



2012 Minerals Yearbook

TURKEY

THE MINERAL INDUSTRY OF TURKEY

By Philip M. Mobbs

Turkey has a diverse mineral industry that included the production of more than 60 mineral commodities. Turkey was a significant producer of barite, bentonite, boron minerals, chromite, feldspar, magnesite, perlite, and pumice. The country also was a significant source of value-added processed mineral commodities, such as cement and steel. The volume of hydrocarbons produced in Turkey was small, but the country was a significant transit corridor for crude oil and natural gas shipments (table 1; Bolen, 2013; Crangle, 2013a, b; Kramer, 2013; Miller, 2013; Papp, 2014; Tanner, 2013; van Oss, 2013; Virta, 2013; World Steel Association, 2013).

Minerals in the National Economy

In 2012, Turkey's gross domestic product (GDP) at current prices was about \$786.9 billion¹ (about 1,416 billion Turkish lira) and the mining and quarrying sector accounted for about 1.4% of the nominal GDP (Türkiye İstatistik Kurumu, undated).

Government Policies and Programs

Article 168 of the Constitution (1982) and the Mining Law of June 15, 1985 (Maden Kanunu, law No. 3213), as amended by law No. 5177 of 2004 and law No. 5995 of 2010, establish that natural resources, such as minerals, belong to the state. The Law on Boron Minerals, Trona and Asphaltite Mines and Exploitation of Nuclear Energy Raw Materials No. 3971 of February 19, 1994; the Mining Activities Permitting Regulation of 2005; the Regulation Concerning the Implementation of the Mining Law of 2005; and the Mining Law Implementation Regulation of November 6, 2010, also regulate mining activity in Turkey. The Government issues licenses to Turkish individuals or legal entities to explore for minerals or operate mines for a specific period of time. The Foreign Direct Investment Law of June 2003 (law No. 4875) authorizes foreign investors to establish companies in Turkey that can hold mining rights under the Mining Law.

The Maden İşleri Genel Müdürlüğü (MIGEM) [General Directorate of Mining Affairs] of the T.C. Enerji ve Tabii Kaynaklar Bakanlığı (ETKB) [Ministry of Energy and Natural Resources] regulates the mineral industry. The T.C. Çevre ve Orman Bakanlığı [Ministry of Environment and Forestry] enforces the Environmental Law of 1983 (law No. 2872) and the Regulation on Environmental Impact Assessment of December 16, 2003.

The petroleum sector is regulated by the Enerji İşleri Genel Müdürlüğü [General Directorate of Energy Affairs] of the ETKB under the Petroleum Law of 1954 (law No. 6326). The distribution, export, import, refining, and sale of petroleum are licensed under and regulated by the Petroleum Market

Law of 2003 (law No. 5015). The distribution, export, import, and transmission of natural gas are regulated by the Natural Gas Market Law of 2001 (law No. 4646), as amended by law No. 5367 of 2005. The marketing of domestic and imported liquefied petroleum gases is regulated by the Liquefied Petroleum Gases (LPG) Market Law of 2005 (law No. 5307).

Production

Significant increases in production were reported for bauxite, gold, illite, obsidian, olivine, and peat and were estimated for alumina, antimony ore, clays, copper ore, diatomite, dolomite, granite, lime, manganese ore, nepheline syenite, nitrogen (ammonia), perlite, phosphate rock, pig iron, sulfur, talc, titanium minerals, and zinc. Significant decreases in production were reported for emery, onyx, salt, silver, travertine, and zeolites. Significant decreases in production were estimated for chromium, coal, feldspar, iron ore, molybdenum, nickel, pumice, quartz, and sodium sulfate (table 1).

Structure of the Mineral Industry

The country's industrial minerals and metals were produced mainly by private sector companies, which also produced some coal and hydrocarbons. The Government investment in the mineral industry was focused on the boron, coal, and petroleum sectors (table 2).

Government institutions involved in the mineral sector that were attached to the ETKB included Maden Tetkik ve Arama Genel Müdürlüğü (MTA) [General Directorate of Mineral Research and Exploration], which conducts basic geologic and geophysical surveys and mining research; Petrol İşleri Genel Müdürlüğü (PIGM) [General Directorate of Petroleum Affairs], which collects information about petroleum exploration and production activity in Turkey; and Türkiye Atom Enerjisi Kurumu Başkanlığı [Turkish Atomic Energy Authority], which is responsible for policy development and the coordination and supervision of scientific and technical activities in the nuclear sector.

Other institutions that are associated with the ETKB include Boru Hatları İle Petrol Taşıma A.Ş. Genel Müdürlüğü (BOTAS) [Petroleum Pipeline Corp.], which imports, transports, and sells natural gas, and also transports petroleum; Elektrik Üretim A.Ş. Genel Müdürlüğü [General Directorate of Electricity Generation Corp.], which produces electricity; Eti Maden İşletmeleri Genel Müdürlüğü, which has exclusive rights to explore for and to develop boron deposits according to law No. 2840 of 1983; the Türkiye Kömür İşletmeleri Kurumu Genel Müdürlüğü (TKİ) [General Directorate of Turkish Coal Enterprises], which mines lignite and subbituminous coal; Türkiye Petrolleri Anonim Ortaklığı Genel Müdürlüğü (TPAO) [Turkish Petroleum Corp.], which explores for, produces, markets, and refines crude oil; and Türkiye Taşkömürü Kurumu Genel Müdürlüğü (TTK)

¹Where necessary, values have been converted from Turkish lira (TLY) to U.S. dollars (US\$) at the rate of TLY1.799=US\$1.00 for 2012, and TLY1.677=US\$1.00 for 2011.

[General Directorate of Turkish Hard Coal Enterprises], which mines anthracite and bituminous coal.

Mineral Trade

In 2012, total Turkish exports of goods were valued at \$152 billion compared with about \$135 billion in 2011. Exports of iron and steel were valued at about \$13.1 billion in 2012 compared with \$12.8 billion in 2011. Exports of petroleum and petroleum products in 2012 were valued at about \$7 billion; industrial mineral products, such as cement, ceramics, glass, lime, and stone, about \$3.8 billion; and nonferrous metals, about \$2.7 billion (T.C. Kalkınma Bakanlığı, 2013b).

