

2006 Minerals Yearbook

TURKEY

THE MINERAL INDUSTRY OF TURKEY

By Philip M. Mobbs

Turkey had a diverse mineral industry and was a leading producer of barite, bentonite, boron minerals, chromite, feldspar, kaolin, limestone, magnesite, marble, perlite, and pumice. Turkey also was a significant source of value-added processed mineral commodities, such as cement, ceramics, glass, and steel.

Minerals in the National Economy

Mining and quarrying accounted for about 1.08% of the gross domestic product (GDP) (calculated at 1987 producers' prices) in 2006, slightly down from 1.10% in 2005 and 1.5% in 1996. In 2006, the mining sector posted a 4.8% growth rate compared with 2005. The construction sector accounted for 4.7% of GDP in 2006 compared with 4.2% in 2005 and 5.9% in 1996; the energy sector accounted for 3.4% of GDP in 2006 compared with 3.3% in 2005 and 3.1% in 1996. Compared with 2005, the construction sector posted a 19.4% growth rate in 2006, and the energy sector, 8.7%. Of the civilian labor force of about 24.8 million, 4.4 million were employed in the industrial sector, which included the mineral processing, mining, and petroleum sectors, and about 1.3 million in the construction sector (T.C. Başbakanlık Devlet Planlama Teşkilatı Müsteşarlığı, 2007a, tables II-4, IX-1).

Government Policies and Programs

Article 168 of the Constitution (1982) and the Mining Law of June 15, 1985 (Maden Kanunu, law No. 3213) declared that natural resources, such as minerals, belonged to the state and were not considered to be part of the land where they were found. Law No. 5177 of 2004 (the new mining law, which amended the 1985 mining law), the "Regulation Concerning the Implementation of the Mining Law" issued in 2005, and the "Mining Activities Permitting Regulation of 2005" also regulated mining activity in Turkey. The Government issued 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) authorized foreign investors to establish companies in Turkey that could hold mining rights under the Mining Law.

Maden İşleri Genel Müdürlüğü (the General Directorate of Mining Affairs) of the T.C. Enerji ve Tabii Kaynaklar Bakanlığı (Ministry of Energy and Natural Resources) regulated the mining industry. T.C. Çevre ve Orman Bakanlığı (the Ministry of Environment and Forestry) enforced the Environmental Law of 1983 (law No. 2872) and the "Regulation on Environmental Impact Assessment" of December 16, 2003.

State-owned Eti Maden İşletmeleri Genel Müdürlüğü retained exclusive rights to explore and to develop boron deposits under law No. 2840 of 1983. Boron operations had been nationalized by law No. 2712 of 1978.

In general, mineral exports were not prohibited under either Export Regime Decree No. 95/7623 of 1995 or Amended Communique No. 96/31 of 2000 (Concerning Goods the Export of which is Banned or Subject to Pre-authorization); the export of dual-use and sensitive goods, however, was administered by T.C. Başbakanlık Dış Ticaret Müsteşarlığı (the Undersecretariat of Foreign Trade) under Communique No. 2003/12 of December 2, 2003. Dual-use and sensitive goods included machinery, material, and software that were usable for either civilian or military purposes, such as high-tensile-strength metal alloys.

Petroleum exploration and production were administered by the Ministry of Energy and Natural Resources under the Petroleum Law of 1954 (law No. 6326). The distribution, export, import, refining, and sale of petroleum were licensed under and regulated by the Petroleum Market Law of 2003 (law No. 5015). The distribution, export, import, and transmission of natural gas was regulated by the Natural Gas Market of 2001 (law No. 4646). The marketing of domestic and imported liquefied petroleum gases was regulated by the Liquefied Petroleum Gases (LPG) Market Law of 2005 (law No. 5307).

Production

Significant increases in production were noted for alumina, bauxite, and ferrochromium. Significant increases in production were estimated for antimony, borates, feldspar, glass, manganese ore, and zinc ore and concentrate. A significant decrease in production was posted for chromium. Significant decreases in production were estimated for copper ore, lead ore and concentrate, magnesite, and nitrogen (ammonia). Data on mineral production are provided in table 1.

Structure of the Mineral Industry

The private sector dominated the country's industrial minerals and metals sectors. In 2006, the Government's privatization of state-owned companies continued. Establishments divested by the Government's T.C. Başbakanlık Özelleştirme İdaresi Başkanlığı (Privatization Administration) included the petroleum refineries of Türkiye Petrol Rafineleri A.Ş. (Tupraş); the assets of Tütün, Tütün Mamulleri, Tuz ve Alkol İşletmeleri A.Ş.' (Tekel) Kaldırım, Kayacık, and Yavşan salt mines; and the iron and steel operations of Ereğli Demir ve Çelik Fab. T.A.Ş (Erdemir).

Mineral Trade

In 2006, total Turkish exports of goods were valued at about \$85.5 billion compared with a revised \$73.5 billion in 2005. Of the total exports in 2006, iron and steel accounted for about \$6.3 billion; refined petroleum products, \$3.4 billion; metalliferous ores and metal scrap, about \$764 million; fertilizers and crude ores, \$729 million; glass and glassware, about \$679 million; boron chemicals, about \$367 million; and natural gas, about \$180 million. Total imports were valued at about \$139.6 billion in 2006, of which, mineral fuels accounted for about \$28.9 billion, and iron and steel, \$11.5 billion (Eti Maden İşletmeleri Genel Müdürlüğü, 2007; T.C. Başbakanlık Devlet Planlama Teşkilatı Müsteşarlığı, 2007a, tables V-2, V-11, V-15, V-16).

Commodity Review

The increased prices of minerals worldwide and the 2004 amended Mining Law accounted for a significant increase in interest in mining and mineral processing activity in Turkey. In the first 8 months of 2006 (the latest period for which data were available), 9,171 exploration licenses were granted, compared with 9,832 in calendar year 2005 and 4,385 in 2004. In 2006, 455 new mining or quarrying companies were established in Turkey, and 45 mining or quarrying companies were closed (T.C. Başbakanlık Devlet Planlama Teşkilatı Müsteşarlığı, 2007b, p. 155).

