maden İşletmeleri Genel Müdürlüğü, 2016, p. 3–5, 22, 23, 25, 26, 31).

Eti Maden's total boron chemical plant capacity remained the same at 2.19 Mt. The capacity utilization rate was 84% in 2015 compared with 91% in 2014. Total boron reserves were 3.3 billion metric tons (Gt) as of yearend 2015 and consisted of 1.8 Gt of colemanite and ulexite in Emet, 830 Mt of tincal in Kirka, 630.9 Mt of colemanite and ulexite in Bigadic, and 5.3 Mt in Kestelek. Most of Eti Maden's boron chemical

production took place in the 840,000-t/yr-capacity borax pentahydrate facility in Kirka. In 2015, Eti Maden finished the construction of the 500,000-t/yr vanadium borax pentahydrate facility and the 10,000-t/yr zinc borate facility, both of which planned to begin production in 2016 (Eti Maden İşletmeleri Genel Müdürlüğü, 2016, p. 23, 30, 31).

Cement.—Turkey's total cement output was 71.4 Mt and clinker output was 62 Mt in 2015 compared with 71.3 Mt and 62.5 Mt, respectively, in 2014. The total production capacity for gray cement increased to 126.1 Mt in 2015 from 113.5 Mt in 2014 owing to the commissioning of new plants. Chief among these were the 4.5-Mt/yr Mersin plant that was commissioned in July by Medcem Çimento and the 2-Mt/yr Adana plant that was commissioned by Sönmez Çimento, which also had the capacity to produce 1.7 Mt/yr of clinker. Turkey's cement industry included 53 integrated plants and 18 grinding stations. In 2015, the cement capacity utilization rate decreased to 58.5% from 63.9% in 2014. Exports of cement, mostly to neighboring and Mediterranean countries, decreased by 3% to 7.4 Mt in 2015. Akçansa Çimento, Çimsa Cemento, and Sönmez Cimento each exceeded 1 Mt in seaborne cement exports. Cement was exported from Turkey primarily to Syria (1.7 Mt), Libya (1.5 Mt), Israel (675,000 t), Iraq (510,000 t), and the United States (472,000 t). In 2015, clinker exports increased by 7.2% to 3.1 Mt. Clinker was exported primarily to Ghana (456,000 t), Mauritania (431,000 t), Côte d'Ivoire (278,000 t), and Cameroon (158,000 t) (tables 1, 3; International Cement Review, 2016; Medcem Çimento, 2016; Sönmez Çimento, 2016).

Phosphate Rock.—Phosphate rock production, which started in Turkey in 2013, continued to increase in 2015. Eti Bakır operated the 550,000-t/yr-capacity Mazidagi phosphate plant in Mardin Province. The company was in the process of constructing a 2.3-Mt/yr-capacity fertilizer plant in Mardin that would be the only such facility in Turkey and neighboring countries. In the first phase, the new Mardin complex would have the capacity to produce 550,000 t/yr of phosphate rock and 200,000 t/yr of diammonium phosphate, which would provide 20% of Turkey's annual fertilizer consumption (Atik, 2016; Cengiz Holding A.Ş., 2016b).

Soda Ash.—Eti Soda A.Ş., which was Turkey's leading soda ash producer, operated the Beypazari trona mine in Ankara Province. The company's soda plant in Ankara produced about 1 Mt/yr of soda ash and 100,000 t/yr of sodium bicarbonate. Eti Soda planned to commission additional capacity of 600,000 t/yr at the plant by February 2017. In 2015, the company delayed the launch of its 2.7-Mt/yr greenfield soda ash production complex in Kazan, Ankara Province, to 2018 owing to financial and construction-related issues. When completed, the Kazan facility could be the world's leading soda ash plant. Eti Soda had signed an agreement with Tianchen Engineering Corp. of China in 2013 to build the $1.35 billion production complex, which would include a 200,000-t/yr sodium bicarbonate facility (ICIS News, 2015; Ciner Holding, 2016).

Mineral Fuels and Related Materials

Turkey's total primary energy supply was provided primarily by natural gas (30.2%), petroleum (30.1%), and coal (27.3%) in 2015. Only about one-quarter of the energy supply was provided by domestic sources. The county remained more than 90% reliant on hydrocarbon imports (International Energy Agency, 2016, p. 22–23).

Coal.—Turkey's coal production consisted largely of lignite production. As of yearend 2015, total coal reserves were 15.6 Gt of lignite and 1.3 Gt of anthracite. Of the total lignite production of 58.3 Mt in 2015, two Government-owned enterprises, Türkiye Kömür İşletmeleri Kurumu Genel Müdürlüğü (TKI) and Elektrik Üretim A.Ş (EÜAŞ), provided 12.9 Mt and 11.1 Mt, respectively, mainly from the Afsin-Elbistan, Cayirhan, Soma, and Tuncbilek basins. Anthracite coal production was mostly by Government-owned Türkiye Taşkömürü Kurumu (TTK) in the Zonguldak basin. TTK's anthracite coal output was 948,573 t in 2015 compared with 1.3 Mt in 2014; the company's production provided about 6% of total domestic consumption (Türkiye Kömür İşletmeleri Kurumu Genel Müdürlüğü, 2016, p. 27, 40–42; Türkiye Taşkömürü Kurumu, 2016, p. 24–27.

Natural Gas, Petroleum, and Refined Petroleum Products.—In 2015, crude petroleum production was 17.6 million barrels (Mbbl), and natural gas production decreased to 381 million cubic meters. Domestic hydrocarbon production provided only 6.4% of petroleum consumption and 0.8% of natural gas consumption in 2015. Imports of crude petroleum increased by 43.4% to 290.3 Mbbl, whereas those of natural gas decreased by 1.7% to 48.4 billion cubic meters. The main hydrocarbon import sources were Iran, Iraq, and Russia (Enerji Piyasası Düzenleme Kurumu, 2016a, p. 4, 7; 2016b, p. 5, 6, 9; Türkiye Petrolleri Anonim Ortaklığı, 2016, p. 30).

Türkiye Petrol Rafinerileri A.Ş. (Tüpraş), which was Turkey's sole active petroleum refiner, operated its four refineries at full capacity in 2015. Refined petroleum products output increased by 40% to a record 235.8 Mbbl (27.9 Mt), 67% of which was gasoline, jet fuel, and diesel output, in response to increased consumption in Turkey and the Middle East. A new 13.5-Mbbl-capacity refinery, Star Rafineri, was being constructed in Izmir Province by State Oil Co. (SOCAR) of Azerbaijan to produce diesel (45% of output) and jet fuel (15%). Construction began in 2014 and was expected to be completed in April 2018 (Koç Holding, 2016; Star Rafineri, 2016a, b; Türkiye Petrol Rafinerileri A.Ş., 2016).

Uranium.—In June, Uranium Resources Inc. of the United States acquired Anatolia Energy Ltd. of Australia, which held 18 exploration licenses, including the Temrezli in situ leach (ISL) uranium project with Joint Ore Reserves Committee (JORC)-compliant measured resources of 2.01 Mt at a grade of 0.117% uranium, indicated resources of 2.2 Mt at a grade of 0.092% uranium, and inferred resources of 976,000 t at a grade of 0.075% uranium. Uranium Resources initiated a prefeasibility optimization of the Temrezli project in 2015. The company planned to acquire all required permits to begin prospective production and to move its Rosita treatment plant from Texas to Temrezli in 2016 (World Nuclear Association, 2016).

