

THE MINERAL INDUSTRY OF

HUNGARY

By Walter G. Steblez

Bauxite was the only major nonfuel mineral produced in Hungary that was significant in terms of European mineral production. In 1995, Hungary continued to produce modest amounts of fossil fuels, industrial minerals, and metals. However, the country's production of primary aluminum had almost ceased, owing to Hungary's energy shortages. Coal, natural gas, and petroleum also were produced, but in amounts sufficient to satisfy only about one-half of the country's annual energy needs. Hungary's transition from central economic planning to a market-based economic system continued to require corresponding structural changes in the economy. Among the major changes in this transition process was the gradual severance of state subsidies to industries and other commercial enterprises. Hungary's minerals industries increasingly had to rely on markets for continued operations and also have rising levels of unemployment, declines of production, and possible bankruptcy.

In 1995, Hungary's real GDP was expected to increase by about 2% compared with that of 1994.¹⁰ In 1994, the GDP of Hungary grew by more than 2%, following several years of economic dislocation resulting from structural economic changes and the reorientation of country's foreign trade. The chief events in the Hungary's minerals industries in 1995 included further gold exploration work at Recsk, the announced closure of the Mecsek uranium mine, and the renewal of the Hungarian-Russian alumina for aluminum agreement.

The Government of Hungary remained committed to the process of restructuring and denationalizing its state-owned industrial assets. By 1995, about 60% of Hungary's GDP was composed of private sector activity. Moreover, the Government planned to accelerate the privatization of the country's state-owned enterprises. According to the new law on privatization, the Government planned to decouple all branches of the mineral industry from state control including those of strategic importance to the country, such as the Hungarian Oil and Gas Co. (MOL) and the Mecsek Ore Mining Co., Hungary's uranium ore mining and processing firm.² The Hungarian Government's Decree No. 132/1993, constituted the country's latest Mining Law (section 50. of Act XLVIII, 1993), which, among many functions, established the legislative basis for the "estimation of national mineral reserves, (the) determination of environmental and other risks of exploitation; (provision of)

geological and geophysical data supply and recommendation for mineral exploration, aimed at the selection of areas suitable for concession; (the) supply of geological data packages for concession tenders; (and the) provision of other geological, hydrogeologic, geotechnical, environmental, and mining information to outline tender conditions."

The overall neglect of the environment by Hungary's former Government from 1948 to 1989 resulted in considerable degradation of the country's air, and, in some cases, ground and surface waters from industrial point sources, such as chemical plants, mines, steel mills, and refineries. The use of high-sulfur brown coals and lignites at the country's thermal electric power stations heavily contributed to high concentrations of sulfur dioxide, nitrous oxide, and suspended solid particulates. The draft of the new environmental protection law, titled, "The Basic Laws on the Environment," reportedly was to establish regulations on environmental protection, conservation, and regional development. Government agencies that have been responsible for enforcing existing regulations concerning environmental protection included the Ministry of the Environment and Regional Planning (KTM) and the Hungarian Mining Office (MBH). KTM was authorized to help only in the enforcement of existing environmental protection legislation prescribed by other ministries of the Government. With respect to mining and minerals, Hungary's Ministry of Industry and Commerce had the primary responsibility for establishing environmental regulatory standards. The chief responsibility of MBH was that of a certifying agency. Reportedly, MBH could review only technical developmental and operational plans, which had to include provisions concerning environmental protection and land restoration by responsible entities, and oversee their compliance.

Hungary's generally declining trend in minerals output after 1989 largely was the result of structural adjustments during the emergence of a market-based economic system. From 1993 to 1995, the country's commodity production trends have been showing a growing correspondence to market demand as opposed to industrial output during the period of central economic planning, when production targets were set without reference to costs, efficiency, and other economic variables. (*See table 1.*) Consequently, stabilization of output of most minerals became evident in 1993-95. Similarly, Hungary's mineral resources are being

evaluated and reexamined with reference to market criteria. Reserves, as defined by most market economies, are those mineral deposits that can be mined at a profit under existing conditions with existing technology. In CMEA countries, including Hungary, the previous policies for centrally planned industrial development often had more to do with political rather than economic considerations. The chief principle of industrial development was to attain self-sufficiency at all costs. Centrally planned directives to discover exploitable resources may have resulted in possible over evaluations of collected field data. Consequently, it could take Hungary a number of years to determine its real mineral reserves from the standpoint of a market economy. The information provided in table 2 lists the names of administrative bodies as well as subordinate production units of the main branches of the country's mineral industry. (*See table 2.*)

The republics of the former Soviet Union (FSU) remained Hungary's major mineral trading partners.