Metals

Copper.—In August, onsite work was suspended at Inmet Mining Corp. of Canada's Cerattepe underground copperzinc mine, which was located near Artvin. The local Erzurum Administrative Court ruled that the Government had incorrectly exempted the operating licenses for the Cerattepe project from environmental assessment regulations. The Ministry of Energy and Natural Resources appealed the Court's decision. Inmet had planned to truck ore from Cerattepe to the Cayeli Mine, which was located about 100 kilometers (km) east of the Cerattepe project (Inmet Mining Corp., 2007, p. 64-66).

Anatolia Minerals Development Ltd. and Rio Tinto plc of the United Kingdom completed another drill program on the Bursa copper prospect. Nuinsco Resources Ltd. of Canada evaluated the Berta and the Elmalaan copper prospects in northeastern Turkey and Stratex International plc of the United Kingdom initiated exploration on the Muratdere project.

Gold.—Turkey's diverse geologic settings have presented exploration companies with a variety of gold deposit types to evaluate, including carbonate-replacement deposits, Carlin-type deposits, epithermal systems, iron oxide copper-gold deposits, orogenic deposits (listwanite-hosted and mesothermal), placers, porphyry systems, and volcanic-associated massive sulfide (both Cyprus- and Kuroko-type) deposits (Yigit, 2006).

In 2006, Koza Altin Işletmeleri A.Ş. began trial mining at Havran-Kucukdere [where more than 50,000 metric tons (t) of ore was produced] and at Mastra (5,000 t of ore). Ore was shipped to the company's Ovacik processing plant, which was located near Bergama. In July, Eldorado Gold Corp. of Canada began commercial production at the 7,500-kilogram-per-year-capacity Kisladag gold mine, which was located about 180 km east of Izmir.

Companies exploring for gold in Turkey in 2006 included Aldridge Minerals Inc. of Canada, which drilled the Yenipazar copper-gold-lead-silver-zinc property; Anatolia Minerals Development, which completed a feasibility study on the Çopler gold project; and Ariana Resources plc of the United Kingdom, which explored the Cinarpinar gold, the Kiziltepe gold, and the Kosedere copper-zinc prospects. The joint venture of Cloudbreak Resources Ltd. of Canada and Anatolia Minerals Development initiated exploration on the Sarp-Ikiztepe gold property. Eldorado drilled the Efemçukuru Project. Eurasian Minerals Inc. of Canada undertook preliminary exploration of the Akarca gold-silver and the Golcuk coppersilver prospects. Fronteer Development Group of Canada drilled the Agi Dagi gold, the Halilaga copper-gold, the Kirazli gold, and the Pirentepe gold prospects.

In 2006, Kefi Minerals Plc of Turkey was spun off from EMED Mining Public Ltd. of Cyprus (formerly Eastern Mediterranean Resources Public Ltd.). Kefi undertook preliminary exploration of the Artvin Project. Mediterranean Resources Ltd. of Canada worked on the Tac copper-gold and the Corak gold properties. Odyssey Resources Ltd. of Canada worked on the Tavsan gold prospect. Stratex International drilled, mapped, or sampled several projects in the Konya volcanic belt, which included the Doganbey, the Inlice, the Karaagac, and the Oglacki prospects.

Nickel.—In April, European Nickel PLC of the United Kingdom completed an updated definitive feasibility study of the Çaldağ nickel project. European Nickel started mining in September after the company agreed to ship 200,000 t of nickel ore to GMM SA Larco of Greece during a 12-month period. European Nickel had shipped ore to Larco during a trial mining exercise in 2003. In December, the planned construction of the mine's leach pads and the 20,400-metricton-per-year (t/yr)-capacity nickel and 1,200-t/yr-capacity cobalt hydroxide processing plant was delayed, pending the receipt of a forestry permit from the Ministry of Environment and Forestry (European Nickel PLC, 2006).

Zinc.—ZincOx Resources plc of the United Kingdom continued work on an environmental impact assessment for its Aliaga recycling project, which was located about 60 km north of Izmir. ZincOx planned to treat 200,000 t/yr of electric arc furnace dust (EAFD), which contained about 24% zinc, to produce 91,000 t/yr of zinc concentrate, 46,000 t/yr of pig iron, and 39,000 t/yr of slag (ZincOx Resources plc, 2007, p. 11).

Silvermet Inc. of Canada (which was formed in 2006 by the merger of Atikokan Resources Inc. and Silvermet Corp.) and Anatolia Minerals Development drilled the Tufanbeyli zinc prospect and initiated the evaluation of processing Tufanbeyli ore and EAFD together in a Waelz kiln. Silvermet proposed to build a 65,000-t/yr-capacity plant to produce zinc oxide (Silvermet Inc., 2007).

Outlook

Turkey has significant resources of bentonite, boron, lignite, marble, and perlite. Although there are numerous other mineral deposits in Turkey, most mineral occurrences tend to be of small- to medium-size relative to deposits in other parts of the world, which leads to more international investor interest in the development of high-value minerals, such as gold (Ersçen, 1989). Administrative and legal difficulties, such as those that resulted in the suspension of operations at the Ovacik gold mine, the delayed permission to construct the Çaldağ nickel mine's heap leach pads and processing plant, and the legal proceedings to cancel previously issued licenses for the Cerattepe copper and zinc project, could raise questions about possible future problems with mineral development projects in Turkey.

As a major energy transit corridor, Turkey could connect energy producers in Asia with consumers in Europe. Natural gas from Iran and Russia is piped into Turkey. The south Caucasus gas pipeline is expected to begin deliveries of natural gas to Turkey from Azerbaijan beginning in 2007. Connection of the Turkish natural gas pipeline system with the European gas network could provide an alternative route to allow surplus Eurasian and Iranian natural gas to flow into Europe. In 2006, the Baku-Tbilisi-Ceyhan oil pipeline delivered crude oil from Azerbaijan to the export terminals of the Ceyhan oil docks. Crude oil from Iraq intermittently moved through Turkey to Ceyhan; throughput was limited by the frequent sabotage of the Iraqi section of the pipeline. Regular shipments of crude oil from Iraq are not expected to resume until the security situation in Iraq is resolved.