Outlook

Turkey is expected to remain a globally significant producer of boron, cement, feldspar, marble, and steel; however, the mineral sector's contribution to the country's GDP and total

exports may continue to decrease owing to ongoing regulatory issues and macroeconomic volatility. New projects are being planned for such industrial minerals as boron, cement, phosphate rock, and soda ash, and for such metals as aluminum, molybdenum, and steel, but capacity utilization may remain low. Cobalt and nickel production are expected to increase owing to the launching of the country's first processing plant. Exploration projects in copper, gold, and silver may not enter the production phase in the near future, and output by active mines is likely to continue to decrease. Uranium production may begin in coming years.

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TABLE 1
TURKEY: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity[2]		2011	2012	2013	2014	2015
METALS						
Aluminum		65,000	43,700	42,200	30,400 r	45,900
Antimony:						
Ore, mine output:						
Gross weight		43,340	131,839	83,553	55,791	35,501
Sb content[e]		2,400	7,300	4,600	3,100	2,000
Concentrates:[e]						
Gross weight		8,600	26,200	16,600	11,100	7,100
Sb content		2,200	6,600	4,200	2,800	1,800
Bauxite and alumina:						
Bauxite		1,177,332 r	1,989,130 r	913,553 r	1,285,251 r	1,340,216
Alumina[e]		200,000 r	262,000 r	280,000 r	280,000 r	284,000
Chromite ore, gross weight (34% to 43% chromic oxide)[3]		2,900,000	3,600,000	3,200,000	2,900,000	2,351,000
Copper:						
Mine output, exclusive of pyrite:[4]						
Gross weight		5,687,058	7,684,052	7,983,438	6,422,445	7,203,000
Cu content of ore		93,700 r	101,700 r	120,500 r	96,300 r	108,000
Metal:[e]						
Smelter output, primary and secondary		35,600	38,600 r	45,800 r	36,800 r	40,000
Refined		86,400	93,800 r	111,100 r	89,400 r	95,000
Gold[5]	kilograms	24,400 r	29,390 r	33,980 r	31,260 r	27,800
Iron and steel:						
Iron ore:						
Gross weight	thousand metric tons	6,450	6,557	8,492	6,982	6,010
Fe content[e]	do.	3,400	3,500	4,500	3,700	3,200
Metal:						
Pig iron and ferroalloys:						
Pig iron		8,173,000	8,613,000	9,180,000	9,364,000	10,184,000
Ferrochromium[e]		53,000	56,000	60,000	61,000	55,000
Ferrosilicon[e]		2,000	2,000	2,500	2,500	2,500
Steel:						
Crude, including castings	thousand metric tons	34,107	35,885	34,654	34,035	31,517
Finished	do.	31,940	34,280	36,400	37,800	36,900
Lead:						
Mine output, Pb and Pb-Zn ores:						
Gross weight		383,000 r	395,000 r	548,000 r	792,000 r	633,000
Pb content		45,950 r	47,350 r	65,630 r	94,900 r	75,900
Concentrates:[e]						
Gross weight		80,300 r	82,900 r	115,000 r	166,100 r	132,800
Pb content		34,000 r	36,000 r	49,000 r	71,000 r	57,000
Manganese ore, gross weight[6]		172,248	192,756	321,785	245,830	142,809
Molybdenum, concentrate		2,848	3,000 e	3,000 e	3,000 e	3,285
Nickel, mine output, Ni content[e]		850 r	3,800 r	1,100	3,000	8,600
Silver, mine output, Ag content[7]	kilograms	246,500	193,890	189,600	183,880	193,600
Zinc, mine output, Zn and Cu-Zn ore:						
Gross weight	thousand metric tons	160 r	209 r	200 r	212 r	174
Zn content[e]	do.	33 r	43 r	41 r	43 r	35
INDUSTRIAL MINERALS						
Aluminum sulfate, alunite		--	--	13,568	--	--
Barite, crude		250,786	1,677,221	736,316	203,984	655,943
Boron minerals:						
Run of mine		6,348,487	4,220,291 r	4,065,655 r	7,309,708	5,071,896
Concentrates[e]		2,130,000	2,130,000 r	2,130,000 r	2,400,000 r	2,200,000
Refined borates[e]		1,780,000	1,790,000	1,800,000 r	2,000,000 r	1,800,000
Calcite		10,084,119	9,248,471	9,727,092	11,054,222	10,071,769

See footnotes at end of table.

TABLE 1—Continued
TURKEY: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity[2]		2011	2012	2013	2014	2015
INDUSTRIAL MINERALS—Continued						
Cement, hydraulic	thousand metric tons	63,405	63,879	71,337	71,329	71,419
Clay:						
Bentonite		490,458 r	1,032,325 r	731,936 r	1,098,817 r	3,134,911
Kaolin		1,229,352	988,081	1,168,441	2,032,103	1,887,302
Sepiolite (meerschaum) and palygorskite (attapulgite)		30,716	31,180	59,426	53,110 r	28,804
Other		3,747,503	4,119,513	3,411,915	4,445,962	3,085,504
Clinker	thousand metric tons	54,275	54,823	60,236	62,513	61,971
Diatomite		45,187	86,403	84,571	61,884	86,656
Emery and diaspore		113,602	54,848	43,776	38,816	75,538
Feldspar, run of mine		7,076,068	9,479,699	13,764,126	7,960,844	10,422,766
Fluorspar		4,524	5,197	3,874	4,271	6,238
Graphite, run of mine		5,250	31,500	28,740	3,850	--
Gypsum, other than that for cement		5,723,439	8,248,446	9,790,097	9,051,158	8,638,715
Leonardite		--	--	5,737	2,996	1,780
Lime[e, 8]	thousand metric tons	4,300	4,500	4,400	4,300	4,400
Magnesium, magnesite, run of mine		2,588,276	2,475,828	2,597,465	2,377,157	3,335,258
Mica:						
Illite		17,265	--	800	16,200	44,000
Other		277	1,253	276 r	1,240 r	637
Nepheline syenite		1,500	4,000	404	2,241	--
Nitrogen, N content of ammonia[e]		200,000	280,000	280,000	300,000	300,000
Olivine and dunite		221,079	244,353	126,990	244,138	184,623
Peat		148,012	108,610	156,357	150,828	134,647
Perlite, run of mine		702,673	887,600	1,075,949	897,125	843,242
Phosphate rock		--	--	510,080	604,000	713,230
Pumice		5,765,583 r	12,281,626 r	8,644,716 r	6,966,987 r	11,043,842
Pyrite, cupreous, gross weight		135,190	124,000	107,792	95,220	49,491
Sand:						
Silica (quartz) sand, gross weight		3,896,477 r	2,499,094 r	3,087,670 r	2,521,107 r	2,839,449
Chalcedony		896	2,287	2,249	1,689	1,154
Sodium compounds:						
Salt, NaCl, all types	thousand metric tons	5,780 r	5,378 r	5,614 r	5,331 r	10,995
Soda ash, trona	do.	1,749	1,853	1,665	1,828	1,854
Sodium sulfate, concentrates		179,740 r	309,088 r	207,315 r	203,184 r	167,688
Stone:						
Andesite		2,878,093	2,891,804	3,358,863	6,803,746	2,863,978
Basalt		18,656,135 r	19,300,297 r	23,422,845 r	21,966,172 r	4,715,579
Building		270,270	65,756	37,945	33,553	68,302
Diabase		293,777	94,835	335,958	226,939	331,027
Dolomite		20,340,135	16,950,670	17,291,454	15,743,710	21,609,434
Gabbro		--	--	252,463	255,070	198,947
Granite		245,911	566,650	183,535 r	189,364 r	157,463
Ignimbrite	cubic meters	55,873	14,275	29,380	32,195	36,579
Limestone, for cement	thousand metric tons	345,014	365,348	392,352	382,404	407,702
Marble	cubic meters	4,086,222	4,488,947	4,255,545	4,220,564	5,613,435
Obsidian		300	1,230	3,240	400	--
Onyx	cubic meters	7,678	13,335	15,665	10,688	6,905
Quartz		471,201	931,310	870,166	973,240	929,594
Quartzite		3,896,477	2,499,094	3,087,670	2,521,107	2,839,449
Silex		2,248	5,403	5,051	5,960	6,131
Serpentine		2,514,601	1,025,427	14,701	13,112	138,454
Travertine	cubic meters	1,685,049	797,915	713,697	812,840	1,239,369
Sulfur:						
Byproduct of petroleum		3,820	5,889	8,069	--	823
S content of pyrite[e]		35,000	32,000	28,000	25,000	30,000
Total		38,800	37,900	36,069	25,000	30,823