In 1993, for which more complete trade returns were available, the FSU continued to supply Hungary with almost 100% of its import needs of natural gas and petroleum. Additionally, in 1993, of Hungary's imports of coal (all grades), iron ore, pig iron, ferromanganese, and ferrosilicon from the FSU amounted to 33%, 92%, 37%, 49%, and 58% of total imports of these commodities, respectively. However, the overall volume (and value) of the country's foreign trade had shifted from its former centrally planned economy partners of the CMEA to the industrial countries of Western Europe.³

The most important event concerning Hungary's bauxite, alumina, and aluminum industries in 1995 was the renewal of a long-standing alumina for aluminum agreement between Hungary and Russia. When the CMEA was a viable entity, this was a long-term agreement between Hungary and the Soviet Union and was the basis for Hungary's bauxite mining and alumina refining operations. Following the dissolution of the CMEA, the transactions between Hungary and the Soviet Union and later Russia were conducted on a spot market basis, which resulted in greatly reduced procurement offerings to Hungary. Because of this, and also because of the uneconomic position of Hungary's domestic ore, compared with bauxite available on the world market, a significant rationalization process had occurred in the industry. In 1994, the alumina wet section at the Almasfuzito alumina refinery was reported closed. The final decision to close the facility was made following the loss of a tender to provide alumina to the new alumina smelter at Ziar nad Hronom in nearby Slovakia. The closure represented a decrease in the country's alumina refining capacity by 300,000 t/yr.⁴ Moreover, the Csabpuszta bauxite mine, which has provided Almasfuzito with feedstock, was to close in mid-1995, leaving Hungary with four operating bauxite mines.

In June, an agreement was concluded between Hungary

and Russia that was to provide Russia with about 100,000 t of alumina in 1996 on the basis of terms that were not disclosed at the time.⁵ Compared with that of 1995, the agreement would increase Hungary's alumina shipments to Russia by about 40,000 mt.⁶ Reportedly, Russia indicated that it may consider negotiating a longer-term supply arrangement to the year 2000 to lock in favorable prices.⁷ Under the current contract, smelter grade alumina to be shipped to Russia would be produced at the Ajka refinery. However, should Russia increase its alumina purchases through the year 2000, Hungary could reopen the Almasfuzito alumina refinery. In late 1994, Hungary decided to retain the Inota aluminum smelter, which has been operating at about its full capacity of 30,000 t/yr.⁸ In late 1995, Hungary decided to privatize Magyarovar Alumina and Alundum Ltd. (MOTIM), its refractory grade alumina and refractories manufacturer. About 90% of MOTIM's stock was to be offered for bidding and 10% to MOTIM's employees.⁹ Located at Masonmagyarovar, MOTIM produces about 75,000 t/yr of calcined alumina, using the Bayer process. Production capacities at MOTIM are 30,000 t/yr for fused alumina; 7,000 t/yr for fused cast alumina (refractories and abrasives); 10,000 t/yr for fused mullite (glass and steel industry); 1,000 t/yr for fused magnesium-alumina spinel (refractory bricks and monolithics). Additionally, MOTIM's chemical division produces hydrated alumina that is consumed by the company's 60,000-t/yr aluminum sulfate plant.

Hungary continued to maintain facilities at the Recsk copper deposit, despite failure in recent years to find sufficient capital to develop the site. Mining at Recsk began in 1926 when mineralization relatively close to the surface was exploited to produce copper and gold. Mining ceased in 1979, following the depletion of reserves of ore. Subsequent geologic investigations at Recsk have revealed very large, deep-lying copper and polymetallic mineralization in a 10-square-kilometer area. Mineral resources at Recsk were determined at about 175 Mt of copper ore, grading about 1.1% copper, and 20 Mt of polymetallic ore, grading about 4.2% lead and 0.9% zinc, together with smaller quantities of gold, molybdenum, and silver.