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TABLE 1 TURKEY: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity	200	2 20	03 2004	2005 ^e	2006 ^e
METALS	200	2 20	2004	2005	2000
Aluminum	62 50	1 ³ 63.0	00 60.000	60,000	60.000
Antimony	02,50	1 05,0	00,000	00,000	00,000
Ore mine output:					
Gross weight	4.80	0 125	$00 20107^{\frac{3}{2}}$	3 28 000	35,000
Shower Sh		0 12,5	50 <u>20,107</u>	1 400	1 800
Concentrates:	23	0 0	50 700	1,400	1,000
Gross weight	1.00	0 2.0	00 3.000	5,000	6,000
Sh content	15	0 2,0	00 700	1 200	1 500
Bauxite and alumina				1,200	1,000
Bauxite ²	287.40	3 364.3	06 365.836	475.349 ³	771.227 ³
Alumina, gross weight	152.86	9 162.1	74 169.991	112.558 3	140.089^{-3}
Chromium gross weight (34% to 43% chromic oxide) ⁴	313.63	7 229.2	94 506.421	688,377 ^{r,3}	457,893 ³
Copper:			,		,
Mine output exclusive of pyrite ⁵					
Gross weight	2 942 72	1 2 620 8	96 2 356 147	2 946 106	2 500 000
Cu content of ore	2,912,72	2,020,0 3 58.0	2,330,117	54 000 r	46 000
Metal:			.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	2 1,000	10,000
Smelter output, primary and secondary	32.55	0 30.4	00 ^e 34.700 ^r	27.600 r	30,000
Refined ^e	41.00	0 45.0	00 64.000 ^r	95.000	106,000
Gold ^{e, 6} kilo	grams 5,00	0 6,5	00 4,500	5,000	4,500
Iron and steel:	<u>o </u>		,,	- ,	,
Iron ore:					
Gross weight thousand metr	ic tons 3,43	3 3.4	29 4,120	4,598 ³	3,251 3
Fe content ^e	do. 1,83	0 1,8	30 2,200	2,450	1,730
Metal:					
Pig iron and ferroalloys:					
Ferrochromium	11,20	0 35,3	93 28,701	26,043 ³	67,975 ³
Ferrosilicon	7,24	5 7,0	00 ^e	4,000	2,000
Pig iron	157,62	2 181,0	80 213,210	215,000	220,000
Steel, crude including castings thousand metric	ic tons 16,04	6 18,2	98 20,478	20,960 ³	23,300
Lead:					
Mine output, Pb and Pb-Zn ores:					
Gross weight	375,59	2 379,2	50 407,637	450,000	400,000
Pb content	17,35	2 17,5	00 18,650	21,000	16,500
Concentrates: ^e					
Gross weight	25,00	0 25,0	00 26,000	29,000	23,000
Pb content	16,00	0 16,0	00 17,000	19,000	15,000
Metal, refined ^e	4,00	0 6,0	6,000	6,000	6,000
Manganese ore, gross weight ⁷	20,00	0 18,0	00 13,751	15,000	35,000
Nickel, mine output, Ni content ^e	N	A 6	40 40	1,000	1,000
Silver, mine output, Ag content ⁸ kilo	grams 79,00	0 95,0	00 73,000 °	80,000	80,000
Zinc:	<u> </u>				
Mine output, Zn and Cu-Zn ore:					
Gross weight thousand metr	ic tons 89	5 9	30 765	1,000	1,500
Zn content	do. 4	6	47 44	50	80
Concentrates: ^e					
Gross weight	49,00	0 49,0	00 49,000	53,000	90,000
Zn content	33,10	0 33,6	00 33,400	36,000	60,000
INDUSTRIAL MINERALS					
Aluminum sulfate, alunite	11,38	9 10,4	58 10,920	11,000	11,000
Barite, crude	106,84	3 119,6	48 134,504	157,179 ³	200,000
Boron minerals:					
Run of mine	2,214,06	4 2,207,0	92 2,878,930	3,478,784 ^{r, 3}	3,955,574 ³
Concentrates	1,368,00	0 1,399,0	00 1,587,992 ^r	1,824,571 ^{r, 3}	1,818,944 ³
Refined borates	436,00	0 518,0	00 714,538 ^r	923,253 ^{r, 3}	1,021,139 ³
Cement, hydraulic thousand metr	ic tons 32,57	6 35,0	77 38,796	42,787 ³	47,977 ³

See footnotes at end of table.