The value of Turkish exports of goods to the United States was about \$6.3 billion in 2012. Exports of mineral-related material accounted for only a minor amount of the total exports of goods to the United States. Exports of semifinished iron and steel products, such as bars and rods, ingots, and rolled steel, were valued at \$645 million. Exports of material categorized under the label stone, sand, cement, and lime were valued at \$277 million. Exports of iron and steel products, such as pipes and wire, were valued at \$106 million (U.S. Census Bureau, 2014b).

In 2012, total Turkish imports of goods were valued at about \$237 billion compared with about \$241 billion in 2011. Imports of petroleum and petroleum products were valued at about \$16.2 billion in 2012 compared with a revised \$15.2 billion in 2011. Imports of metal ores and scrap were valued at about \$10.8 billion in 2012 compared with \$11.1 billion in 2011. Imports of nonferrous metals were valued at about \$7.7 billion in 2012 compared with about \$8.2 billion in 2011 (T.C. Kalkınma Bakanlığı, 2013a).

The value of Turkish imports of goods from the United States was about \$12 billion in 2012. More than 30% of goods exported to Turkey from the United States were mineral-industry related. Imports of steelmaking materials from the United States, such as ferroalloys and steel scrap, were valued at \$2.5 billion. Imports of fuel oil from the United States were valued at about \$874 million; metallurgical-grade coal, about \$535 million; other coal, \$216 million; and other petroleum products, \$184 million (U.S. Census Bureau, 2014a).

Commodity Review

Metals

Aluminum.—Cengiz Enerji San. Ve Tic. A.Ş. began work on the installation of a 13-megawatt-capacity electricity generation facility at the aluminum smelter owned by Eti Alüminyum A.Ş. in Seydisehir. Eti Alüminyum continued to evaluate a new control system and a new power system for the existing 94-pot Söderberg-technology facility at Seydisehir, and also continued work on plans to convert the smelter to a more energy-efficient prebaked-anode-technology facility (Business Excellence, 2011; ABB Asea Brown Boveri Ltd., 2013; European Bank for Reconstruction and Development, 2013).

Antimony.—In 2012, Üç Yıldız Antimon Madencilik İthalat Ve İhracat Sanayi ve Ticaret A.Ş., which was a subsidiary of Tri-Star Resources plc of the United Kingdom, received an

environmental permit for a proposed 14,400-metric-ton-per-year (t/yr) processing plant, which was planned to re-treat material in the mine dumps at the Goynuk antimony prospect. The prospect had been mined intermittently since antiquity, and the average grade of the estimated 80,000 metric tons (t) of rock in the mine dumps was estimated to be 2.25% antimony. Behre Dolbear International Ltd. of the United Kingdom completed a geological report on the property for Tri-Star in 2012 (Juhas, 2013, p. 15–16, 73–74; Tri-Star Resources plc, 2014).

Copper, Lead, Molybdenum, Silver, and Zinc.—Eti Bakır A.Ş., which was a subsidiary of Cengiz Holding A.Ş., was the leading copper ore producing company in Turkey. Other notable copper ore producers included Çayeli Bakır İşletmeleri A.Ş., which was a subsidiary of Inmet Mining Corp. of Canada, and Park Elektrik Üretim Madencilik San. ve Tic. A.Ş.

Çayeli Bakır, which milled a record volume of 1.218 million metric tons (Mt) of ore from the underground Cayeli Mine in 2012 compared with 1.195 Mt of ore in 2011, produced a copper concentrate that contained 31,400 t of copper in 2012, and a zinc concentrate that contained 40,700 t of zinc. Çayeli recovered about 9% more copper and 15% less zinc contained in concentrates in 2012 than in 2011 owing to the expected increase in the grade of mined copper ore and a decrease in the zinc grade (Inmet Mining Corp., 2013, p. 19–20).

Park Elektrik produced 89,253 wet metric tons of copper concentrates from the Madenkoy Mine in 2012 compared with 77,510 wet metric tons in 2011. The concentrate contained an average of 18% to 20% copper. In 2013, mine activity was scheduled to shift from underground to open pit operations, and the input capacity of the Madenkoy plant was expected to increase to 1.8 million metric tons per year (Mt/yr) with an output capacity of about 125,000 t/yr of copper concentrate. Park Elektrik diverted some concentrate to a domestic copper refiner. In 2012, 2,521 t of copper cathode was produced from 14,296 t of copper concentrate from the Madenkoy Mine (Park Elektrik Üretim Madencilik San. ve Tic. A.Ş., 2012, p. 19; 2013, p. 24–25, 28–29).

In April, Özdoğu İnşaat Tic. Ltd. Şti. began the production of copper concentrates from its mine at Tepeoba, Balıkesir Province. By October, the company also was producing a molybdenum concentrate. In 2012, Özdoğu produced about 7,000 t of copper concentrate with a grade of 22% to 25% copper and about 150 t of molybdenum concentrate with a grade of 46% to 48% molybdenum, and planned to ramp the facility up to full production capacity of 50,000 t/yr (Okyay, 2012; p. 106; Özdoğu İnşaat Tic. Ltd. Şti., 2012).

Companies engaged in exploration for copper, lead, molybdenum, silver, and zinc included Dedeman Madencilik Sanayi ve Ticaret A.Ş., which continued exploration of the Balya lead-silver-zinc property. Dedeman received an exploitation license for the project in 2012. First Quantum Minerals Ltd. of Canada acquired an option to acquire interest in the Bursa copper project from Empire Mining Corp. of Canada. In early January 2013, Empire changed its name to Columbus Copper Corp. Lodos Maden Yatırım Sanayii ve Ticaret A.Ş. which was a subsidiary of Pragma Finansal Danışmanlık Ticaret A.Ş., acquired 51% interest in a the Muratdere copper project from Stratex International plc of the United Kingdom.