See footnotes at end of table.

TABLE 1—Continued
TURKEY: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity[2]		2011	2012	2013	2014	2015
INDUSTRIAL MINERALS—Continued						
Talc		9,959	14,537	1,132	5,048	9,681
Titanium minerals, rutile, gross weight		241 r	5,000	5,000	5,000	5,000
Vermiculite		--	--	1,604	716	425
Zeolites		214,179	60,258	33,197	49,366	55,224
Zircon		500	200	--	1,100	1,500
MINERAL FUELS AND RELATED MATERIALS						
Asphalt, natural		572,089	649,830	648,953	336,852	837,112
Bituminuous schist		394,277	394,277	149,828	259,508	288,185
Coal:						
Anthracite, run of mine	thousand metric tons	2,619	3,235	2,789	1,917	2,074
Lignite, run of mine	do.	82,375	78,014	52,079 r	65,143 r	58,330
Coke and semicoke[e]	do.	4,000	4,000	4,000	3,500	3,000
Gas, natural, marketed[8]	million cubic meters	793	664	562	502	381
Petroleum:						
Crude	thousand 42-gallon barrels	18,000 r	17,200 r	17,500 r	16,600 r	17,600
Refinery products:						
Gasoline	thousand metric tons	4,272	4,369	4,307	3,948	5,113
Diesel fuel	do.	6,992	7,795	7,637	6,077	8,510
Fuel oil	do.	2,466	1,075	801	809	548
Jet fuel and kerosene	do.	2,879	3,276	3,552	3,549	5,024
Marine fuel	do.	686	2,219	1,878	2,585	2,345
Gasoil	do.	NA	37	46	44	58
Unspecified	do.	NA	3,344	3,328	3,076	6,267
Total	do.	17,295	22,116	21,548	20,089	27,865

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

[1]Table includes data available through January 16, 2017. In addition to the commodities listed, large quantities of construction materials (sand and gravel) were quarried. Cobalt, garnet, iron oxide pigment, and tungsten were also mined. Cast iron, ferrosilicochromium, and refined lead and silver also were produced, but available information was inadequate to make reliable estimates of output.

[2]Sources: General Directorate of Mining Affairs [Turkey] (MIGEM); Ministry of Energy and Natural Resources of the Republic of Turkey [ETKB]; Turkish Steel Producers Association (TCUD), Turkish Cement Producers Association (TCMD); Turkish Gold Miners Association (AMD); Energy Market Regulatory Authority of the Republic of Turkey (EPDK); International Energy Agency (IEA); World Steel Association.

[3]Approximately 70% of gross production was salable product.

[4]Copper mines produced a copper concentrate (about 22% Cu) and a cupreous pyrite concentrate (about 0.7% Cu). Copper was not recovered from the cupreous pyrite concentrate.

[5]Data include estimated content of Turkish copper refinery tank house slimes.

[6]Does not include manganiferous iron ore from the Deveci Mine, production of which amounted to several hundred thousand metric tons per year and had a manganese content of 3% to 5%.

[7]Includes estimated content of tank house slimes from base metals refinery.

[8]Estimated sales only.

TABLE 2
TURKEY: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum, metal	Eti Alüminyum A.Ş. (Cengiz Holding A.Ş., 100%)	Smelter at Seydisehir, Konya Province	82
Antimony ore, Sb content	Eti Bakır A.Ş. (Cengiz Holding A.Ş., 100%)	Halikoy, Izmir Province	10
Do.	Özdemir Antimuan Maden Limited Şti. (Koza-İpek Holding A.Ş.)	Turhal, Tokat Province	NA
Bauxite and alumina:			
Alumina	do.	Refinery at Seydisehir, Konya Province	300
Bauxite	do.	Mines near Madenli, about 25 kilometers south of Seydisehir, Konya Province	500
Do.	Demireller Tarim Madencilik Petrol Sanayi ve Ticaret Limited Şti.	Mines near Arslankoy, Mersin Province	500
Do.	Albuck Madencilik San. ve Tic. A.Ş.	Mine near Cirpi, Mugla Province	NA
Do.	do.	Mine near Mihaliccik, Eskisehir Province	NA
Boron:			
Concentrate and ground ore	Bigadiç Bor İşletme Müdürlüğü (Eti Maden İşletmeleri Genel Müdürlüğü, 100%) (Government)	Four open pit mines at Bigadic, Balikesir Province	650
Do.	Emet Bor İşletme Müdürlüğü (Eti Maden İşletmeleri Genel Müdürlüğü, 100%) (Government)	Espey Mine, Emet, Kutahya Province	500
Do.	do.	Hisarcik Mine, Emet, Kutahya Province	500
Do.	Kestelek Bor İşletme Müdürlüğü (Eti Maden İşletmeleri Genel Müdürlüğü, 100%) (Government)	Kestelek Mine, Bursa Province	100
Do.	Kırka Bor İşletme Müdürlüğü (Eti Maden İşletmeleri Genel Müdürlüğü, 100%) (Government)	Mine at Kirka, Eskisehir Province	800
Refined borates	Bandırma Bor ve Asit Fabrikalari İşletme Müdürlüğü (Eti Maden İşletmeleri Genel Müdürlüğü, 100%) (Government)	Plant at Bandirma, Balikesir Province	115
Do.	Emet Bor İşletme Müdürlüğü (Eti Maden İşletmeleri Genel Müdürlüğü, 100%) (Government)	Boric acid complex, Emet, Kutahya Province	290
Do.	Kırka Bor İşletme Müdürlüğü (Eti Maden İşletmeleri Genel Müdürlüğü), 100% (Government)	Plant at Kirka, Eskisehir Province	840
Calcite	Hisar Madencilik (Kombassan Holding, 100%)	2 plants in Aksaray and Aydin	120
Cement:			
Gray portland	Adana Çimento Sanayii ve Ticaret A.Ş. [Ordu Yardımlaşma Kurumu (OYAK) Çimento Grubu, 57%]	Adana, Adana Province	5,500
Do.	do.	Iskenderun grinding plant, Iskenderun, Hatay Province	1,000
Do.	Afyon Çimento Sanayii Ticaret A.Ş. (Ciments Français S.A., 77%)	Afyon, Afyonkarahisar Province	550
Do.	Akçansa Çimento Sanayi ve Ticaret A.Ş. (HeidelbergCement AG, 40%, and Sabancı Holding A.Ş., 40%)	Buyukcekmece plant, Buyukcekmece, Istanbul Province	2,600
Do.	do.	Canakkale plant, about 11 kilometers northwest of Ezine, Canakkale Province	5,500
Do.	do.	Ladik plant, Ladik, Samsun Province	1,050
Do.	Aslan Çimento A.Ş. [Ordu Yardımlaşma Kurumu (OYAK) Çimento Grubu, 97%]	Darica plant, Gebze, Kocaeli Province	2,000
Do.	AS Çimento Sanayi ve Ticaret A.Ş.	Bucak, Burdur Province	4,300
Do.	Aşkale Çimento Sanayi ve Ticaret A.Ş.	Trabzon plant, Degirmendere, Trabzon Province	1,000
Do.	do.	Askale, Erzurum Province	900
Do.	Bakırçay Çimento Sanayii ve Ticaret A.Ş. (Kars Çimento San. ve Tic. A.Ş., 98%)	Poyracik, near Kinik, Izmir Province	12
Do.	Bartın Çimento Sanayii ve Ticaret A.Ş. (Sanko Holding A.Ş.)	Bartin plant, Bartin Province	400
Do.	Baştaş Çimento Sanayii A.Ş. (Vicat Group, 85%)	Elmadag, Ankara Province	1,500
Do.	Batıçim Batı Anadolu Çimento Sanayii A.Ş. (Orascom Construction Industries, 23%)	Bornova, Izmir Province	2,000
Do.	Batısöke Söke Çimento Sanayii ve Ticaret A.Ş. (Batıçim Batı Anadolu Çimento Sanayii A.Ş., 75%)	Soke, Aydin Province	1,300
Do.	Bolu Çimento Sanayii A.Ş. [Ordu Yardımlaşma Kurumu (OYAK) Çimento Grubu, 52%]	About 14 kilometers east of Bolu, Bolu Province	5,500
Do.	do.	Ankara grinding plant, Kazan, Ankara Province	800
Do.	Bursa Çimento Sanayii ve Ticaret A.Ş. (Bursa Çimento Fabrikası A.Ş., 98%)	Kestel, Bursa Province	3,000

