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The Mineral Industries of the Southern Balkans

Albania, Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, Serbia, and Slovenia

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Europe's Southern Balkan (Adriatic) region is part of the southern Mediterranean Alpine folded zone, which extends through the Dinarides of the former Yugoslavia (Bosnia and Herzegovina, Croatia, Macedonia, Serbia and Montenegro, and Slovenia), the Albanides of Albania, and the Hellenides of Greece. Mining for base and precious metals may be traced through historical records to at least 5th century B.C. Evidence of early workings at the Bor copper deposit in Serbia suggests prehistoric origins.

Until the early 1990s, the mining, processing, and downstream use of base metals established the region as a major European source of copper, lead, and zinc and a major world producer of chromite. The transition of the region from central economic planning to market economy systems between 1991 and 2001 also began a swift deconstruction of existing political and social structures; most notably the settlement of the former Yugoslav territory into fully sovereign countries from the previously united republics. The ensuing political, social, and ethnic tensions and conflict destroyed or degraded much of the region's mineral industries and industrial infrastructure. In 2006, Serbia and Montenegro ceased to exist following a formal referendum in Montenegro that resulted in Montenegro's status as an independent state. Also, in 2006, despite a reduction of political and social tensions in Serbia's Province of Kosovo, separatist aspirations on the part of Kosovo's Albanian majority remained significant. The future status of the mineral industries in the countries of the Adriatic Balkan region may become clearer following a political settlement and normalization not only among the states in the region, but also within these states, especially Bosnia and Herzegovina, Croatia, Macedonia, and Serbia.

ALBANIA

Albania's mineral deposits included such metalliferous mineral commodities as chromite, copper ore, and nickeliferous iron ore and such mineral fuels as natural gas and petroleum.

Minerals in the National Economy

The decline in Albania's overall mineral production stemmed mainly from the country's transition from rigid central economic planning to a market economy; this decline began in the early 1990s and production levels had not significantly recovered by 2006.

[1]Deceased.

Production

Of the metal ores, only chromite and a token amount of copper were mined in 2005. In past decades, Albania was among the world's top three producers and exporters of chromite. In 2006, the output of chromite rose by about 24% compared with that of 2005. Preliminary production data for 2006 showed that the output of ferrochromium declined by about 50% compared with that of 2005 (table 1).

Structure of the Mineral Industry

All of Albania's existing mineral facilities remained under state ownership (table 2). Private companies, however, were conducting exploration programs for nickel.

Commodity Review

Metals

In late 2006, European Nickel PLC (ENickel) announced exploration results for nickel and cobalt at Korce in southeastern Albania. ENickel's exploration work, which covered a permitted area of about 55 square kilometers (km^2), included 23 drill holes with a grid spacing of 1 kilometer (km) by 400 meters (m). The study delineated two nickel laterite areas in a 4-km^2 area; drill core analysis showed the mineralization to have a mean thickness of 6.3 m and an average grade of 1.01% nickel. Plans for the 2006–07 field season were to drill on a 400 m by 400 m grid to help determine the extent of the mineralization and to build an exploratory adit to obtain ore samples for testing and analysis; these iron-nickel laterite and nickel silicate deposits at Korce (near the Guri Kuq and the Prrenjas mining areas) are mainly overlain by Eocene carbonate molasse (Pumo and others, 1982; Bankside Consultants, 2006).

Industrial Minerals

Dolomite, gypsum, kaolin, marble, phosphate rock, and other industrial minerals had been worked only intermittently during the past several years. In 2006, the chief event in the industrial mineral sector was the operational startup of a 1.3-million-metric-ton-per year (Mt/yr) clinker production line at the Fushe Kruje cement plant. The new $130 million clinker line, which was described as the "largest direct foreign investment in Albania's manufacturing industry since the country's

transition to a market economy," was designed to eliminate clinker imports and raise the production output of cement. Apart from the Fushe Kruje cement plant, a new cement plant was to be financed by the European Bank for Reconstruction and Development (23%), the International Finance Corporation (World Bank Group) (23%), the OPEC Fund for Reconstruction and Development (14%), and Alpha Bank of Greece (8%). The Titan Cement Group of Greece, which was a major cement exporter to Albania, also applied for a permit with the Albanian Government in late 2006 to build a new cement plant (Building Bulletin, 2006).

Mineral Fuels

In 2006, exploration for oil and gas and the development of new wells at the Marinza and the Patos oilfields continued. In 2006, Bankers Petroleum Ltd., which had a 25-year license agreement with the Government of Albania to modernize and develop the Patos-Marinza oilfields, reported petroleum resources to be about 1.96 billion barrels and current reserves to be 93 million barrels. Bankers near-term plans included increasing petroleum production to between 10,000 and 15,000 barrels per day (bbl/d) by 2009 from 5,000 bbl/d in 2006 and the construction of a pilot thermal-enhanced oil recovery operation in 2007 (Bankers Petroleum Ltd., 2007, p. 9-15).