TABLE 1--Continued TURKEY: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity	2002	2003	2004	2005 ^e	2006 ^e
INDUSTRIAL MINERALSContinued					
Clays:					
Bentonite	559,224	831,146	850,000 °	925,000	1,000,000
Kaolin	372,344	370,455	536,008	580,000	650,000
Other	2,500,000	2,500,000	2,750,000	2,750,000	3,000,000
Diatomite	10,000	10,000	10,000	10,000	11,000
Emery	15,418	15,402	7,902	12,000	13,000
Feldspar, run of mine	1,766,387	1,862,310	1,983,336	2,331,971	2,900,000
Fluorspar	5,344	/18	880	800	1,000
Glass, crude thousand metric tons	1,242	1,315	1,229	1,058	2,518
Graphite, run of mine	1,393	942	1,000	6,000	8,000
Cypsum, other than that for cement	204,038	190,008	250,099	250,000	300,000
Lime ¹⁷ Inousand metric tons	3,300	3,300	3,400	3,400	3,500
Nitrogen N content of emmonie	3,044,440	3,224,278	3,732,952	3,400,000	2,088,055
Derlite, mu of mino	151.002	269,500	122 820	156 025 F. ³	100,000
Perine, run or mine	131,902	130,083	155,629	1 000 000	120,000
Pullice	820,347	893,010 1 102 872	1,055,975	1,000,000	930,000
Fyrites, cupreous, gross weight	300	1,105,872	150	170	900,000
Silica cand gross weight thousand metric tons	1 274	1 283	1 188	1 200	1 200
Sinca sand, gross weight thousand metric tons	1,274	1,205	1,100	1,200	1,200
Solt NaCl all types do	2 107	2 2/3	2 158	2 253 r, 3	2 800
Sada seh trops ^e do	825	835	2,150	850	2,800
Sodium sulfate concentrates	562 660	556 575	523 285	550,000	550,000
Stone:	562,000	550,575	525,205	550,000	550,000
Dolomite	975.971	1,158,539	2,109,362	2,200,000	2.500.000
Limestone, other than for cement thousand metric tons	30.261	28.609	30.963	35.000	40.000
Marble cubic meters	557.630	544.629	668,996	800.000	1.200.000
Ouartzite	2.006.654	2.908.584	2.961.932	3.200.000	3.400.000
Strontium minerals, celestite: ^e	,,	, ,	,- ,- ,	-, -,	-, -,
Run of mine	116,278 ³	116,000 ³	100,000	100,000	20,000
Concentrates	70,000	70,000	60,000	60,000	12,000
4					
Sulfur:					
Sulfur:" Byproduct:					
Sulfur: [°] Byproduct: Petroleum	48,000 ³	42,000	49,000 ³	54,000 ³	55,000
Sulfur: [°] Byproduct: Petroleum Other	48,000 ³ 75,000	42,000 46,000	49,000 ³ 19,000	54,000 ³ 20,000	55,000 15,000
Sulfur: Byproduct: Petroleum Other S content of pyrites	48,000 ³ 75,000 34,000	42,000 46,000 28,000	49,000 ³ 19,000 20,000	54,000 ³ 20,000 20,000	55,000 15,000 20,000
Sulfur:° Byproduct: Petroleum Other S content of pyrites Total	48,000 ³ 75,000 <u>34,000</u> 157,000	42,000 46,000 28,000 116,000	49,000 ³ 19,000 20,000 88,000	54,000 ³ 20,000 20,000 94,000	55,000 15,000 20,000 90,000
Sulfur:° Byproduct: Petroleum Other S content of pyrites Total Talc	48,000 ³ 75,000 34,000 157,000 98	42,000 46,000 28,000 116,000 60	49,000 ³ 19,000 20,000 88,000 60	54,000 ³ 20,000 20,000 94,000 100	55,000 15,000 20,000 90,000 100
Sulfur:° Byproduct: Petroleum Other S content of pyrites Total Talc MINERAL FUELS AND RELATED MATERIALS	48,000 ³ 75,000 34,000 157,000 98	42,000 46,000 28,000 116,000 60	49,000 ³ 19,000 20,000 88,000 60	54,000 ³ 20,000 20,000 94,000 100	55,000 15,000 20,000 90,000 100
Sulfur:° Byproduct: Petroleum Other S content of pyrites Total Talc MINERAL FUELS AND RELATED MATERIALS Asphalt, natural	48,000 ³ 75,000 34,000 157,000 98 118,235	42,000 46,000 28,000 116,000 60 217,759	49,000 ³ 19,000 20,000 88,000 60 738,915	54,000 ³ 20,000 20,000 94,000 100 1,761,500 ^{r. 3}	55,000 15,000 20,000 90,000 100 2,220,400 ³
Sulfur:° Byproduct: Petroleum Other S content of pyrites Total Talc MINERAL FUELS AND RELATED MATERIALS Asphalt, natural Carbon black	48,000 ³ 75,000 34,000 157,000 98 118,235 37,413	42,000 46,000 28,000 116,000 60 217,759 6,754	49,000 ³ 19,000 20,000 88,000 60 738,915 32,686	54,000 ³ 20,000 20,000 94,000 100 1,761,500 ^{r. 3} 26,820 ³	55,000 15,000 20,000 90,000 100 2,220,400 ³ 51,788 ³
Sulfur:° Byproduct: Petroleum Other S content of pyrites Total Talc MINERAL FUELS AND RELATED MATERIALS Asphalt, natural Carbon black Coal:	48,000 ³ 75,000 34,000 157,000 98 118,235 37,413	42,000 46,000 28,000 116,000 60 217,759 6,754	49,000 ³ 19,000 20,000 88,000 60 738,915 32,686	54,000 ³ 20,000 20,000 94,000 100 1,761,500 ^{r. 3} 26,820 ³	55,000 15,000 20,000 90,000 100 2,220,400 ³ 51,788 ³
Sulfur:° Byproduct: Petroleum Other S content of pyrites Total Talc MINERAL FUELS AND RELATED MATERIALS Asphalt, natural Carbon black Coal: Hard coal, run of mine thousand metric tons	48,000 ³ 75,000 34,000 157,000 98 118,235 37,413 3,313 40,627	42,000 46,000 28,000 116,000 60 217,759 6,754 3,090 42,740	49,000 ³ 19,000 20,000 88,000 60 738,915 32,686 2,843 42,754	54,000 ³ 20,000 20,000 94,000 100 1,761,500 ^{r. 3} 26,820 ³ 3,050 ³ 55 (26 ³	$55,000 \\ 15,000 \\ 20,000 \\ 90,000 \\ 100 \\ 2,220,400 \\ ^{3} \\ 51,788 \\ ^{3} \\ 3,071 \\ ^{3} \\ (1,000 \\ ^{3})$