See footnotes at end of table.

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

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement—Continued:			
Gray portland—Continued	Çimentaş İzmir Çimento Fabrikası Türk A.Ş. (Intercem SA, 67%, and Cementir Holding SpA, 29%)	Isikkent, Izmir Province	2,600
Do.	do.	Trakya plant, Lalapasa, Edirne Province	1,300
Do.	Çimko Adiyaman Çimento ve Beton Sanayii ve Ticaret A.Ş. (Çimko Çimento ve Beton Sanayii Ticaret A.Ş.)	About 18 kilometers southwest of Adiyaman, Adiyaman Province	1,350
Do.	Çimko Çimento Kahramanmaraş Narlı Fabrikası (Çimko Çimento ve Beton Sanayii Ticaret A.Ş.)	Narli plant, Narli, Kahramanmaras Province	3,300
Do.	Cimpor Yibitaş Çimento Sanayii ve Ticaret A.Ş. (Cimpor Internacional, SGPS, S.A., 99%)	Corum plant, Corum, Corum Province	950
Do.	do.	Hasanoglan grinding plant, Hasanoglan, Ankara Province	725
Do.	do.	Nevsehir grinding plant, Kalaba, Nevsehir Province	300 e
Do.	do.	Samsun grinding plant, about 6 kilometers west of Samsun, Samsun Province	300 e
Do.	do.	Sivas plant, Sivas, Sivas Province	615
Do.	do.	Yozgat plant, Saraykoy, Yozgat Province	800
Do.	Çimsa Çimento Sanayii ve Ticaret A.Ş. (Sabancı Holding A.Ş., 47%)	Ankara grinding plant, Lalahan, Ankara Province	230
Do.	do.	About 20 kilometers northwest of Eskisehir, Eskisehir Province	1,800
Do.	do.	Near Agirnas, Kayseri Province	1,000
Do.	do.	Mersin plant, Yenitaskent, Mersin Province	2,300
Do.	do.	Nigde plant, Nigde, Nigde Province	1,200
Do.	Denizli Çimento Sanayi ve Ticaret A.Ş. (OYAK, 100%)	About 5 kilometers northwest of Kaklik, Denizli Province	3,000
Do.	Elazığ Çimento A.Ş. (Kars Çimento Sanayii ve Ticaret A.Ş., 93.55%; Cimentas A.Ş., 6.17%; Bakırçay Çimento Sanayii ve Ticaret A.Ş., 0.27%)	Elazig, Elazig Province	900
Do.	Ereğli Çimento Sanayii ve Ticaret A.Ş. [Ordu Yardımlaşma Kurumu (OYAK) Çimento Grubu, 50%]	Karadeniz Eregli plant, Kemer, Zonguldak Province	300
Do.	Göltaş Çimento A.Ş. (Sadecib S.A., 34%, and Göl Yatırım Holding A.Ş., 28%)	About 15 kilometers north-northwest of Isparta, Isparta Province	2,000
Do.	Kars Çimento Sanayii ve Ticaret A.Ş. (Cimentas A.Ş., 58%, and Alfacem Srl, 40%)	Bozkale, Kars Province	2,800
Do.	Konya Çimento Sanayii A.Ş. (Vicat Group, 81%)	Konya, Konya Province	1,600
Do.	Lafarge Van Çimento A.Ş. (Lafarge S.A., 99.99%)	Edremit, Van Province	600
Do.	Limak Ege Çimento Sanayii ve Ticaret A.Ş. (Limak Şirketler Grubu)	Ege plant, Turgutlu, Manisa Province	700
Do.	Limak Kurtalan Çimento Sanayii ve Ticaret A.Ş. (Limak Şirketler Grubu)	Ambarli grinding plant, Buyukcekmece, Istanbul Province	1,200
Do.	do.	Ankara plant, Ankara, Ankara Province	1,600
Do.	do.	Balikesir, Balikesir Province	1,300
Do.	do.	Gaziantep plant, Gaziantep (Sehit Kamil), Gaziantep Province	1,400
Do.	do.	Kurtalan plant, Kurtalan, Siirt Province	1,200
Do.	do.	Mardin, Balikesir Province	790
Do.	do.	Sanliurfa plant, about 14 kilometers north-northwest of Sanliurfa, Sanliurfa Province	2,150
Do.	do.	Trakya plant, Pinarhisar, Kirklareli Province	1,600
Do.	Limak Madencilik Yapı Çimento Sanayii ve Ticaret A.Ş. (Limak Şirketler Grubu)	Ergani plant, Ergani, Diyarbakir Province	1,400
Do.	Limak-Istaç İnşaat Sanayi ve Ticaret A.Ş.	Bitlis plant, Bitlis Province	1,000
Do.	Mardin Çimento Sanayii ve Ticaret A.Ş. [Ordu Yardımlaşma Kurumu (OYAK) Çimento Grubu, 56%]	About 6 kilometers northeast of Mardin, Mardin Province	3,000

See footnotes at end of table.