Apart from care and maintenance operations at Recsk, in late 1994, a reexploration and reevaluation of the copper-gold ore body at Recsk, near the old Lahoca Mine was undertaken by a joint venture of the same name consisting of Rhodes Mining of Australia and the Hungarian state property agency, AV Rt. The operations at the Lahoca project reportedly were managed by Enargit Kft., which was owned by Rhodes Mining and AV Rt., owning 81.6% and 18.4% of the shares, respectively.¹⁰ The Lahoca mine was operational from 1850 to 1979, producing copper and gold with ore grading 3 g/t. Reportedly, the work conducted in 1994 included the drilling of 37 surface drill holes at 100-m spacings. At a cut off grade of 1 g/t of ore, the deposit was determined to contain about 26,784 kilograms of gold.¹¹ In

early 1995, AV Rt. sold its minority stake in Enargit Kft. to Rhodes Mining.¹² Additionally, an agreement was concluded between two wholly owned subsidiaries of Rhodes (Enargit Kft. and Swan Resources Ltd.) and Billiton Development BV of the Netherlands, which allowed Billiton the option to acquire up to 50% of the Lahoca gold mining project. At yearend, it was reported that Rhodes Mining had hired the Canadian mining company, CAMECO, to conduct an engineering study on the best method to mine the deposit.¹³

Among the chief events in the iron and steel sector was the renationalization of the Dimag-Diosgyoer Stock Corp., reportedly effective in February. The company reportedly will continue to operate under the name Diosgyoer Steel Plant Ltd. The continued operation of this enterprise would maintain employment for about 3,000 workers and have the capacity to produce about 550,000 t/yr of crude steel.¹⁴

Most industrial minerals in Hungary, apart from cement, were produced under the auspices of the Hungarian Ore and Mineral Co., a partially denationalized state-owned enterprise. Major industrial minerals mined in Hungary included bentonite, diatomite, dolomite, kaolin, manganese (nonmetallurgical), perlite, silica sand, and zeolite. The production of these commodities satisfied both the country's domestic and export requirements. Hungary's export trade in industrial minerals was handled by Mineralimpex (Hungarian Trading Co. for Oils and Mining Products) with offices in Austria, Germany, and Switzerland.

Hungary's industrial minerals sector also had the most success with respect to restructuring and attracting foreign investment capital. By yearend 1994, a substantial portion of the country's cement industry was capitalized through foreign investment, largely from Germany and Switzerland. Reportedly, each plant in Hungary's cement industry has been able to acquire foreign investment during the 1990's. Domestic capacity was reported to be about 5.25 Mt/yr; the capacity of clinker was 4.4 Mt/yr.¹⁵ Heidelberger and Schwenk of Germany owned 90% of the Dunai Cement factory and, respectively, 34% and 16% of the stock of the Beremend and Belapatfalva cement plants. Holderbank of Switzerland acquired a 50%, 33%, and 16% share of the stock of Labatlan, Hejoscaba, and Belapatfalva cement plants, respectively. In recent year, most production of cement was destined for domestic markets, and a small amount was exported (116,000 mt in 1994) with exports to Romania, Slovakia, and Ukraine composing about 85% of total exports.¹⁶

In early 1995, the Government of Hungary decided to close the Mecsek uranium mine by 1997, following 7 years of

financial losses at this facility. Uranium needed for the country's Paks nuclear power plant was to be imported.¹⁷ Other developments in the mineral fuels sector in 1995 involved the final stages of negotiation of contracts by the Government of Hungary with private oil companies to conduct exploration in Hungary.¹⁸

The country's pipeline network consisted of a 1,204-km line to carry crude oil, a 600-km line for refinery products, and a 3,800-km pipeline for natural gas. In 1992, mineral fuels carried by the country's pipelines constituted 80.8% of total carriage by pipeline.

The total net installed electric generating capacity as of 1990 amounted to 6,891 megawatts (MW), of which 4,946 MW was rated by thermal electric generating plants, 1,695 MW by nuclear powerplants, 48 MW by hydroelectric power facilities, and 202 MW by.

Given the Hungarian Government's objective to bring the country into conformity with standards that are current within European Free Trade Union and the EU, greater investment can be envisaged for the reconstruction and modernization of the country's infrastructure: transportation networks, commercial buildings, and private and publicly owned dwellings, etc. To accommodate most of these objectives, the country's industrial minerals and construction materials sectors would increase in importance as the demand for cement, quarry products, and other industrial minerals increases.