Sulfur:° Byproduct: Petroleum Other S content of pyrites Total Talc MINERAL FUELS AND RELATED MATERIALS Asphalt, natural Carbon black Coal: Hard coal, run of mine Lignite, run of mine do. Carbon doamiacho	$ \begin{array}{r} 48,000 \\ 75,000 \\ 34,000 \\ 157,000 \\ 98 \\ 118,235 \\ 37,413 \\ 3,313 \\ 49,627 \\ 2,080 \\ \end{array} $	42,000 46,000 28,000 116,000 60 217,759 6,754 3,090 43,749 2,543	$ \begin{array}{r} 49,000 \\ 19,000 \\ 20,000 \\ 88,000 \\ 60 \\ 738,915 \\ 32,686 \\ 2,843 \\ 43,754 \\ 2,855 \\ \end{array} $	$54,000 \ {}^{3}$ $20,000$ $20,000$ $94,000$ 100 $1,761,500 \ {}^{r.3}$ $26,820 \ {}^{3}$ $3,050 \ {}^{3}$ $55,626 \ {}^{3}$ $2,800$	$55,000 \\ 15,000 \\ 20,000 \\ 90,000 \\ 100 \\ 2,220,400 \\ 3 \\ 51,788 \\ 3 \\ 3,071 \\ 3 \\ 61,006 \\ 3 \\ 3 \\ 61,006 \\ 3 \\ 3 \\ 3 \\ 3,071 \\ 3 \\ 61,006 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ $
Sulfur: Byproduct: Petroleum Other S content of pyrites Total Talc MINERAL FUELS AND RELATED MATERIALS Asphalt, natural Carbon black Coal: Hard coal, run of mine Lignite, run of mine do. Coke and semicoke do. Coke and semicoke	48,000 ³ 75,000 34,000 157,000 98 118,235 37,413 3,313 49,627 2,080 268,000 ^{\$}	42,000 46,000 28,000 116,000 60 217,759 6,754 3,090 43,749 2,543 275 047	$ \begin{array}{r} 49,000 \\ 19,000 \\ 20,000 \\ 88,000 \\ 60 \\ 738,915 \\ 32,686 \\ 2,843 \\ 43,754 \\ 2,855 \\ 2444 106 \\ \end{array} $	54,000 ³ 20,000 20,000 94,000 100 1,761,500 ^{r. 3} 26,820 ³ 3,050 ³ 55,626 ³ 2,800 600,000	$55,000 \\ 15,000 \\ 20,000 \\ 90,000 \\ 100 \\ 2,220,400 \\ ^{3} \\ 51,788 \\ ^{3} \\ 3,071 \\ ^{3} \\ 61,006 \\ ^{3} \\ 750,000 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ $
Sulfur:° Byproduct: Petroleum Other S content of pyrites Total Talc MINERAL FUELS AND RELATED MATERIALS Asphalt, natural Carbon black Coal: Hard coal, run of mine Lignite, run of mine do. Coke and semicoke do. Petroleum:	48,000 ³ 75,000 34,000 157,000 98 118,235 37,413 3,313 49,627 2,080 268,000 °	42,000 46,000 28,000 116,000 60 217,759 6,754 3,090 43,749 2,543 275,947	$\begin{array}{r} 49,000 \\ 19,000 \\ 20,000 \\ \hline \\ 88,000 \\ 60 \\ \hline \\ 738,915 \\ 32,686 \\ \hline \\ 2,843 \\ 43,754 \\ 2,855 \\ 344,196 \\ \hline \end{array}$	$\begin{array}{r} 54,000 & {}^3\\ 20,000\\ 20,000\\ 94,000\\ 100\\ 1,761,500 & {}^{\mathrm{r}}.{}^3\\ 26,820 & {}^3\\ 3,050 & {}^3\\ 55,626 & {}^3\\ 2,800\\ 600,000\\ \end{array}$	$55,000 \\ 15,000 \\ 20,000 \\ 100 \\ 2,220,400 \\ 3 \\ 51,788 \\ 3 \\ 3,071 \\ 3 \\ 61,006 \\ 3 \\ 750,000 \\$
Sulfur:° Byproduct: Petroleum Other S content of pyrites Total Talc MINERAL FUELS AND RELATED MATERIALS Asphalt, natural Carbon black Coal: Hard coal, run of mine Lignite, run of mine do. Coke and semicoke do. Gas, natural, marketed Petroleum: Crude thousand 42 gallon barrels	48,000 ³ 75,000 34,000 157,000 98 118,235 37,413 3,313 49,627 2,080 268,000 °	42,000 46,000 28,000 116,000 60 217,759 6,754 3,090 43,749 2,543 275,947 16,980	$ \begin{array}{r} 49,000 \\ 19,000 \\ 20,000 \\ 88,000 \\ 60 \\ 738,915 \\ 32,686 \\ 2,843 \\ 43,754 \\ 2,855 \\ 344,196 \\ 16,270 \\ \end{array} $	54,000 ³ 20,000 20,000 94,000 100 1,761,500 ^{r. 3} 26,820 ³ 3,050 ³ 55,626 ³ 2,800 600,000	$55,000 \\ 15,000 \\ 20,000 \\ 90,000 \\ 100 \\ 2,220,400 \\ ^{3} \\ 51,788 \\ ^{3} \\ 3,071 \\ ^{3} \\ 61,006 \\ ^{3} \\ 750,000 \\ 13,600 \\ \end{array}$
Sulfur:° Byproduct: Petroleum Other S content of pyrites Total Talc MINERAL FUELS AND RELATED MATERIALS Asphalt, natural Carbon black Coal: Hard coal, run of mine Lignite, run of mine do. Coke and semicoke do. Gas, natural, marketed Petroleum: Crude thousand 42-gallon barrels	48,000 ³ 75,000 34,000 157,000 98 118,235 37,413 3,313 49,627 2,080 268,000 ° 17,579	42,000 46,000 28,000 116,000 60 217,759 6,754 3,090 43,749 2,543 275,947 16,980	$\begin{array}{r} 49,000 \\ 19,000 \\ 20,000 \\ \hline \\ 88,000 \\ 60 \\ \hline \\ 738,915 \\ 32,686 \\ \hline \\ 2,843 \\ 43,754 \\ 2,855 \\ 344,196 \\ \hline \\ 16,270 \\ \hline \end{array}$	$\begin{array}{r} 54,000 & {}^3\\ 20,000\\ 20,000\\ 94,000\\ 100\\ 1,761,500 & {}^{\text{r.3}}\\ 26,820 & {}^3\\ 3,050 & {}^3\\ 55,626 & {}^3\\ 2,800\\ 600,000\\ 16,500\\ \end{array}$	$55,000 \\ 15,000 \\ 20,000 \\ 90,000 \\ 100 \\ 2,220,400 \\ ^{3} \\ 51,788 \\ ^{3} \\ 3,071 \\ ^{3} \\ 61,006 \\ ^{3} \\ 750,000 \\ 13,600 \\ \end{array}$