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

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement—Continued:			
Gray portland—Continued	Medcem Çimento Sanayi A.Ş. (Eren Holding, 100%)	Akdere, Mersin Province	4,500
Do.	Nuh Çimento Sanayi A.Ş. (Nuh Ticaret ve Sanayi A.Ş., 43%)	Hereke, Kocaeli Province	5,700
Do.	Sönmez Çimento Yapi ve Madencilik San. Tic. A.Ş.	Yumurtalik, Adana Province	2,000
Do.	Traçim Çimento Sanayii ve Ticaret A.Ş. (Soyak Holding A.Ş. and TBS Taşıma Beton A.Ş).	Evrencik, Vize, Kirklareli Province	2,000
Do.	Ünye Çimento Sanayi ve Ticaret A.Ş. [Ordu Yardımlaşma Kurumu (OYAK) Çimento Grubu, 51%, and Nuh Çimento Sanayi A.Ş., 39%]	Unye, Ordu Province	2,600
Slag	KarÇimsa Çimento Sanayii ve Ticaret A.Ş. (Akçansa Çimento Sanayi ve Ticaret A.Ş.)	Karabuk, Karabuk Province	200
White	Adana Çimento Sanayii ve Ticaret A.Ş. [Ordu Yardımlaşma Kurumu (OYAK) Çimento Grubu, 57%]	Adana, Adana Province	325
Do.	Çimsa Çimento Sanayii ve Ticaret A.Ş. (Sabancı Holding A.Ş., 47%)	Mersin plant, Yenitaskent, Mersin Province	1,000 [e]
Chromium, Cr content	Eti Krom A.Ş. (Yıldırım Holding A.Ş., 100%)	Mines in Adana, Diyarbakir, Elazig, Hatay, Kayseri, and Malatya Provinces	1,000
Do.	Eti Elektrometalurji A.Ş. (Özdoğu İnşaat Tic. Ltd. Şti, 100%)	7 mines in Fethiye and Gocek, Mugla Province	100
Coal:			
Anthracite	Amasra Taşkömürü Isletme Müessesesi [Türkiye Taşkömürü Kurumu (TTK)] (Government)	Amasra Mine, Amasra, Bartin Province	5,000
Do.	Armutçuk Taşkömürü Isletme Müessesesi [Türkiye Taşkömürü Kurumu (TTK)] (Government)	Armutcuk Mine, Kandilli, Zonguldak Province	400
Do.	Karadon Taşkömürü Işletme Müessesesi [Türkiye Taşkömürü Kurumu (TTK)] (Government)	Karadon Mine, Kilimli, Zonguldak Province	450
Do.	Kozllu Taşkömürü Işletme Müessesesi [Türkiye Taşkömürü Kurumu (TTK)] (Government)	Kozlu Mine, Kozlu, Zonguldak Province	600
Do.	Üzülmez Taşkömürü Işletme Müessesesi [Türkiye Taşkömürü Kurumu (TTK)] (Government)	Uzulmez Mine, Asma, Zonguldak Province	500
Lignite[1]	Bursa Linyitleri İşletmesi Müdürlüğü [Türkiye Kömür İşletmeleri Kurumu Genel Müdürlüğü (TKI)] (Government)	Bursa lignite facility, Orhaneli, Bursa Province	1,000
Do.	Çan Linyitleri İşletmesi Müdürlüğü [Türkiye Kömür İşletmeleri Kurumu Genel Müdürlüğü (TKI)] (Government)	Can lignite facility, Can, Canakkale Province	1,800
Do.	Ege Linyitleri İşletmesi Müessesesi Müdürlüğü [Türkiye Kömür İşletmeleri Kurumu Genel Müdürlüğü (TKI)] (Government)	Soma Mine, Soma, Manisa Province	10,500
Do.	Garp Linyitleri İşletmesi Müessesesi Müdürlüğü [Türkiye Kömür İşletmeleri Kurumu Genel Müdürlüğü (TKI)] (Government)	Tuncbilek mining center, Tavsanli, Kutahya Province	7,000
Do.	Güney Ege Linyitleri İşletmesi Müessesesi Müdürlüğü [Türkiye Kömür İşletmeleri Kurumu Genel Müdürlüğü (TKI)] (Government)	South Aegean lignite facility, Yatagan, Mugla Province	4,900
Do.	Ilgın Linyitleri İşletmesi Müdürlüğü [Türkiye Kömür İşletmeleri Kurumu Genel Müdürlüğü (TKI)] (Government)	Ilgin lignite facility, Ilgin, Konya Province	300
Do.	Seyitömer Linyitleri İşletmesi Müessesesi Müdürlüğü [Türkiye Kömür İşletmeleri Kurumu Genel Müdürlüğü (TKI)] (Government)	Seyitomer lignite facility, Seyitomer, Kutahya Province	8,000
Do.	Yeniköy Linyitleri İşletmesi Müdürlüğü [Türkiye Kömür İşletmeleri Kurumu Genel Müdürlüğü (TKI)] (Government)	Yenikoy lignite facility, Oren (Milas), Mugla Province	8,500
Cobalt, metal metric tons	Meta Nikel Kobalt A.Ş. (Zorlu Holding)	Processing plant in Gordes, Manisa Province	750
Copper:			
Concentrate, gross weight	Çayeli Bakır İşletmeleri A.Ş. (First Quantum Minerals Ltd., 100%)	Cayeli Mine, near Cayeli, Rize Province	37
Do.	Demir Export A.Ş. (Koç Holding A.Ş.)	Lahanos Mine, Giresun Province	4
Do.	Eti Bakır A.Ş. (Cengiz Holding A.Ş., 100%)	Kastamonu Kure facility (three open pit mines and one underground mine), 50 kilometers north of Kastamonu, Kastamonu Province	110
Do.	do.	Murgul facility (three open pit mines, including the Anayatak and the Cakmakkaya Mines), Murgul, Artvin Province	130
Do.	Kuzey Ege Bakır İşletmeleri A.Ş. (Özdoğu İnşaat Tic. Ltd. Şti, 100%)	Tepeoba, Balikesir Province	53

See footnotes at end of table.