Pasinex Resources Ltd. of Canada (formerly Triple Dragon Resources Inc.) explored the Golcuk copper-silver property, which was acquired under an option from Eurasia Madencilik Ltd. ŞTI (a subsidiary of Eurasian Minerals Inc. of Canada). RCR Quantum Madencilik İthalat İhracat Ticaret ve Sanayi A.Ş., which was a joint venture of Red Crescent Resources Holding A.Ş. (75% interest) and Gensay Madencilik İthalat İhracat Tic. ve San. A.Ş. (25% interest), continued work on the Sivas copper property. Truva Bakır Maden İşletmeleri A.Ş., which was a joint venture of Teck Madencilik Sanayi Ticaret A.Ş. (TMST) (60% interest) and Pilot Investments Inc. of the Cayman Islands (40% interest), continued drilling on the Halilaga copper-gold-molybdenum property. In 2012, a preliminary economic assessment of the property was filed, and the property's exploration and the operating permits were renewed. The joint venture of Xstrata Canada Copper, which was a subsidiary of Xstrata plc of Switzerland, and Nuinsco Resources Ltd. of Canada drilled the Berta copper-gold property in 2012.

RCR ve Seyitoğlu Madencilik İthalat İhracat Tic. ve San. A.Ş., which was a joint venture of Red Crescent Resources Ltd. of Canada and shareholders of the Seyitoğlu family, started production from the Hakkari zinc mine in September. The mine was located in southeastern Turkey. By yearend, about 4,145 wmt of direct-shipping ore had been produced. Installation of a dense-media separation plant at the mine was expected to be completed in 2013, which would allow the company to produce a higher grade zinc concentrate from the mine output (Red Crescent Resources Ltd., 2013, p. 3).

Gold.—The use of cyanide in the recovery of gold in Turkey was a politically sensitive subject. Of the approximate 300,000 t of cyanide used annually in Turkey, about 3,000 t was used in the processing of gold ore (T.C. Enerji ve Tabii Kaynaklar Bakanlığı, 2011).

Anagold Madencilik Sanayi ve Ticaret A.Ş., which was a joint venture of Alacer Gold Corp. of Canada (80% interest) and Lidya Madencilik Sanayi ve Ticaret A.Ş. (20%), mined 7 Mt of oxide ore from the Main, the Manganese, and the Marble pits in 2012, and produced about 5,800 kilograms (kg) of gold. Work continued on a feasibility study of the development of the mine's sulfide ore (Alacer Gold Corp., 2013, p. 7–9, 26).

Koza Altın, İşletmeleri A.Ş., produced about 10,500 kg of gold and about 4,800 kg of silver from its four mines in 2012 compared with about 9,500 kg of gold and 3,100 kg of silver from the mines in 2011. The increase in gold production was attributed to a full year of production from the Cukuralan underground mine and the Kaymaz open pit and mill facility (Koza Altın İşletmeleri A.Ş., 2013, p. 3, 16).

In 2012, Tüprağ Metal Madencilik Sanayi ve Ticaret A.Ş., which was a subsidiary of Eldorado Gold Corp. of Canada, produced about 11,000 kg of contained gold from the Efemcukuru and the Kisladağ Mines. Gold production from the Kisladağ Mine increased by 2% owing to the increased grade of material treated on the heap-leach pads. Early in the year, technical issues and unseasonable weather adversely affected gold production from the Efemcukuru Mine. Some of the concentrate from the Efemcukuru Mine was shipped to a concentrate treatment plant at Kisladağ, but the treatment plant was placed on care-and-maintenance status in September, pending

additional metallurgical testing of the Efemcukuru concentrate. In November, Tüprağ Metal began selling gold concentrate from the Efemcukuru Mine to exporters. In 2012, Tüprağ Metal also began work on an expansion of the Kisladağ Mine's capacity to 25 Mt/yr (Eldorado Gold Corp., 2013, p. 5, 38, 40).

Iron Ore and Iron and Steel.—In 2012, Erdemir Madencilik Sanayi ve Ticaret A.Ş., which was a subsidiary of Ereğli Demir ve Çelik Fabrikaları T.A.Ş. (Erdemir), produced 2.8 Mt of beneficiated iron ore and pelleted iron ore. Erdemir produced 3.2 Mt of crude steel at the Ereğli plant in 2012, where blast furnace no. 1 was relined and the rolling mills of hot-strip mill no. 1 were replaced, and Erdemir's rolling mills produced 2 Mt of hot-rolled coil and about 1.6 Mt of cold-rolled coil. İskenderun Demir ve Çelik A.Ş. (İsdemir) (a subsidiary of Erdemir) produced 4.6 Mt of crude steel at the İskenderun plant, which was in the process of renovating coke oven battery no. 4. İsdemir also produced about 2.4 Mt of hot-rolled coil and rolled 1.5 Mt of long products in 2012 (Ereğli Demir ve Çelik Fabrikaları T.A.Ş., 2013a, p. 10–13; 2013b).

A significant proportion of Turkey's steel was produced from steel scrap in electric arc furnaces. The Bureau of International Recycling reported that Turkey's steel scrap consumption increased by 5.1% in 2012 to 32.4 Mt. Much of the steel scrap was imported (Scrap Register, 2013).

Industrial Minerals

Boron.—Eti Maden İşletmeleri Genel Müdürlüğü mined colmanite, tincal, and ulexite and produced boron chemicals and products. The company's boron chemical plant capacity was increased to 2.13 Mt/yr in 2012 with the modernization of the borax and boric acid facilities at Bandırma and the construction of a new vitreous boron oxide plant at Bandırma. Eti Maden expected to continue the expansion of its capacity to produce boron products to 5.5 Mt/yr. Capacity-expansion projects under construction also included a 500,000-t/yr-capacity boric acid plant and a 50,000-t/yr-capacity ultra-low sulfated boric acid plant at Emet, which were expected to be completed in 2013, and a 500,000-t/yr-capacity borax pentahydrate plant at Kirka, which was expected to be completed in 2015. The maximum sulfur quadoxide (SO₄) content of Eti Maden's normal sulfate boric acid was 500 parts per million compared with a maximum of 12 parts per million for the ultra-low sulfated boric acid product. The development of a 10,000-t/yr-capacity zinc borate plant at Bandırma was under consideration, and research on the commercial production of boron carbide, boron nitride, ferroboration, and magnesium diboron also was underway (Eti Maden İşletmeleri Genel Müdürlüğü, 2013, p. 15, 44–47; Etimine USA, Inc., undated, p. 6).