Sulfur:° Byproduct: Petroleum Other S content of pyrites Total Talc MINERAL FUELS AND RELATED MATERIALS Asphalt, natural Carbon black Coal: Hard coal, run of mine Lignite, run of mine do. Coke and semicoke do. Gas, natural, marketed thousand cubic meters Petroleum: Crude thousand 42-gallon barrels Refinery products: Liquefied petroleum gas	48,000 ³ 75,000 34,000 157,000 98 118,235 37,413 3,313 49,627 2,080 268,000 ^e 17,579 8,580	42,000 46,000 28,000 116,000 60 217,759 6,754 3,090 43,749 2,543 275,947 16,980 7,960	49,000 ³ 19,000 20,000 88,000 60 738,915 32,686 2,843 43,754 2,855 344,196 16,270 8 340	54,000 ³ 20,000 20,000 94,000 100 1,761,500 ^{r. 3} 26,820 ³ 3,050 ³ 55,626 ³ 2,800 600,000 16,500	$55,000 \\ 15,000 \\ 20,000 \\ 90,000 \\ 100 \\ 2,220,400 \\ ^{3} \\ 51,788 \\ ^{3} \\ 3,071 \\ ^{3} \\ 61,006 \\ ^{3} \\ 750,000 \\ 13,600 \\ 9,300 \\ \end{array}$
Sulfur:° Byproduct: Petroleum Other S content of pyrites Total Talc MINERAL FUELS AND RELATED MATERIALS Asphalt, natural Carbon black Coal: Hard coal, run of mine Lignite, run of mine do. Coke and semicoke do. Gas, natural, marketed thousand cubic meters Petroleum: Crude thousand 42-gallon barrels Refinery products: Liquefied petroleum gas do.	48,000 ³ 75,000 34,000 157,000 98 118,235 37,413 3,313 49,627 2,080 268,000 ^c 17,579 8,580 31,634	42,000 46,000 28,000 116,000 60 217,759 6,754 3,090 43,749 2,543 275,947 16,980 7,960 28,800	$\begin{array}{r} 49,000 \\ 3\\ 19,000\\ 20,000\\ 88,000\\ 60\\ 738,915\\ 32,686\\ 2,843\\ 43,754\\ 2,855\\ 344,196\\ 16,270\\ \hline 8,340\\ 27,350\\ \end{array}$	54,000 ³ 20,000 20,000 94,000 100 1,761,500 ^{r. 3} 26,820 ³ 3,050 ³ 55,626 ³ 2,800 600,000 16,500 8,900 30,300	$55,000 \\ 15,000 \\ 20,000 \\ 90,000 \\ 100 \\ 2,220,400 \\ ^{3} \\ 51,788 \\ ^{3} \\ 3,071 \\ ^{3} \\ 61,006 \\ ^{3} \\ 750,000 \\ 13,600 \\ 9,300 \\ 30,800 \\ \end{array}$
Sulfur: ^c Byproduct: Petroleum Other S content of pyrites Total Talc MINERAL FUELS AND RELATED MATERIALS Asphalt, natural Carbon black Coal: Hard coal, run of mine thousand metric tons Lignite, run of mine do. Gas, natural, marketed thousand cubic meters Petroleum: Crude thousand 42-gallon barrels Refinery products: Liquefied petroleum gas do. Gasoline do.	48,000 ³ 75,000 34,000 157,000 98 118,235 37,413 3,313 49,627 2,080 268,000 ° 17,579 8,580 31,634 11,947	42,000 46,000 28,000 116,000 60 217,759 6,754 3,090 43,749 2,543 275,947 16,980 7,960 28,800 10,700	$\begin{array}{r} 49,000 \\ \hline 3 \\ 19,000 \\ 20,000 \\ \hline 88,000 \\ 60 \\ \hline 738,915 \\ 32,686 \\ \hline 2,843 \\ 43,754 \\ 2,855 \\ 344,196 \\ \hline 16,270 \\ \hline 8,340 \\ 27,350 \\ 12,700 \\ \hline \end{array}$	$\begin{array}{c} 54,000 \\ 20,000 \\ 20,000 \\ 94,000 \\ 100 \\ 1,761,500 \\ 1,761,500 \\ 3,050 \\ 3 \\ 55,626 \\ 3 \\ 2,800 \\ 600,000 \\ \hline 16,500 \\ \hline 8,900 \\ 30,300 \\ 11,500 \\ \end{array}$	$55,000 \\ 15,000 \\ 20,000 \\ 90,000 \\ 100 \\ 2,220,400 \\ ^{3} \\ 51,788 \\ ^{3} \\ 3,071 \\ ^{3} \\ 61,006 \\ ^{3} \\ 750,000 \\ 13,600 \\ 9,300 \\ 30,800 \\ 11,500 \\ \end{array}$
Sulfur: ^c Byproduct: Petroleum Other S content of pyrites Total Talc MINERAL FUELS AND RELATED MATERIALS Asphalt, natural Carbon black Coal: Hard coal, run of mine thousand metric tons Lignite, run of mine do. Gas, natural, marketed thousand cubic meters Petroleum: Crude thousand 42-gallon barrels Refinery products: Liquefied petroleum gas do. Maphtha do. Jet fuel do	48,000 ³ 75,000 34,000 157,000 98 118,235 37,413 3,313 49,627 2,080 268,000 ° 17,579 8,580 31,634 11,947 9,368	42,000 46,000 28,000 116,000 60 217,759 6,754 3,090 43,749 2,543 275,947 16,980 7,960 28,800 10,700 13,300	$\begin{array}{r} 49,000 \\ \hline 3 \\ 19,000 \\ 20,000 \\ \hline 88,000 \\ 60 \\ \hline 738,915 \\ 32,686 \\ \hline 2,843 \\ 43,754 \\ 2,855 \\ 344,196 \\ \hline 16,270 \\ \hline 8,340 \\ 27,350 \\ 12,700 \\ 14,000 \\ \hline \end{array}$	$\begin{array}{r} 54,000 & {}^3\\ 20,000\\ 20,000\\ 94,000\\ 100\\ 1,761,500 & {}^{r.3}\\ 26,820 & {}^3\\ 3,050 & {}^3\\ 55,626 & {}^3\\ 2,800\\ 600,000\\ \hline 16,500\\ \hline \\ 8,900\\ 30,300\\ 11,500\\ 15,800\\ \end{array}$	$55,000 \\ 15,000 \\ 20,000 \\ 90,000 \\ 100 \\ 2,220,400 \\ ^3 \\ 51,788 \\ ^3 \\ 3,071 \\ ^3 \\ 61,006 \\ ^3 \\ 750,000 \\ 13,600 \\ 9,300 \\ 30,800 \\ 11,500 \\ 16,900 \\ \end{cases}$