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

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Copper:—Continued			
Concentrate, gross weight—Continued	Nesko Maden (Yildizlar SSS Holding, 100%)	Ivrindi facility, Balikesir Province	NA
Do.	do.	Kocayayla Mine, Canakkale Province	NA
Do.	do.	Yenice Mine, Canakkale Province	NA
Concentrate, Cu content	Park Elektrik Üretim Madencilik San. ve Tic. A.Ş. (Park Holding A.Ş., 61.25%; Turgay Ciner, 6.76%; others, 31.99%)	Madenkoy, Siirt Province	20
Anode (blister)	Eti Bakır A.Ş. (Cengiz Holding A.Ş)	Smelter, Tekkekoy, Samsun Province	38
Cathode	Er-Bakır Elektrolitik Bakır Mamulleri A.Ş.	Denizli, Denizli Province	200
Do.	Sarkuysan Elektrolitik Bakır San. ve Tic. A.Ş.	Darica, Kocaeli Province	200
Feldspar	Kaltun Madencilik Sanayi ve Ticaret A.Ş.	Cine, Milas, Yatagan Mines, Mugla Province	2,000
Ferrochromium, high-carbon	Eti Krom A.Ş. (Yildrim Holding A.Ş., 100%)	About 55 kilometers east of Elazig, Elazig Province	165
Do.	Eti Elektrometalurji A.Ş. (Özdoğu İnşaat Tic. Ltd. Şti, 100%)	Plant in Antalya, Antalya Province	58
Fertilizer:			
Ammonium nitrate	Kütahya Gübre Sanayii A.Ş. (Yildiz Yatirim Holding A.Ş.)	Kutahya, Kutahya Province	344
Diammonium phosphate	Samsun Gübre Fabrikası [Türkiye Gübre Sanayii A.Ş. (TÜGSAŞ)]	Tekkekoy, Samsun Province	227
Do.	Ege Gübre Sanayii A.Ş.	Aliaga, Izmir Province	165
Do.	Istanbul Gübre Sanayii A.Ş. (IGSAŞ) (Yıldız Yatırım Holding A.Ş.)	Korfez, Kocaeli Province	240
Monoammonium phosphate	Ege Gübre Sanayii A.Ş.	Aliaga, Izmir Province	130
Gold:			
Ore, Au content kilograms	Koza Altın İşletmeleri A.Ş. (ATP İnşaat ve Ticaret A.Ş., 60%, and Koza İpek Holding A.Ş., 40%)	Ovacik Mine, Ovacik, Mugla Province	2,000
Do. do.	do.	Mastra Mine, near Demirkaynak, Gumushane Province	5,000
Do. do.	do.	Cukuralan Mine, Dikili, Izmir Province[2]	3,800
Do. do.	do.	Corakliktepe Mine, Ovacik, Mugla Province	500
Do. do.	do.	Himmetdede Mine, Kayseri Province	NA
Do. do.	do.	Kaymaz Mine, Sivrihisar, Eskisehir Province	3,300
Do. do.	Anagold Madencilik Sanayi ve Ticaret A.Ş. (Alacer Gold Corp., 80%, and Lidya Madencilik Sanayi ve Ticaret A.Ş., 20%)	Cöpler Mine	6,000
Do. do.	Gümüştaş Madencilik ve Ticaret A.Ş.	Niğde-Bolkar Mine, Nigde Province	NA
Do. do.	Pomzaexport Madencilik Sanayi ve Ticaret A.Ş.	Sart placer mine, Manisa Province	NA
Do. do.	Tüprag Metal Madencilik Sanayi ve Ticaret A.Ş. (Eldorado Gold Corp., 100%)	Kişladağ Mine, Katranci, Usak Province	10,000
Do. do.	do.	Efemçukuru Mine, Izmir Province	4,000
Metal metric tons	Atasay Kuyumculuk Sanayi ve Ticaret A.S.	Refinery at Istanbul	15
Do. do.	İstanbul Altın Rafinerisi A.Ş.	do.	120
Do. do.	Nadir Metal Rafineri A.Ş.	do.	140
Iron and steel:			
Iron ore	Erdemir Madencilik Sanayi ve Ticaret A.Ş. (Ereğli Demir ve Çelik Fabrikalari T.A.Ş.) (Erdemir Group)	Fourteen mines in the Divrigi area, Sivas Province	2,900
Do.	Hekimhan Madencilik İthalat İhracat Sanayi ve Ticaret Ltd. Şti. (Kolin İnşaat Turizm Sanayi ve Ticaret A.Ş.)	Deveci Mine, Malatya Province	2,000
Do.	Özkoyuncu Madencilik A.Ş.	Mines in Yahyali, Kayseri Province	2,000
Pellet	Erdemir Madencilik Sanayi ve Ticaret A.Ş. (Ereğli Demir ve Çelik Fabrikalari T.A.Ş.) (Erdemir Group)	Plant in Ekinbasi, Sivas Province	2,250
Steel:			
Crude	Asil Çelik A.Ş.	Plant south of Orhangazi, Bursa Province	485
Do.	Bilecik Demir Çelik Sanayi ve Ticaret A.Ş. (Global Yatırım Holding A.Ş., 40%)	Bilecik, Bilecik Province	240
Do.	Çebitaş Demir Çelik Endüstrisi A.Ş.	Aliaga, Izmir Province	750
Do.	Çelik Makina Sanayi ve Ticaret A.Ş. (ÇEMTAŞ)	Bursa, Bursa Province	174
Do.	CER Çelik Endüstrisi A.Ş.	Plant at Bornova, Izmir Province	850

See footnotes at end of table.

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

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Iron and steel:—Continued			
Steel:—Continued			
Crude—Continued	Çolakoğlu Metalurji A.Ş.	Dilovasi, Kocaeli Province	3,200
Do.	Diler Demir Çelik Endüstrisi ve Ticaret A.Ş.	do.	1,500
Do.	Ege Çelik Endüstrisi Sanayi ve Ticaret A.Ş.	Aliaga, Izmir Province	2,000
Do.	Ekinciler Holding A.Ş.	About 10 kilometers north of Iskenderun, Hatay Province	1,000
Do.	Erege Metal Demir Çelik Sanayi ve Ticaret A.Ş.	Aliaga, Izmir Province	720
Do.	Ereğli Demir ve Çelik Fabrikalari T.A.Ş. (Erdemir Group) (Ataer Holding A.Ş., 49.29%, and ArcelorMittal, 24.99%)	Karadeniz Eregli, Zonguldak Province	3,800
Do.	Habaş Sinai ve Tibbi Gazlar Istihsal Endustrisi A.S. (Habaş Topluluğu)	Aliaga, Izmir Province	3,000
Do.	İçdaş Demir Çelik Enerji Tersane ve Ulaşım Sanayi A.Ş.	Istanbul (Gunesli), Istanbul Province	1,000
Do.	do.	About 25 kilometers north of Biga, Canakkale Province	1,500
Do.	İlhan Metalurji A.Ş.	Toprakkale, Osmaniye Province	220
Do.	İskenderun Demir ve Çelik A.Ş. (Isdemir) [Erdemir Group, 92%]	Iskenderun, Hatay Province	4,700
Do.	İzmir Demir Çelik Sanayi A.Ş. (IDÇ)	Aliaga, Izmir Province	1,320
Do.	Kaptan Demir Çelik Endüstrisi ve Ticaret A.Ş.	Marmara Ereglisi, Tekirdag Province	1,400
Do.	Karabük Demir Çelik Sanayi ve Ticaret A.Ş. (Kardemir) (Kardemir retirement group, 68%, and Kardemir employees, 21%)	Karabuk, Karabuk Province	1,500
Do.	Kroman Çelik Sanayii A.Ş.	Cayirova, Kocaeli Province	1,250
Do.	Makina ve Kimya Endüstrisi Kurumu Genel Müdürlüğü (MKEK)	Kirikkale, Kirikkale Province	60
Do.	Mega Demir Mamulleri Sanayi ve Ticaret Ltd. ŞTI	North of Iskenderun, Hatay Province	220
Do.	Nursan Metalurji A.Ş	Payas, Hatay Province	1,100
Do.	Sivas Demir Çelik İşletmeleri A.Ş (Sidemir)	About 20 kilometers south of Sivas, Sivas Province	350
Do.	Tosyalı Demir Çelik Sanayi A.Ş. (Tosyalı Holding A.Ş.)	Iskenderun, Hatay Province	NA
Do.	Yazıcı Demir Çelik Endüstrisi ve Ticaret A.Ş. (Diler Demir Çelik Endüstrisi ve Ticaret A.Ş.)	Karabuk, Karabuk Province	900
Do.	Yeşilyurt Demir Çelik A.Ş.	Tekkekoy, Samsun Province	1,300
Rolled products	Asil Çelik A.Ş.	Rolling mill south of Orhangazi, Bursa Province	200
Do.	Borçelik Çelik Sanayii ve Ticaret A.Ş. (ArcelorMittal and Borusan Holding A.Ş.)	Near Gemlik, Bursa Province	1,600
Do.	Çebitaş Demir Çelik Endüstrisi A.Ş.	Aliaga, Izmir Province	600
Do.	Çelik Makina Sanayi ve Ticaret A.Ş. (ÇEMTAŞ)	Bursa, Bursa Province	230
Do.	CER Çelik Endüstrisi A.Ş.	Rolling mill at Bornova, Izmir Province	300
Do.	Çolakoğlu Metalurji A.Ş.	Dilovasi, Kocaeli Province	750
Do.	Demirsan Haddecilik Sanayi ve Ticaret A.Ş.	do.	NA
Do.	Diler Demir Çelik Endüstrisi ve Ticaret A.Ş.	do.	800
Do.	Ege Çelik Endüstrisi Sanayi ve Ticaret A.Ş.	Aliaga, Izmir Province	1,200
Do.	Ekinciler Holding A.Ş.	About 10 kilometers north of Iskenderun, Hatay Province	1,100
Do.	Erege Metal Demir Çelik Sanayi ve Ticaret A.Ş.	Aliaga, Izmir Province	400
Do.	Ereğli Demir ve Çelik Fabrikalari T.A.Ş. (Erdemir) (Ataer Holding A.Ş., 49.29%, and ArcelorMittal, 24.99%)	Karadeniz Eregli, Zonguldak Province	8,800
Do.	Habaş Sinai ve Tibbi Gazlar Istihsal Endustrisi A.S. (Habaş Topluluğu)	Aliaga, Izmir Province	NA
Do.	İçdaş Demir Çelik Enerji Tersane ve Ulaşım Sanayi A.Ş.	Istanbul (Gunesli), Istanbul Province	1,500
Do.	do.	About 25 kilometers north of Biga, Canakkale Province	1,500
Do.	Intermet A.Ş.	Two rolling mills, Istanbul, Istanbul Province	600
Do.	İskenderun Demir ve Çelik A.Ş. (Isdemir) [Ereğli Demir ve Çelik Fabrikalari T.A.Ş. (Erdemir), 92%]	Iskenderun, Hatay Province	3,500
Do.	İzmir Demir Çelik Sanayi A.Ş. (IDÇ)	Aliaga, Izmir Province	900
Do.	Kaptan Demir Çelik Endüstrisi ve Ticaret A.Ş.	Marmara Ereglisi, Tekirdag Province	700
Do.	do.	Corlu, Tekirdag Province	200
Do.	do.	Karabuk, Karabuk Province	100