Mineral Fuels and Related Materials

Uranium.—A Dur Madencilik Limited .Şti., which was the subsidiary of Anatolia Uranium Proprietary Ltd., completed a 27-hole regional drill program in 2012. Anatolia Uranium was a joint venture of Anatolia Uranium Ltd., which was a subsidiary of Anatolia Energy Ltd. of Australia, and Vetter Uranium Ltd. of the British Virgin Islands. A Dur resumed drilling to evaluate

groundwater conditions at the Temrezli deposit in December (Anatolia Energy Ltd., 2013, p. 3).

Outlook

Turkey has identified resources of a number of minerals (Ersçen, 1989). Most mining activity, especially in the industrial mineral sector, is performed by mining subsidiaries of domestic conglomerates, construction companies, metal and mineral traders, and small family-owned companies. Most of the international investor interest in the Turkish mineral industry remains focused on the development of metal deposits. The interest in exploration for metals by domestic and international companies is expected to continue in the near term.

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TABLE 1
TURKEY: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity	2008	2009	2010	2011 ^e	2012 ^e	
METALS						
Aluminum ^e	65,000	35,000	60,000	60,000	60,000	
Antimony:						
Ore, mine output:						
Gross weight	50,357	24,917	25,974	43,000 ^r	130,000	
Sb content ^e	2,700	1,400	1,400 ^r	2,400 ^r	7,000	
Concentrates: ^e						
Gross weight	10,000	5,000	5,400	8,600 ^r	26,000	
Sb content	2,400	1,200	1,300	2,100 ^r	6,000	
Bauxite and alumina:						
Bauxite	818,928	1,473,181	1,311,064	1,024,915 ^{r,2}	1,473,695 ²	
Alumina, gross weight ^e	160,000	80,000	160,000	160,000	200,000	
Chromium, gross weight (34% to 43% chromic oxide) ³	1,885,700	1,573,993	1,904,461	2,901,027 ^{r,2}	2,500,000	
Copper: ^e						
Mine output, exclusive of pyrite: ⁴						
Gross weight	6,166,035 ²	6,470,475 ²	6,000,000	5,700,000 ^r	7,400,000	
Cu content of ore	100,000	105,000	97,000	80,000	100,000	
Metal:						
Smelter output, primary and secondary	30,000	25,000	25,000	25,000	25,000	
Refined ^e	88,000	33,000	47,000	85,000 ^r	80,000	
Gold ⁵	kilograms	11,016	14,469	16,890	24,400 ^{r,2}	29,370 ²
Iron and steel:						
Iron ore:						
Gross weight	thousand metric tons	4,697	4,170	5,188	5,754 ²	4,400
Fe content ^e	do.	2,500	2,200	2,700	3,000	2,300
Metal:						
Pig iron and ferroalloys:						
Pig iron	6,697,000	6,913,325	7,676,592	7,700,000	8,600,000	
Ferrochromium	79,840	41,028	50,000 ^{r,e}	40,000 ^r	40,000	
Ferrosilicon ^e	-- ^r	-- ^r	1,000 ^r	2,000 ^r	2,000	
Steel, crude, including castings	thousand metric tons	26,809	25,304	29,030	34,000	36,000
Lead:						
Mine output, Pb and Pb-Zn ores:						
Gross weight	565,374	599,705	526,277	1,044,222 ^r	1,076,088 ²	
Pb content	25,000	26,000	23,000	40,000 ^r	46,000	
Concentrates: ^e						
Gross weight	44,000	45,000	40,000	78,000 ^r	80,000	
Pb content	22,000	23,000	21,000	39,000 ^r	41,000	
Manganese ore, gross weight ⁶	51,703	141,206	134,336	172,248 ^{r,2}	208,000	
Molybdenum, gross weight	25	--	--	2,848 ^r	180	
Nickel, mine output, Ni content ^e	1,000 ^r	800 ^r	1,400 ^r	3,000 ^r	2,400	
Silver, mine output, Ag content ⁷	kilograms	294,000	351,600	363,520	246,500 ^{r,2}	193,390 ²
Zinc, mine output, Zn and Cu-Zn ore: ^e						
Gross weight	thousand metric tons	700 ^r	700 ^r	900	790 ^r	1,180
Zn content	do.	127 ^r	136 ^r	196 ^r	160 ^r	209
INDUSTRIAL MINERALS						
Aluminum sulfate, alunite	15,324	2,068	2,000 ^e	-- ^r	--	
Barite, crude	482,740	213,187	172,618	137,934 ²	400,000	

See footnotes at end of table.