Sulfur: ^c Byproduct: Petroleum Other S content of pyrites Total Talc MINERAL FUELS AND RELATED MATERIALS Asphalt, natural Carbon black Coal: Hard coal, run of mine thousand metric tons Lignite, run of mine do. Gas, natural, marketed thousand cubic meters Petroleum: Crude thousand 42-gallon barrels Refinery products: Liquefied petroleum gas do. Maphtha do. Jet fuel do.	48,000 ³ 75,000 34,000 157,000 98 118,235 37,413 3,313 49,627 2,080 268,000 ° 17,579 8,580 31,634 11,947 9,368 312	42,000 46,000 28,000 116,000 60 217,759 6,754 3,090 43,749 2,543 275,947 16,980 7,960 28,800 10,700 13,300 540	$\begin{array}{r} 49,000 \\ 3\\ 19,000\\ 20,000\\ \hline \\ 88,000\\ 60\\ \hline \\ 738,915\\ 32,686\\ \hline \\ 2,843\\ 43,754\\ 2,855\\ 344,196\\ \hline \\ 16,270\\ \hline \\ 8,340\\ 27,350\\ 12,700\\ 14,000\\ 340\\ \end{array}$	$\begin{array}{c} 54,000 \\ 20,000 \\ 20,000 \\ 94,000 \\ 100 \\ 1,761,500 \\ 1,761,500 \\ 3,050 \\ 3 \\ 55,626 \\ 3 \\ 2,800 \\ 600,000 \\ \hline 16,500 \\ \hline 8,900 \\ 30,300 \\ 11,500 \\ 15,800 \\ 124 \\ \end{array}$	$\begin{array}{c} 55,000\\ 15,000\\ 20,000\\ 90,000\\ 100\\ 2,220,400 \\ ^{3}\\ 51,788 \\ ^{3}\\ 3,071 \\ ^{3}\\ 61,006 \\ ^{3}\\ 750,000\\ 13,600\\ \hline \\ 9,300\\ 30,800\\ 11,500\\ 16,900\\ 200\\ \end{array}$
Sulfur: ^c Byproduct: Petroleum Other S content of pyrites Total Talc MINERAL FUELS AND RELATED MATERIALS Asphalt, natural Carbon black Coal: Hard coal, run of mine thousand metric tons Lignite, run of mine do. Coke and semicoke do. Gas, natural, marketed thousand cubic meters Petroleum: Crude thousand 42-gallon barrels Refinery products: Liquefied petroleum gas do. Gasoline do. Jet fuel do. Distillate fuel oil ¹⁰ do.	48,000 ³ 75,000 34,000 157,000 98 118,235 37,413 3,313 49,627 2,080 268,000 ° 17,579 8,580 31,634 11,947 9,368 312 59,281	42,000 46,000 28,000 116,000 60 217,759 6,754 3,090 43,749 2,543 275,947 16,980 7,960 28,800 10,700 13,300 540 53,800	49,000 ³ 19,000 20,000 88,000 60 738,915 32,686 2,843 43,754 2,855 344,196 16,270 8,340 27,350 12,700 14,000 340 53,660	54,000 ³ 20,000 20,000 94,000 100 1,761,500 ^{r. 3} 26,820 ³ 3,050 ³ 55,626 ³ 2,800 600,000 16,500 8,900 30,300 11,500 15,800 124 56,400	$\begin{array}{c} 55,000\\ 15,000\\ 20,000\\ 90,000\\ 100\\ 2,220,400 \overset{3}{}\\ 51,788 \overset{3}{}\\ 3,071 \overset{3}{}\\ 61,006 \overset{3}{}\\ 750,000\\ 13,600\\ 9,300\\ 30,800\\ 11,500\\ 16,900\\ 200\\ 56,800\\ \end{array}$
Sulfur: ^c Byproduct: Petroleum Other S content of pyrites Total Talc MINERAL FUELS AND RELATED MATERIALS Asphalt, natural Carbon black Coal: Hard coal, run of mine thousand metric tons Lignite, run of mine do. Coke and semicoke do. Gas, natural, marketed thousand cubic meters Petroleum: Crude thousand 42-gallon barrels Refinery products: Liquefied petroleum gas do. Maphtha do. Jet fuel do. Liguite fuel oil ¹⁰ do. Lubricants do.	48,000 ³ 75,000 34,000 157,000 98 118,235 37,413 3,313 49,627 2,080 268,000 ^c 17,579 8,580 31,634 11,947 9,368 312 59,281 2,090	42,000 46,000 28,000 116,000 60 217,759 6,754 3,090 43,749 2,543 275,947 16,980 7,960 28,800 10,700 13,300 540 53,800 1,960	$\begin{array}{r} 49,000 \\ \hline 3 \\ 19,000 \\ 20,000 \\ \hline 20,000 \\ \hline 88,000 \\ 60 \\ \hline 738,915 \\ 32,686 \\ \hline 2,843 \\ 43,754 \\ 2,855 \\ 344,196 \\ \hline 16,270 \\ \hline 8,340 \\ 27,350 \\ 12,700 \\ 14,000 \\ 340 \\ 53,660 \\ 2,050 \\ \hline \end{array}$	54,000 ³ 20,000 20,000 94,000 100 1,761,500 ^{r. 3} 26,820 ³ 3,050 ³ 55,626 ³ 2,800 600,000 16,500 8,900 30,300 11,500 15,800 124 56,400 2,400	$\begin{array}{c} 55,000\\ 15,000\\ 20,000\\ 90,000\\ 100\\ 2,220,400 \overset{3}{}\\ 51,788 \overset{3}{}\\ 3,071 \overset{3}{}\\ 61,006 \overset{3}{}\\ 750,000\\ 13,600\\ 9,300\\ 30,800\\ 11,500\\ 16,900\\ 200\\ 56,800\\ 2,300\\ \end{array}$
Sulfur: ^c Byproduct: Petroleum Other S content of pyrites Total Talc MINERAL FUELS AND RELATED MATERIALS Asphalt, natural Carbon black Coal: Hard coal, run of mine thousand metric tons Lignite, run of mine do. Coke and semicoke do. Gas, natural, marketed thousand cubic meters Petroleum: Crude thousand 42-gallon barrels Refinery products: Liquefied petroleum gas do. Gasoline do. Jet fuel do. Maphtha do. Lubricants do. Residual fuel oil do.	48,000 ³ 75,000 34,000 157,000 98 118,235 37,413 3,313 49,627 2,080 268,000 ^c 17,579 8,580 31,634 11,947 9,368 312 59,281 2,090 53,077	42,000 46,000 28,000 116,000 60 217,759 6,754 3,090 43,749 2,543 275,947 16,980 7,960 28,800 10,700 13,300 540 53,800 1,960 38,600	$\begin{array}{r} 49,000 \\ 3\\ 19,000\\ 20,000\\ \hline \\ 88,000\\ 60\\ \hline \\ 738,915\\ 32,686\\ \hline \\ 2,843\\ 43,754\\ 2,855\\ 344,196\\ \hline \\ 16,270\\ \hline \\ 8,340\\ 27,350\\ 12,700\\ 14,000\\ 340\\ 53,660\\ 2,050\\ 40,270\\ \hline \end{array}$	54,000 ³ 20,000 20,000 94,000 100 1,761,500 ^{r. 3} 26,820 ³ 3,050 ³ 55,626 ³ 2,800 600,000 16,500 8,900 30,300 11,500 15,800 124 56,400 2,400 42,100	$\begin{array}{c} 55,000\\ 15,000\\ 20,000\\ 90,000\\ 100\\ 2,220,400 \overset{3}{}\\ 51,788 \overset{3}{}\\ 3,071 \overset{3}{}\\ 61,006 \overset{3}{}\\ 750,000\\ 13,600\\ 9,300\\ 30,800\\ 11,500\\ 16,900\\ 200\\ 56,800\\ 2,300\\ 36,600\\ \end{array}$