¹²Economic Trends and Outlook for Hungary. U.S. Dept. of Commerce, 1995.
¹³FBIS-EEU-94-111-S. June 9, 1995, pp. 1-35; from Magyar Kozlony, May 17, 1995, No. 38, pp. 1792-1811, and Government of the Hungarian Republic Nov. 11, 1994, pp. 3-25.

³Kulkereskedelmi Statisztikai Evkonyv (Statistical Yearbook of External Trade, 1993), (Budapest). 1994, pp. 81-129.

⁴Mining Journal (London). Nov. 4, 1994, p. 322.

⁵_____. June 9, 1995, p. 422.

⁶American Metal Market. June 7, 1995, p. 16.

⁷Mining Journal (London). June 9, 1995, p. 422.

⁸_____. Dec. 9, 1994, p. 422.

⁹Industrial Minerals. Nov. 1995, p. 24.

¹⁰Mining Magazine (London). Oct. 1994, p. 231.

¹¹_____. July, 1995, p. 50.

¹²American Metal Market. Jan. 12, 1995, p. 2.

¹³FBIS-EEU-95-242-S. Dec. 18, 1995, p. 8; from MTI (Budapest) 1918 GMT, Dec. 13, 1995.

¹⁴SWB EEW/0369. Feb. 2, 1995, p. WA/3; from Hungarian radio 1700 gmt, Jan. 27, 1995.

¹⁵International Cement Review. Jan. 1994, p. 15.

¹⁶_____. May 1995, p. 47.

¹⁷Mining Journal. Jan. 13, 1995, p. 27.

¹⁸Journal of Commerce. July 20, 1995, p. 3B.

TABLE 1
HUNGARY: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

| Commodity 2/ | 1991 | 1992 | 1993 | 1994 | 1995 e/ |
|---|-----------|-----------|-------------|-----------|---------|
| METALS | | | | | |
| Aluminum: | | | | | |
| Bauxite, gross weight thousand tons | 2,040 | 1,720 | 1,560 | 830 | 1,100 |
| Alumina, gross weight, calcined basis do. | 653 | 548 r/ | 421 | 177 r/ | 230 |
| Metal: | | | | | |
| Primary | 63,300 | 26,865 r/ | 27,879 r/ | 30,740 r/ | 25,000 |
| Secondary e/ | 32,000 | 20,000 | 25,000 | 3,000 | 4,000 |
| Total e/ | 95,300 r/ | 46,865 r/ | 52,879 r/ | 33,740 r/ | 29,000 |
| Copper, metal: e/ | | | | | |
| Smelter, secondary | 100 | 100 | 100 | 100 | 100 |
| Refined including secondary | 12,000 | 12,000 | 11,000 | 11,000 | 11,000 |
| Gallium, metal e/ kilograms | 3,600 | 3,500 | 2,500 | -- 3/ | -- |
| Iron and steel, metal: | | | | | |
| Pig iron: | | | | | |
| For steel industry thousand tons | 1,310 | 1,176 r/ | 1,407 r/ | 1,590 | 1,600 |
| For foundry use do. | 4 | -- | -- | -- | -- |
| Total do. | 1,314 r/ | 1,176 r/ | 1,407 r/ | 1,590 | 1,600 |
| Ferroalloys e/ 4/ | 8,500 | 8,500 | 8,500 | 8,000 | 8,000 |
| Steel: | | | | | |
| Crude thousand tons | 1,930 | 1,559 r/ | 1,752 r/ | 1,945 r/ | 1,850 |
| Semimanufactures, rolled only do. | 1,540 | 1,670 | 1,835 r/ | 2,073 r/ | 2,000 |
| Manganese ore: | | | | | |
| Run of mine: | | | | | |
| Gross weight | 54,800 | 32,000 | 38,000 | 40,000 | 40,000 |
| Mn content e/ | 10,000 | 5,800 | 6,800 | 7,200 | 7,200 |
| Concentrate: | | | | | |
| Gross weight | 30,000 | 18,000 | 59,000 | 25,000 | 25,000 |
| Mn content e/ | 9,300 | 5,400 | 17,500 | 7,500 | 7,500 |
| Vanadium, metal e/ | 200 | 200 | 200 | 200 | 200 |
| Zinc, metal, smelter, secondary e/ | 1,200 | 1,000 | 1,000 | -- 3/ | -- |
| INDUSTRIAL MINERALS | | | | | |
| Cement, hydraulic thousand tons | 2,530 | 2,240 | 2,530 | 2,810 | 3,000 |
| Clays: | | | | | |
| Bentonite: | | | | | |
| Raw | 18,100 | 23,000 | 9,404 r/ | 14,700 | 15,000 |
| Processed | 14,100 | 15,000 | 8,000 r/ e/ | 12,000 | 12,000 |
| Kaolin, raw and washed | 19,000 | 7,000 | 15,000 | 15,000 | 15,000 |
| Gypsum and anhydrite e/ | 110,000 | 50,000 | 22,000 3/ | 25,000 | 25,000 |
| Lime, calcined thousand tons | 571 | 507 | 476 | 464 | 480 |
| Nitrogen, N content of ammonia do. | 261 | 152 | 237 | 250 | 250 |
| Perlite | 87,800 | 83,000 | 80,000 | 85,000 | 85,000 |
| Refractory materials, n.e.s.: | | | | | |
| Chamotte products thousand tons | 28 | 19 | 20 | 20 | 20 |
| Chrome magnesite products do. | 9 | 41 | 3 | 5 | 5 |
| Sand and gravel: | | | | | |
| Gravel thousand cubic meters | 2,970 | 3,790 | 3,170 | 3,000 | 300 |
| Sand: | | | | | |
| Common e/ do. | 200 | 200 | 200 | 200 | 200 |
| Foundry do. | 181 | 184 | 15 | 12 | 15 |
| Glass do. | 600 | 660 | 260 | 308 | 300 |
| Sodium compounds: | | | | | |
| Hydroxide (caustic soda) | 170,000 | 139,000 | 130,000 | 132,000 | 155,000 |
| Sulfate e/ | 6,000 | 6,000 | 6,000 | 6,000 | 5,000 |
| Stone: | | | | | |
| Dimension, all types thousand tons | 3,350 | 3,650 | 4,030 | 4,000 | 4,000 |
| Dolomite do. | 454 | 298 | 644 | 600 | 600 |
| Limestone do. | 4,330 | 3,700 r/ | 3,920 r/ | 4,000 | 4,000 |
| Quartzite do. | 1 r/ | -- r/ | -- r/ | -- | -- |
| Sulfur: e/ | | | | | |
| From pyrite | 900 | 900 | 800 | 800 | 800 |
| Byproduct, elemental, all sources | 8,000 | 8,000 | 8,000 | 8,000 | 8,000 |
| Total | 8,900 | 8,900 | 8,800 | 8,800 | 8,800 |
| Sulfuric acid | 134,000 | 94,900 | 71,300 | 83,700 | 100,000 |
| Talc e/ | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 |