See footnotes at end of table.

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

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Iron and steel:—Continued				
Steel:—Continued				
Rolled products—Continued		Karabük Demir Çelik Sanayi ve Ticaret A.Ş. (Kardemir) (Kardemir retirement group, 68%, and Kardemir employees, 21%)	Karabuk, Karabuk Province	700
Do.		Kar-demir Haddecilik Sanayi ve Ticaret Ltd. ŞTI	Aliaga, Izmir Province	700
Do.		Kocaer Haddecilik Sanayi ve Ticaret Ltd. ŞTI. (Kocaer Grubu)	do.	600
Do.		do.	Denizli, Denizli Province	100
Do.		Kroman Çelik Sanayii A.Ş.	Bar and profile mill at Cayirova, Kocaeli Province	200
Do.		Kürüm Demir Sanayi Dış Ticaret A.Ş.	Gebze, Kocaeli Province	445
Do.		Nursan Haddecilik A.Ş	Payas, Hatay Province	500
Do.		Özefe Demir Sanayi ve Tic A.Ş. (Efesan Demir Sanayi ve Ticaret A.Ş.)	Bar mills at Alibeykoy, Istanbul Province	250
Do.		Özkan Demir Sanayi A.Ş.	Aliaga, Izmir Province	500
Do.		Sivas Demir Çelik İşletmeleri A.Ş (Sidemir)	About 20 kilometers south of Sivas, Sivas Province	450
Do.		Sözer Demir Çelik A.Ş.	Aliaga, Izmir Province	220
Do.		Yazıcı Demir Çelik Endüstrisi ve Ticaret A.Ş. (Diler Demir Çelik Endüstrisi ve Ticaret A.Ş.)	Karabuk, Karabuk Province	1,024
Do.		Yeşilyurt Demir Çelik A.Ş.	Tekkekoy, Samsun Province	720
Liquefied natural gas		Boru Hatları İle Petrol Taşıma A.Ş. (Botaş) (Government)	Botas Marmara Ereglisi regasification terminal, Sultankoy, Tekirdag Province	6,500
Do.		EgeGas LNG (Çolakoğlu Group, 100%)	Aliaga regasification terminal, Aliaga, Izmir Province	6,000
Magnesite		Kümaş Kütahya Manyezit Sanayi A.Ş. (Yildiz Holding and Gurmen Group, 90%)	Dead-burned magnesia plant in Kutahya, Kutahya Province	300
Do.		do.	Fused magnesia plant in Kutahya, Kutahya Province	40
Do.		Akdeniz Mineral Kaynakları A.Ş. (Grecian Magnesite S.A., 90%)	Caustic calcined magnesia plant in Eskisehir, Eskisehir Province	32
Do.		Konya Selçuklu Krom Magnezit Tuğla Sanayi A.Ş. (Grecian Magnesite S.A., 90%)	Caustic calcined magnesia plant in Selcuklu Konya Province	40
Do.		Magnesit Anonim Şirketi (MAŞ) (RHI Group, 100%)	Dead-burned magnesia plant in Dutlucu, Eskisehir Province	265
Do.		Cihan Grubu	Dead-burned magnesia plant in Erzurum, Erzurum Province	60
Molybdenum	metric tons	Kuzey Ege Bakır İşletmeleri AŞ (Özdoğu İnşaat Tic. Ltd. Şti, 100%)	Tepeoba, Balikesir Province	3,000
Natural gas	million cubic meters	Türkiye Petrolleri Anonim Ortaklığı (TPAO)	Akcakoca offshore terminal, Duzce Province	730
Nickel				
Ore, metal content		Meta Nikel Kobalt A.Ş. (Zorlu Holding)	Mines in Gordes, Manisa Province, and Yunusemre, Eskisehir Province	40 [e]
Metal		do.	Processing plant in Gordes, Manisa Province	10
Nitrogen, N content of ammonia		Istanbul Gübre Sanayii A.Ş. (IGSAŞ) (Yıldız Yatırım Holding A.Ş.)	Korfez, Kocaeli Province	326
Do.		Gemlik Gübre Sanayii A.Ş. [Türkiye Gübre Sanayii A.Ş. (TÜGSAŞ)]	Gemlik, Bursa Province	270
Perlite		Bergama Mining Construction Machinery Perlite Industry & Trade Inc. (Cullas Group)	Bergama plant, Izmir Province	120
Do.		do.	Konya plant, Konya Province	20
Petroleum				
Crude	thousand 42-gallon barrels per day	Türkiye Petrolleri Anonim Ortaklığı (TPAO)	Oilfields in Adiyaman Province and Batman Province	65
Refined products	do.	Türkiye Petrol Rafinerileri A. Ş. (Tüpraş) (Koç Holding, 37.86%; Fiat Chrysler Automobiles NV, 37.86%; free floating shares, 24.28%)	Izmir refinery, Aliaga, Izmir Province	221
Do.	do.	do.	Izmit refinery, Izmit, Kocaeli Province	221
Do.	do.	do.	Kirikkale refinery, Kirikkale, Kirikkale Province	110

See footnotes at end of table.