Sulfur: ^c Byproduct: Petroleum Other S content of pyrites Total Talc MINERAL FUELS AND RELATED MATERIALS Asphalt, natural Carbon black Coal: Hard coal, run of mine thousand metric tons Lignite, run of mine do. Coke and semicoke do. Gas, natural, marketed thousand cubic meters Petroleum: Crude thousand 42-gallon barrels Refinery products: Liquefied petroleum gas do. Gasoline do. Jet fuel do. Maphtha do. Lubricants do. Asphalt do.	48,000 ³ 75,000 34,000 157,000 98 118,235 37,413 3,313 49,627 2,080 268,000 ^e 17,579 8,580 31,634 11,947 9,368 312 59,281 2,090 53,077 7,548	42,000 46,000 28,000 116,000 60 217,759 6,754 3,090 43,749 2,543 275,947 16,980 7,960 28,800 10,700 13,300 540 53,800 1,960 38,600 8,550	$\begin{array}{r} 49,000 \\ 3\\ 19,000\\ 20,000\\ \hline \\ 88,000\\ 60\\ \hline \\ 738,915\\ 32,686\\ \hline \\ 2,843\\ 43,754\\ 2,855\\ 344,196\\ \hline \\ 16,270\\ \hline \\ 8,340\\ 27,350\\ 12,700\\ 14,000\\ 340\\ 53,660\\ 2,050\\ 40,270\\ 8,430\\ \hline \end{array}$	54,000 ³ 20,000 20,000 94,000 100 1,761,500 ^{г. 3} 26,820 ³ 3,050 ³ 55,626 ³ 2,800 600,000 16,500 8,900 30,300 11,500 15,800 124 56,400 2,400 42,100 10,700	$\begin{array}{c} 55,000\\ 15,000\\ 20,000\\ 90,000\\ 100\\ 2,220,400 \overset{3}{}\\ 51,788 \overset{3}{}\\ 3,071 \overset{3}{}\\ 61,006 \overset{3}{}\\ 750,000\\ 13,600\\ 9,300\\ 30,800\\ 11,500\\ 16,900\\ 200\\ 56,800\\ 2,300\\ 36,600\\ 13,400\\ \end{array}$
Sulfur: ^c Byproduct: Petroleum Other S content of pyrites Total Talc MINERAL FUELS AND RELATED MATERIALS Asphalt, natural Carbon black Coal: Hard coal, run of mine thousand metric tons Lignite, run of mine do. Coke and semicoke do. Gas, natural, marketed thousand cubic meters Petroleum: Crude thousand 42-gallon barrels Refinery products: Liquefied petroleum gas do. Maphtha do. Jet fuel do. Maphtha do. Lubricants do. Residual fuel oil do. Maphalt do.	48,000 ³ 75,000 34,000 157,000 98 118,235 37,413 3,313 49,627 2,080 268,000 ^e 17,579 8,580 31,634 11,947 9,368 312 59,281 2,090 53,077 7,548 6,125	42,000 46,000 28,000 116,000 60 217,759 6,754 3,090 43,749 2,543 275,947 16,980 7,960 28,800 10,700 13,300 540 53,800 1,960 38,600 8,550 2,640	$\begin{array}{r} 49,000 \\ 3\\ 19,000\\ 20,000\\ \hline \\ 88,000\\ 60\\ \hline \\ 738,915\\ 32,686\\ \hline \\ 2,843\\ 43,754\\ 2,855\\ 344,196\\ \hline \\ 16,270\\ \hline \\ 8,340\\ 27,350\\ 12,700\\ 14,000\\ 340\\ 53,660\\ 2,050\\ 40,270\\ 8,430\\ 3,610\\ \hline \end{array}$	54,000 ³ 20,000 20,000 94,000 100 1,761,500 ^{г. 3} 26,820 ³ 3,050 ³ 55,626 ³ 2,800 600,000 16,500 8,900 30,300 11,500 15,800 124 56,400 2,400 42,100 10,700 1,050	$\begin{array}{c} 55,000\\ 15,000\\ 20,000\\ 90,000\\ 100\\ 2,220,400 \overset{3}{}\\ 51,788 \overset{3}{}\\ 3,071 \overset{3}{}\\ 61,006 \overset{3}{}\\ 750,000\\ 13,600\\ 9,300\\ 30,800\\ 11,500\\ 16,900\\ 200\\ 56,800\\ 2,300\\ 36,600\\ 13,400\\ 5,300\\ \end{array}$

See footnotes at end of table.

TABLE 1--Continued TURKEY: PRODUCTION OF MINERAL COMMODITIES¹

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ^rRevised. NA Not available. -- Zero. ¹Table includes data available through November 16, 2007. In addition to the commodities listed, large quantities of construction materials (clay, and sand and gravel) are quarried. Also mined are basalt, diabase, granite, onyx, sandstone, serpentine, slate, and travertine for building stone; limestone and gypsum for cement manufacture; and garnet, iron oxide pigment, molybdenum, olivine, titanium, tungsten, and zeolite, but available information is inadequate to make estimates of output. Asbestos also may have been produced in 2006.

²Data are for public sector production only. Data for private sector production are not available, but production is believed to be approximately 30,000 metric tons per year.

³Reported figure.

⁴Approximately 70% of gross production is salable product.

⁵Copper 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.

⁶Data includes estimated content of Turkish copper refinery tankhouse slimes.

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

⁸Includes estimated content of base-metals-refinery tankhouse slimes.

⁹Estimated sales only.

¹⁰Diesel fuel (gasoil) and special heating oil.

¹¹Includes refinery fuel and losses.