TABLE 1—Continued
TURKEY: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity	2008	2009	2010	2011 ^e	2012 ^e	
INDUSTRIAL MINERALS—Continued						
Boron minerals:						
Run of mine	4,897,869	3,923,494	4,442,918	6,306,584 ²	6,300,000	
Concentrates	2,139,224	1,800,000 ^e	2,200,000 ^e	2,273,122 ²	2,200,000	
Refined borates ^c	1,300,000	1,000,000	1,400,000	1,800,000	1,790,000	
Cement, hydraulic	thousand metric tons	51,432	53,973	62,737	63,405 ²	63,879 ²
Clays:						
Bentonite	1,553,588	932,487	798,397	379,918 ²	982,000	
Kaolin	792,044	727,649	711,493	1,002,409 ²	2,000,000	
Other	3,261,379	2,412,609	4,030,961	3,747,503 ^{r,2}	4,119,513 ²	
Total	5,607,011	4,072,745	5,540,851	5,129,830	7,000,000	
Diatomite	62,685	27,634	18,448	45,187 ^{r,2}	86,203 ²	
Emery	57,722	28,198	67,989 ^r	113,602 ^{r,2}	54,848 ²	
Feldspar, run of mine	6,767,500	4,212,547	6,281,597	4,477,993 ²	3,500,000	
Fluorspar	2,931	3,756	25,189	-- ^r	--	
Glass, crude ^c	thousand metric tons	2,300	1,800	2,000	2,000	2,000
Graphite, run of mine	3,236	2,400	--	17,265 ^{r,2}	--	
Gypsum, other than that for cement	7,338,127	4,369,589	6,321,891	5,723,439 ^{r,2}	8,301,746 ²	
Lime ^{e,8}	thousand metric tons	4,000	3,800 ²	4,300	4,300	4,500
Magnesium, magnesite, run of mine	677,784	861,180	2,316,763	2,588,276 ^{r,2}	2,440,535 ²	
Mica:						
Illite	61,577	36,509	35,622	896 ^{r,2}	33,328 ²	
Other	8,392	4,172	387	277 ^{r,2}	251 ²	
Nepheline syenite	--	759	1,308	1,500 ^{r,2}	4,000 ²	
Nitrogen, N content of ammonia ^c	50,000	100,000	200,000	200,000	280,000	
Obsidian	--	19	106	300 ^{r,2}	1,070 ²	
Olivine	170,631	168,567	192,394	221,079 ^{r,2}	244,353 ²	
Peat	113,112	65,315	214,620	148,012 ^{r,2}	359,349 ²	
Perlite, run of mine	551,266	522,832	545,585	429,776 ²	500,000	
Phosphate rock	1,000	1,000 ^e	-- ^r	5,250 ^{r,2}	30,000	
Pumice	3,449,733	4,322,543	4,000,000 ^e	5,800,000 ^r	4,600,000	
Pyrites, cupreous, gross weight	116,091	124,130	131,315	135,190 ^{r,2}	124,000	
Quartz and quartzite	1,762,972	1,943,877	2,500,000	4,300,000 ^{r,2}	3,300,000	
Sepiolite (meerschaum) and palygorskite (attapulgit) ⁹	3,724	3,448	16,342	30,000 ^{r,2}	31,000 ²	
Silica (quartz) sand, gross weight	2,422,587	4,499,154	4,022,433	7,020,622 ^{r,2}	7,085,000 ²	
Sodium compounds:						
Salt, NaCl, all types	thousand metric tons	2,472	3,768	4,044 ^r	6,546 ^{r,2}	3,002 ²
Soda ash, trona	do.	949	1,079	1,623 ^r	1,749 ^{r,2}	1,853 ²
Sodium sulfate, concentrates	961,295	4,592,014	1,600,603	2,490,000 ^r	1,370,000	
Stone:						
Basalt	3,307,107	1,908,544	20,320,391	18,656,135 ^{r,2}	16,862,087 ²	
Dolomite	16,440,257	11,152,094	15,224,546	7,076,068 ^{r,2}	8,572,092 ²	
Granite	367,959	324,718	239,819	245,977 ^{r,2}	505,317 ²	
Limestone, for cement	thousand metric tons	207,982	243,184	270,441	345,014 ^{r,2}	344,694 ²
Marble	cubic meters	2,262,537	2,715,601	3,352,070	4,086,222 ^{r,2}	4,488,947 ²
Onyx	do.	2,145	2,322	2,113	7,678 ^{r,2}	4,867 ²
Travertine	do.	759,118	1,002,866	879,319	1,685,049 ^{r,2}	760,549 ²
Strontium minerals, celestite:						
Run of mine	2,600	--	--	--	--	
Concentrates	1,600	--	--	--	--	

See footnotes at end of table.

TABLE 1—Continued
TURKEY: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity	2008	2009	2010	2011 ^e	2012 ^e	
INDUSTRIAL MINERALS—Continued						
Sulfur: ^c						
Byproduct:						
Petroleum	63,000	45,000	50,000	50,000	55,000	
Other	20,000	--	--	--	--	
S content of pyrites	30,000 ^r	32,000 ^r	34,000 ^r	35,000 ^r	32,000	
Total	113,000 ^r	77,000 ^r	84,000 ^r	85,000 ^r	87,000	
Talc	3,364	6,887	1,826	9,959 ^{r,2}	14,537 ²	
Titanium minerals, rutile, gross weight	20	4,000	1,000	-- ^{r,2}	5,000 ²	
Zeolites	107,951	141,728	33,813	214,179 ^{r,2}	60,258 ²	
MINERAL FUELS AND RELATED MATERIALS						
Asphalt, natural	68,247	362,435	285,362	572,089 ^{r,2}	649,830 ²	
Carbon black ^c	40,000	30,000	30,000	30,000	30,000	
Coal:						
Hard coal, run of mine	thousand metric tons	3,343	3,774	3,667	5,619 ²	3,200
Lignite, run of mine	do.	85,953	82,263	74,437	89,806 ²	78,000
Coke and semicoke ^c	do.	4,063 ²	4,000	3,900	4,000	4,000
Gas, natural, marketed	thousand cubic meters	894,667	660,391	625,713	680,000	664,000
Petroleum: ^c						
Crude	thousand 42-gallon barrels	15,200	17,000	17,800	16,400	16,200
Refinery products:						
Liquefied petroleum gas	do.	8,900	7,200	7,900	8,800	4,700
Gasoline	do.	37,700	30,000	33,000	35,000	31,000
Naphtha	do.	4,600	3,700	4,000	4,000	3,500
Jet fuel and kerosene	do.	22,400	15,900	21,000	25,000	23,000
Distillate fuel oil ¹⁰	do.	49,000	35,200	36,600	40,000	41,000
Lubricants	do.	1,800	1,700	2,200	2,800	2,000
Residual fuel oil	do.	31,700	13,800	16,000	19,000	25,000
Asphalt	do.	13,600	12,200	16,900	18,000	20,000
Unspecified ¹¹	do.	2,500	2,600	5,300	3,200	6,000
Total	do.	172,000	122,000	143,000	156,000	156,000

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ^rRevised. do. Ditto. -- Zero.

¹Table includes data available through February 21, 2014. In addition to the commodities listed, large quantities of construction materials (sand and gravel) are quarried. Also mined are diabase, sandstone, serpentine, and slate for building stone; limestone and gypsum for cement manufacture; cobalt, garnet, iron oxide pigment, and tungsten. Cast iron and refined lead also are produced, but available information is inadequate to make reliable estimates of output.

²Reported figure.

³Approximately 70% of gross production is salable product.

⁴Copper mines produce a copper concentrate (of about 22% Cu) and a cupreous pyrite concentrate (of about 0.7% Cu). Copper is not recovered from the cupreous pyrite concentrate.

⁵Data include estimated content of Turkish copper refinery tankhouse slimes.

⁶Does not include manganiferous iron ore from the Devinci Mine, production of which amounts to several hundred thousand metric tons per year and has a manganese content of 3% to 5%.