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

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Petroleum—Continued				
Refined products—Continued	thousand 42-gallon barrels per day	Türkiye Petrol Rafinerileri A. Ş. (Tüpraş) (Koç Holding, 37.86%; Fiat Chrysler Automobiles NV, 37.86%; free floating shares, 24.28%)	Batman refinery, Batman, Batman Province	22
Do.	do.	Ersan Petrol Sanayii A.Ş (Sayer Group, 100%)	Narli refinery,[3] Narli, Kahramanmaras Province	2
Phosphate rock		Eti Bakır A.Ş. (Cengiz Holding, 100%)	Mazidagi, Mardin Province	550
Silver:				
Ore, gross weight	metric tons	Eti Gümüş A.Ş. (Yıldızlar SSS Holding)	Gumuskoy, Kutahya Province	12,000
Metal	do.	Atasay Kuyumculuk Sanayi ve Ticaret A.S.	Refinery at Istanbul	NA
Do.	do.	İstanbul Altın Rafinerisi A.Ş.	do.	NA
Do.	do.	Nadir Metal Rafineri A.Ş.	do.	150
Soda ash		Alkim Alkali Kimya	Cayirhan Mine, Ankara Province	150
Do.		Eti Soda A.Ş. [Ciner Group, 74%, and Eti Maden İşletmeleri Genel Müdürlüğü (Government), 26%)]	Beypazari trona mine and soda ash plant, Beypazari, Ankara Province	1,000
Do.		Soda Sanayii A.Ş [Türkiye Şişe ve Cam Fabrikaları A.Ş. (ŞİŞECAM)]	Kazanli, Mersin Province	1,150
Sulfur		Türkiye Petrol Rafinerileri A. Ş. (Tüpras) (Enerji Yatirimlari A.S., 51%)	Izmir refinery, Aliaga, Izmir Province	NA
Do.		do.	Izmit refinery, Izmit, Kocaeli Province	NA
Do.		do.	Kirikkale refinery, Kirikkale, Kirikkale Province	NA
Sulfuric acid		Bandırma Bor ve Asit Fabrikalari İşletme Müdürlüğü (Eti Maden İşletmeleri Genel Müdürlüğü) (Government)	Plant at Bandirma, Balikesir Province	240
Zinc concentrate, Zn content		Çanakkale Madencilik Limited Şti.	Koru Mine, Canakkale Province	5
Do.		Çayeli Bakır İşletmeleri A.Ş. (First Quantum Minerals Ltd., 100%)	Cayeli Mine, near Cayeli, Rize Province	52
Do.		Dedeman Madencilik Tic. ve San. A.Ş.	Delikkaya and Yesil Hisar Cadirkaya Mines, Kayseri Province	10
Do.		Eczacibasi Esan	Balya Mine, Balikesir Province	120
Do.		Elkin Maden Tic. ve San. A.Ş.	Mines in Hakkari Province	NA
Do.		Meskan Ölmez Madencilik Harfiyat İnşaat yol Yaprim Petrol Ürünleri İthalat İhracat Nakliye Taahüt San. ve Tic.	do.	20
Do.		RCR ve Seyitoğlu Madencilik İthalat İhracat Tic. ve San. A.Ş. (Red Crescent Resources Ltd. and the Seyitoğlu family)	Hakkari Mine	NA
Do.		Seyitoğlu Madencilik A.Ş.	Mines in Hakkari Province	NA
Do.		Silvermet Inc.	Iskenderun, Hatay Province	12

[e]Estimated. Do., do. Ditto. NA Not available.
[1]Includes subbituminous coal.
[2]Suspended since 2013.
[3]Suspended since 2011.

TABLE 3
TURKEY: EXPORTS OF SELECTED MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity		2011	2012	2013	2014	2015
Antimony		2,980	2,450	3,173	3,610	2,645
Asbestos	kilograms	131	40	185	--	9
Barite		137,858	153,536	214,625	271,026	216,614
Bauxite		137,454	166,727	174,100	200,936	279,988
Bentonite		320,381	333,471	379,472	373,639	416,572
Borate		680,171	585,695	734,528	841,638	713,491
Building stone		41,149	27,096	30,110	25,875	24,808
Calcium phosphate		1,449	937	1,060	1,423	1,059
Celestine		1,029	34	4	--	--
Cement	thousand metric tons	11,061	9,702	9,627	7,653	7,399
Chromite ore		2,171,674	2,126,546	2,024,923	1,411,688	1,258,031
Clay		15,134	18,570	21,783	48,064	101,316
Clinker	thousand metric tons	2,421	2,805	2,183	2,858	3,062
Cobalt ore	kilograms	500	25	30	30	50
Copper ore		257,987	353,215	428,834	342,268	299,309
Cryolite and zeolites		2,490	388	24	10	--
Dolomite		23,757	25,603	47,696	54,967	53,656
Emery		36,052	46,879	54,650	57,176	51,772
Feldspar		3,919,503	4,072,448	4,090,678	4,583,304	5,731,271
Ferrochromium		75,108	75,755	104,298	102,306	80,550
Granite, raw		549,693	784,515	578,327	296,220	112,087
Granite, processed		20,813	21,394	21,644	16,848	18,458
Graphite		743	761	841	726	748
Gypsum		817,640	870,501	913,651	845,964	647,611
Iron ore		306,917	426,983	945,984	1,099,798	1,073,333
Iron pellets		1	48	1,243	1,471	4,865
Kaolin		83,102	110,059	91,194	117,336	150,967
Lead ore		64,471	95,029	127,730	103,652	126,503
Magnesite		276,597	339,661	300,848	303,896	283,517
Magnesium sulfate		22	--	--	300	--
Manganese ore		100,023	117,820	316,090	128,184	156,965
Marble, ore		4,884,454	5,179,369	5,684,901	4,918,248	4,350,560
Marble, processed		1,291,337	1,424,097	1,573,555	1,536,916	1,508,436
Mica		991	1,043	505	475	439
Mica, processed		36	65	46	47	45
Molybdenum ore		66	--	1,551	1,600	1,474
Nickel ore		357,872	294,450	104,151	163,916	80,236
Perlite		317,531	388,933	388,289	423,173	421,633
Pumice		132,840	86,616	112,603	128,489	213,593
Quartz and quartzite		324,404	339,471	394,638	465,019	467,284
Salt		386,059	66,510	88,527	152,692	415,664
Silica		28,016	36,974	55,576	45,954	51,857
Steel, seminanufactures	thousand metric tons	16,688	18,574	17,305	16,024	14,342
Sulfur		56,027	62,662	49,561	62,876	118,157
Talc and steatite		2,282	2,383	3,566	3,257	2,413
Travertine		379,430	413,131	494,826	522,723	456,699
Volcanic ash		9,411	13,014	13,283	16,411	8,099
Zinc ore		316,115	391,585	390,049	420,304	347,180

-- Zero.

[1]Table includes data available through January 16, 2017.

Sources: Istanbul Mineral Exporters Association (IMIB); General Directorate of Mineral Research and Explocation [Turkey] (MTA); Turkish Cement Producers Association; Turkish Steel Producers Association; World Steel Association.