See footnotes at end of table.

TABLE 1--Continued
HUNGARY: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

| Commodity 2/ | 1991 | 1992 | 1993 | 1994 | 1995 e/ | |
|--|----------------------------|--------|-----------|--------|-----------|--------|
| MINERAL FUELS AND RELATED MATERIALS | | | | | | |
| Coal: | | | | | | |
| Bituminous | thousand tons | 1,700 | 1,274 | 942 | 1,024 | 1,000 |
| Brown | do. | 9,950 | 7,630 | 6,600 | 5,710 | 6,500 |
| Lignite | do. | 5,330 | 7,020 | 5,050 | 6,760 | 7,000 |
| Total | do. | 16,980 | 15,924 r/ | 12,592 | 13,494 r/ | 14,500 |
| Coke, metallurgical | | 611 | 719 | 643 | 650 | 650 |
| Fuel briquets | thousand tons | 1,920 | 682 | 605 | 410 | 400 |
| Gas, natural, marketed | million cubic meters | 5,040 | 5,060 | 5,010 | 5,900 | 5,300 |
| Peat, agricultural use e/ | thousand tons | 65 | 65 | 65 | 65 | 65 |
| Petroleum: | | | | | | |
| Crude: | | | | | | |
| As reported | do. | 1,890 | 1,830 | 1,710 | 1,600 | 1,650 |
| Converted | thousand 42-gallon barrels | 12,700 | 12,200 | 11,400 | 10,700 | 10,800 |
| Refinery products 5/ | do. | 45,700 | 45,700 | 41,200 | 41,000 | 41,000 |

e/ Estimated. r/ Revised.