⁷Includes estimated content of base-metals-refinery tankhouse slimes.

⁸Estimated sales only.

⁹Entry for sepiolite (meerschau) and palygorskite (attapulgit), which are magnesium aluminum silicates, formerly included only sepiolite production of 50 kilograms in 2008.

¹⁰Diesel fuel (gasoil) and special heating oil.

¹¹Includes refinery fuel and losses.

TABLE 2
TURKEY: STRUCTURE OF THE MINERAL INDUSTRY IN 2012

(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)	Smelter at Seydisehir, Konya Province	65
Antimony ore, Sb content	Eti Bakir A.Ş. (Cengiz Holding, 100%)	Halköy, Izmir Province	750
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	260
Bauxite	do.	Mines near Madenli, about 25 kilometers south of Seydisehir, Konya Province	500
Do.	Demireller Tarım 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) (Government)	Four open pit mines at Bigadic, Balikesir Province	650
Do.	Emet Bor İşletme Müdürlüğü (Eti Maden İşletmeleri Genel Müdürlüğü) (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) (Government)	Kestelek Mine, Bursa Province	100
Do.	Kırka Bor İşletme Müdürlüğü (Eti Maden İşletmeleri Genel Müdürlüğü) (Government)	Mine at Kırka, Eskisehir Province	800
Refined borates	Bandırma Bor ve Asit Fabrikaları İşletme Müdürlüğü, (Eti Maden İşletmeleri Genel Müdürlüğü) (Government)	Plant at Bandırma, Balikesir Province	100
Do.	Emet Bor İşletme Müdürlüğü (Eti Maden İşletmeleri Genel Müdürlüğü) (Government)	Boric acid plant, Emet, Kutahya Province	100
Do.	Kırka Bor İşletme Müdürlüğü (Eti Maden İşletmeleri Genel Müdürlüğü) (Government)	Plant at Kırka, Eskisehir Province	600
Cement:			
Gray portland	Adana Çimento Sanayii ve Ticaret A.Ş. [Ordu Yardımlaşma Kurumu (OYAK) Çimento Grubu, 57%]	Adana, Adana Province	3,400
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	2,800
Do.	do.	Canakkale plant, about 11 kilometers northwest of Ezine, Canakkale Province	3,500
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	2,880
Do.	AS Çimento Sanayi ve Ticaret A.Ş.	Bucak, Burdur Province	6,500
Do.	Aşkale Çimento Sanayi ve Ticaret A.Ş.	Trabzon plant, Degirmendere, Trabzon Province	800
Do.	do.	Askale, Erzurum Province	720
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.)	Bartın plant, Bartın Province	400
Do.	Baştaş Çimento Sanayii A.Ş. (Vicat Group, 85%)	Elmadag, Ankara Province	1,500
Do.	Batiçim Batı Anadolu Çimento Sanayii A.Ş. (Orascom Construction Industries, 23%)	Bornova, Izmir Province	1,600
Do.	Batisöke Söke Çimento Sanayii ve Ticaret A.Ş. (Batiçim Batı Anadolu Çimento Sanayii A.Ş., 75%)	Soke, Aydın Province	1,300
Do.	Bolu Çimento Sanayii A.Ş. [Ordu Yardımlaşma Kurumu (OYAK) Çimento Grubu, 52%]	About 14 kilometers east of Bolu, Bolu Province	2,200
Do.	Bolu Çimento Sanayii A.Ş. [Ordu Yardımlaşma Kurumu (OYAK) Çimento Grubu, 52%]	Ankara grinding plant, Kazan, Ankara Province	800
Do.	Bursa Çimento Sanayii ve Ticaret A.Ş. (Bursa Çimento Fabrikası A.Ş., 98%)	Kestel, Bursa Province	2,850

See footnotes at end of table.

TABLE 2—Continued
TURKEY: STRUCTURE OF THE MINERAL INDUSTRY IN 2012

(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. (Intercecm SA, 67%, and Cementir Holding SpA, 29%)	Isikkent, Izmir Province	2,600
Do.	do.	Trakya plant, Lalapasa, Edirne Province	1,300
Do.	Çimko Adıyaman Çimento ve Beton Sanayii ve Ticaret A.Ş. (Çimko Çimento ve Beton Sanayii Ticaret A.Ş.)	About 18 kilometers southwest of Adıyaman, Adıyaman Province	1,350
Do.	Çimko Çimento Kahramanmaraş Narlı Fabrikası (Çimko Çimento ve Beton Sanayii Ticaret A.Ş.)	Narlı plant, Narlı, Kahramanmaraş 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.	Nevşehir grinding plant, Kalaba, Nevşehir Province	300 ^c
Do.	do.	Samsun grinding plant, about 6 kilometers west of Samsun, Samsun Province	300 ^c
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 Ağırnas, 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. (CRH plc, 50%, and Eren Holding A.S., 50%)	About 5 kilometers northwest of Kaklık, Denizli Province	2,500
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%)	Elazığ, Elazığ Province	900
Do.	Ereğli Çimento Sanayii ve Ticaret A.Ş. [Ordu Yardımlaşma Kurumu (OYAK) Çimento Grubu, 50%]	Karadeniz Ereğli plant, Kemer, Zonguldak Province	300
Do.	Göлтаş Göller Bölgesi Çimento Sanayii ve Ticaret A.Ş. (Sadecib S.A., 34%, and Göl Yatırım Holding A.Ş., 28%)	About 15 kilometers north-northwest of Isparta, Isparta Province	2,900
Do.	Kars Çimento Sanayii ve Ticaret A.Ş. (Cimentas A.Ş., 58%, and Alfacem Srl, 40%)	Bozkale, Kars Province	600
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 Kurtalan Çimento Sanayii ve Ticaret A.Ş. (Limak Şirketler Grubu)	Ambarlı grinding plant, Büyükçekmece, Istanbul Province	1,200
Do.	do.	Ankara plant, Ankara, Ankara Province	1,300
Do.	do.	Balikesir, Balikesir Province	500
Do.	do.	Gaziantep plant, Gaziantep (Sehit Kamil), Gaziantep Province	1,400
Do.	do.	Kurtalan plant, Kurtalan, Siirt Province	1,140
Do.	do.	Sanlıurfa plant, about 14 kilometers north-northwest of Sanlıurfa, Sanlıurfa Province	1,400
Do.	do.	Trakya plant, Pınarhisar, Kırklareli Province	800
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	525
Do.	Mardin Çimento Sanayii ve Ticaret A.Ş. [Ordu Yardımlaşma Kurumu (OYAK) Çimento Grubu, 56%]	About 6 kilometers northeast of Mardin, Mardin Province	2,000
Do.	Nuh Çimento Sanayi A.Ş. (Nuh Ticaret ve Sanayi A.Ş., 43%)	Hereke, Kocaeli Province	5,817

See footnotes at end of table.