1/ Table includes data available through Apr.. 1996.

2/ In addition to the commodities listed, diatomite and a variety of other crude construction materials such as common clays are produced, but available information is inadequate to make reliable estimates of output levels.

3/ Reported figure.

4/ Hungary is believed to produce some blast furnace ferromanganese.

5/ Excludes refinery fuel and losses.

TABLE 2
HUNGARY: STRUCTURE OF THE MINERAL INDUSTRY FOR 1995

(Thousand of metric tons unless otherwise specified)

| Commodity | Major operating companies | Location of main facilities | Annual capacity | |
|------------------------|--|---|--|---------|
| Alumina | HUNGALU (Hungarian Aluminum Corp.) | Ajka Timfoldgyar plant, about 120 kilometers southwest of Budapest, near Lake Balaton | 450 | |
| Do. | do. | Almasfuzito Timfoldgyar plant near the Czech Republic border, 63 kilometers northwest of Budapest | 350 | |
| Do. | do. | Moson-Magyarovar plant, in northwest corner of Hungary, about 12 kilometers from Austrian and Czechoslovak border | 75 | |
| Aluminum, primary | do. | Inota plant, near Varpalota, 75 kilometers southwest of Budapest | 46 | |
| Bauxite | HUNGALU: Bakony Mining Enterprise | Bakony District, extending roughly 100 kilometers northeast along Lake Balaton | 1,500 | |
| Do. | Fejer County Mining Enterprise | Fejer County, Vertes District, about 60 kilometers south of Budapest | 1,060 | |
| Cement | Cement es Meszmuvek | Belapatfalva, near Miskolc, 125 kilometers northeast of Budapest | 1,200 | |
| Do. | do. | Beremend, 45 kilometers south of Pecs | 1,100 | |
| Do. | do. | Hejocsaba, 150 kilometers northeast of Budapest | 1,600 | |
| Do. | do. | Labatlan, 20 kilometers north of Tatabanya | 500 | |
| Do. | do. | Selyp, 50 kilometers north of Budapest | 60 | |
| Do. | do. | Tatabanya, 80 kilometers west of Budapest | 500 | |
| Do. | do. | Vac, 50 kilometers north of Budapest | 1,200 | |
| Coal: | | | | |
| Bituminous and lignite | Magyar Szenbanyaszati Troszt (MSZT) (Hungarian Coal Mining Trust) | Tatabanya and Oroszlany coal mining region, 45 kilometers west of Budapest | 8,900 | |
| Do. | do. | Mecsek coal mining region, near Pecs and Komlo, north of the Yugoslav border | 3,100 | |
| Do. | do. | Borsod coal mining region, 130 kilometers northeast of Budapest | 5,200 | |
| Lignite | do. | Thorez opencast mine at Visonta, 80 kilometers northeast of Budapest | 7,000 | |
| Manganese | Orszagos Erc-es Asvanybanyak (National Ore & Mineral Mines) | Urkut manganese ore mines, 120 kilometers southwest of Budapest | 160 | |
| Natural gas | million cubic feet | Hungarian Oil and Gas Co. (MOL) | Szeged and Algyo gasfields, southern Hungary | 152,000 |
| Do. | do. | do. | Hajduszoboszo gasfields, 180 kilometers east of Budapest | 50,000 |
| Do. | do. | do. | Smaller gasfields: Szank, Kardoskut, Bekes, Berefurdo, and others | 39,000 |
| Petroleum: | | | | |
| Crude | million barrels | do. | Szeged-Algyo field, near Romanian-Yugoslav border; 50% of total capacity | 7 |
| Refined: | | Subsidiaries of MOL: | | |
| Do. | do. | Danube Petroleum Refining Co. | Szazhalombatta | 55 |
| Do. | do. | Tisza Petroleum Refining Co. | Leninavaros | 22 |
| Do. | do. | Zala Petroleum Refining Co. | Zalaegerszeg | 4 |
| Steel | | Dunai Vasmu (Danube Steel Works) | 60 kilometers south of Budapest | 1,400 |
| Do. | | Ostag - Ozdi Acelmu Rt | 120 kilometers northeast of Budapest | 700 |
| Do. | | Dimag - Diosgyoer Stock Corp. | Diosgyoer, 145 kilometers northeast of Budapest | 954 |
| Do. | | Cepel Iron and Steel Works | Budapest | 171 |