TABLE 2—Continued
TURKEY: STRUCTURE OF THE MINERAL INDUSTRY IN 2012

(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	Traçim Çimento Sanayii ve Ticaret A.Ş. (Soyak Holding A.Ş. and TBS Taşıma Beton A.Ş.)	Evrencik, Vise, Kırklareli 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
Coal:			
Anthracite	Armutçuk Taşkömürü İşletme Müessesesi [Türkiye Taşkömürü Kurumu Genel Müdürlüğü (T.T.K.)] (Government)	Armutçuk Mine, Kandilli, Zonguldak Province	400
Do.	Amasra Taşkömürü İşletme Müessesesi [Türkiye Taşkömürü Kurumu Genel Müdürlüğü (T.T.K.)] (Government)	Amasra Mine, Amasra, Bartın Province	300
Do.	Karadon Taşkömürü İşletme Müessesesi [Türkiye Taşkömürü Kurumu Genel Müdürlüğü (T.T.K.)] (Government)	Karadon Mine, Kilimli, Zonguldak Province	450
Do.	Kozllu Taşkömürü İşletme Müessesesi [Türkiye Taşkömürü Kurumu Genel Müdürlüğü (T.T.K.)] (Government)	Kozlu Mine, Kozlu, Zonguldak Province	600
Do.	Üzülmaz Taşkömürü İşletme Müessesesi [Türkiye Taşkömürü Kurumu Genel Müdürlüğü (T.T.K.)] (Government)	Uzulmez Mine, Asma, Zonguldak Province	500
Lignite ¹	Bursa Linyitleri İşletmesi Müdürlüğü [Türkiye Kömür İşletmeleri Kurumu (TKİ)] (Government)	Bursa lignite facility, Orhaneli, Bursa Province	1,000
Do.	Çan Linyitleri İşletmesi Müdürlüğü [Türkiye Kömür İşletmeleri Kurumu (TKİ)] (Government)	Can lignite facility, Can, Canakkale Province	1,800
Do.	Ege Linyitleri İşletmesi Müessesesi Müdürlüğü [Türkiye Kömür İşletmeleri Kurumu (TKİ)] (Government)	Soma Mine, Soma, Manisa Province	10,500
Do.	Garp Linyitleri İşletmesi Müessesesi Müdürlüğü [Türkiye Kömür İşletmeleri Kurumu (TKİ)] (Government)	Tuncbilek mining center, Tavsanli, Kutahya Province	7,000
Do.	Güney Ege Linyitleri İşletmesi Müessesesi Müdürlüğü [Türkiye Kömür İşletmeleri Kurumu (TKİ)] (Government)	South Aegean lignite facility, Yatagan, Mugla Province	4,900
Do.	Ilgın Linyitleri İşletmesi Müdürlüğü [Türkiye Kömür İşletmeleri Kurumu (TKİ)] (Government)	Ilgin lignite facility, Ilgin, Konya Province	300
Do.	Seyitömer Linyitleri İşletmesi Müessesesi Müdürlüğü [Türkiye Kömür İşletmeleri Kurumu (TKİ)] (Government)	Seyitomer lignite facility, Seyitomer, Kutahya Province	8,000
Do.	Yeniköy Linyitleri İşletmesi Müdürlüğü [Türkiye Kömür İşletmeleri Kurumu (TKİ)] (Government)	Yenikoy lignite facility, Oren (Milas), Mugla Province	8,500
Copper:			
Concentrate, Cu content	Çayeli Bakir İşletmeleri A.Ş. (Inmet Mining Corp., 100%)	Çayeli Mine, near Çayeli, Rize Province	37
Do.	Demir Export A.Ş. (Koç Holding A.Ş.)	Lahanos Mine, Giresun Province	4
Do.	Eti Bakir 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	22
Do.	Eti Bakir A.Ş. (Cengiz Holding A.Ş., 100%)	Murgul facility (three open pit mines, including the Anayatak and the Çakmakaya Mines), Murgul, Artvin Province	26
Do.	Özdoğu İnşaat Tic. Ltd. Şti	Tepeoba, Balıkesir Province	12
Do.	Park Elektrik Üretim Madencilik San. ve Tic. A.Ş.	Siirt Madenkoy	20
Anode (blister)	Eti Bakir A.Ş. (Cengiz Holding A.Ş.)	Smelter, Tekkekoy, Samsun Province	38
Cathode	Er-Bakir Elektrolitik Bakır Mamulleri A.Ş.	Denizli, Denizli Province	200
Do.	Sarkuysan Elektrolitik Bakır San. ve Tic. A.Ş.	Darica, Kocaeli Province	200
Ferrocchrome, high-carbon	Eti Krom A.Ş. (Yildirim Holding A.Ş.)	About 55 kilometers east of Elazig, Elazig Province	150

See footnotes at end of table.

TABLE 2—Continued
TURKEY: STRUCTURE OF THE MINERAL INDUSTRY IN 2012

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners		Location of main facilities	Annual capacity
Fertilizer:				
Ammonium nitrate	Kütahya Gübre Sanayii A.Ş. (Yıldız Yatırım 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 Sanayi A.Ş. (IGSAS), (Yıldız Yatırım Holding A.Ş.)		Korfez, Kocaeli Province	240
Mono-ammonium 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	3,800
Do.	do.	do.	Kaymaz Mine	3,300
Do.	do.	Anagold Madencilik Sanayi ve Ticaret A.Ş. (Alacer Gold Corp., 80%, and Lidya Madencilik Sanayi ve Ticaret A.Ş., 20%)	Copler Mine	6,000
Do.	do.	Pomzaexport Madencilik Sanayi ve Ticaret A.Ş.	Sardes placer mine, Manisa Province	NA
Do.	do.	Tüprag Metal Madencilik Sanayi ve Ticaret A.Ş. (Eldorado Gold Corp., 100%)	Kisladag Mine, Katranci, Usak Province	7,500
Do.	do.	do.	Efemcukuru Mine	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 Fabrikaları T.A.Ş.) (Erdemir)		Fourteen mines in the Divrigi area, Sivas Province	2,900
Do.	Hekimhan Madencilik İthalat İhracat Sanayi ve Ticaret A.Ş. (Kolin İnşaat Turizm Sanayi ve Ticaret A.Ş.)		About 22 kilometers northeast of Hekimhan (formerly the Deveci Mine), Malatya Province	2,000 ²
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. (CEMTAŞ)		Bursa, Bursa Province	174
Do.	CER Çelik Endüstrisi A.Ş.		Plant at Bornova, Izmir Province	850
Do.	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 Fabrikaları T.A.Ş. (Erdemir) (Ataer Holding A.Ş., 49.29%, and ArcelorMittal, 24.99%)		Karadeniz Ereğli, Zonguldak Province	3,800
Do.	Habaş Sinaî ve Tibbi Gazlar İstihsal Endüstrisi 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) [Ereğli Demir ve Çelik Fabrikaları T.A.Ş. (Erdemir), 92%]		Iskenderun, Hatay Province	4,700
Do.	İzmir Demir Çelik Sanayi A.Ş. (İDÇ)		Aliaga, Izmir Province	1,320
Do.	Kaptan Demir Çelik Endüstrisi ve Ticaret A.Ş.		Marmara Ereğlisi, 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.		Cayırova, 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

See footnotes at end of table.

TABLE 2—Continued
TURKEY: STRUCTURE OF THE MINERAL INDUSTRY IN 2012

(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	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.	Tekkeköy, 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 Fabrikaları T.A.Ş. (Erdemir) (Ataer Holding A.Ş., 49.29%, and ArcelorMittal, 24.99%)	Karadeniz Ereğli, Zonguldak Province	8,800	
Do.	Habaş Sınai ve Tibbi Gazlar İstihsal Endüstrisi 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.	İnernet A.Ş.	Two rolling mills, Istanbul, Istanbul Province	600	
Do.	İskenderun Demir ve Çelik A.Ş. (Isdemir) [Ereğli Demir ve Çelik Fabrikaları T.A.Ş. (Erdemir), 92%]	Iskenderun, Hatay Province	3,500	
Do.	İzmir Demir Çelik Sanayi A.Ş. (İDÇ)	Aliaga, Izmir Province	900	
Do.	Kaptan Demir Çelik Endüstrisi ve Ticaret A.Ş.	Marmara Ereğlisi, Tekirdag Province	700	
Do.	do.	Corlu, Tekirdag Province	200	
Do.	do.	Karabuk, Karabuk Province	100	
Do.	Karabük Demir Çelik Sanayi ve Ticaret A.Ş. (Kardemir) (Kardemir retirement group, 68%, and Kardemir employees, 21%)	do.	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. (Efes 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	million cubic meters	Boru Hatları İle Petrol Taşıma A.Ş. (Botaş) (Government)	Botas Marmara Ereğlisi regasification terminal, Sultankoy, Tekirdag Province	6,500
Do.	do.	EgeGas LNG (Çolakoğlu Group, 100%)	Aliaga regasification terminal, Aliaga, Izmir Province	6,000

See footnotes at end of table.

TABLE 2—Continued
TURKEY: STRUCTURE OF THE MINERAL INDUSTRY IN 2012

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners		Location of main facilities	Annual capacity
Magnesite, dead-burned	Kümaş Kutahya Manyezit İşletmeleri A.Ş. (Zeytinoğlu Holding A.Ş.)		Kutahya, Kutahya Province	185
Nickel, ore, metal content	VTG Nikel Madencilik Sanayi ve Ticaret A.Ş.		Caldag Mine, about 25 kilometers north of Turgutlu, Manisa Province	NA ³
Nitrogen, N content of ammonia	Istanbul Gubre Sanayi 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
Petroleum, refined products	thousand 42-gallon barrels per day	Türkiye Petrol Rafinerileri A. Ş. (Tüpras) (Enerji Yatırımları A.S., 51%)	Izmir refinery, Aliaga, Izmir Province	78,650
Do.	do.	do.	Izmit refinery, Izmit, Kocaeli Province	78,650
Do.	do.	do.	Kirikkale refinery, Kirikkale, Kirikkale Province	55,000
Do.	do.	do.	Batman refinery, Batman, Batman Province	12,100
Do.	do.	Ersan Petrol Sanayii A.Ş. (Sayer Group, 100%)	Narli refinery, Narli, Kahramanmaraş Province	1,330 ³
Phosphate rock	Eti Bakir A.Ş. (Cengiz Holding, 100%)		Mazidagi	750
Silver				
Ore, Ag content	metric tons	Eti Gümüş A.Ş. (Yıldızlar SSS Holding)	Gumuskoy, Kutahya Province	198
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	Eti Soda Inc. [Ciner Grubu, 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 Yatırımları 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 Fabrikaları İşletme Müdürlüğü (Eti Maden İşletmeleri Genel Müdürlüğü) (Government)		Plant at Bandırma, Balıkesir Province	240
Zinc concentrate, Zn content	Çankale Madencilik Limited Şti.		Koru Mine, Canakkale Province	5
Do.	Çayeli Bakir İşletmeleri A.Ş. (Inmet Mining Corp., 100%)		Cayeli Mine, near Cayeli, Rize Province	52
Do.	Dedeman Madencilik Tic. ve San. A.Ş.		The Delikkaya and the Yesil Hisar Cadirkaya Mines, Kayseri Province	10
Do.	Elkin Maden Tic. ve San. A.Ş.		Mines in Hakkari Province	NA
Do.	Meskan Ölmez Madencilik Harfiyat İnşaat yol Yapım 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

⁶Estimated. Do., do. Ditto. NA Not available.

¹Includes subbituminous coal.

²Planned expansion.

³Inactive.