In early 2006, Albania and Bulgaria signed an agreement to build a 917-km petroleum pipeline with a carrying capacity of 750 bbl/d from Burgas in Bulgaria to the Port of Avlona in Albania. The pipeline was designed to carry oil originating in the Caspian region to the European market (Alexander's Gas & Oil Connections, 2006).

Outlook

The development of Albania's mineral industry is contingent on such factors as the stability of social institutions, the creation of modern infrastructure, and the adoption of legislation that would attract foreign investment. International financial institutions have continued to assist Albania in developing these objectives.

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BOSNIA AND HERZEGOVINA

Bosnia and Herzegovina comprised two constituent regions: the Federation of Bosnia and Herzegovina (the Federation) and Republika Srpska (RS), which accounted for about 51% and 49% of Bosnia and Herzegovina's territory, respectively. The semiautonomous status of these entities resulted from specific compromises and agreements the followed the dissolution of Yugoslavia in the 1990s and ensuing conflicts. Consequently, Bosnia and Herzegovina's mineral resources and respective mining and processing facilities were exploited in the Federation and RS under virtually separate economic environments; this resulted in the uneven restoration of the country's mineral industry.

Minerals in the National Economy

Bosnia and Herzegovina was a major industrial center and mineral producing area in the former Yugoslavia. The metallurgical sector included steel and aluminum enterprises, with the latter providing feedstock for the former Yugoslavia's heavy industries. Major local mineral resources included bauxite, iron ore, and lead-zinc ore. Resources of industrial minerals included but were not limited to asbestos, clays, gypsum, magnesite, and sand and gravel. Resources of mineral fuels included coal and minor deposits of petroleum. The dissolution of Yugoslavia in the early- to mid-1990s severed long-standing economic ties in the region; this partly accounted for a sharp reduction in mineral production. Social unrest and armed civil strife, which damaged and/or destroyed facilities and infrastructure, further depressed Bosnia and Herzegovina's mining and processing activity.

Production

In 2006, Bosnia and Herzegovina's gross domestic product (GDP) in constant prices increased by about 10% compared with that of 2004. The value of mining and quarrying output in 2006 constituted about 2% of the GDP; the total value of mine production rose by about 14% compared with that of 2005 (Agency for the Statistics of Bosnia and Herzegovina, 2006, p. 33). In the Federation, total industrial production rose by 7.5% compared with that of 2005; mining and quarrying increased by 2%. In the RS, the total value of mining and quarrying output increased by about 20% compared with that of 2005 (Federal Office of Statistics, 2007, p. 27; Republika Srpska Institute of Statistics, 2007).

Structure of the Mineral Industry

Private companies have invested in mineral facilities in both the Federation and the RS. Table 4 is a list of the major mineral industry facilities.

Commodity Review

Metals

Aluminum.—The output of aluminum and steel continued to increase in 2006 compared with 2005; aluminum (primary and secondary) production increased by about 3.8 %, and crude steel, by about 66%. In midyear, Aluminij d.d. Moster, which

was Bosnia and Herzegovina's sole producer of aluminum, signed a contract with DaimlerChrysler and WestLB Bank of Germany and Outokumpu Oy of Finland for facility modernization and expansion. The deal, which was valued at $44 million, would raise the plant's aluminum smelting capacity to 132,000 metric tons per year (t/yr) from 120,000 t/yr. An additional agreement worth $13 million was reached with Glencore International AG of Switzerland; the work would focus on the reduction of electric power consumption and environmental protection at the aluminum plant (Metals Insider, 2006b, c). In July, the Ukio Banko Investment Group of Lithuania, which was the owner of the Birac Alumina Refinery, announced plans to build its own primary aluminum smelting operation, the capacity of which would be about 125,000 t/yr (Metals Insider, 2006a).

Iron and Steel.—Mittal Steel Zenica (Zenica) announced plans to increase crude steel production by 28% [600,000 metric tons (t)] in 2007 compared with that of 2006. The plans also called for an increase in exports of finished steel (semimanufactures) to more than 750,000 t from 377,000 t in 2006. In addition, future investments would aim to set production levels for crude steel at about 2 million metric tons per year (Mt/yr) (Reuters, 2007). In 2006, Bosnia and Herzegovina's production of iron ore increased by about 8.3% compared with that of 2005 (table 3). In midyear, Mittal acquired 51% of the Ljubija iron ore mining complex, which was the country's major iron ore mining operation in Ljubija, RS.

Industrial Minerals

In the industrial mineral sector, major production gains were reported for cement (about 20%) and salt (about 6%). The country's energy sector reported that an agreement was reached by Bosnia and Herzegovina's BH Gas and INA-Industrija Nafte d.d. Zagreb (INA) of Croatia to build a gas pipeline from Sarajevo to Ploce in Croatia on the Adriatic coast. The pipeline project was to be funded by the European Bank for Reconstruction and Development (EBRD). EBRD's outlay for this project in 2007 was reported at euro (€) 40 million ($59 million) (Petroleum Economist, 2006).

Outlook

The country's economy is expected to continue to recover as foreign investment capital continues to transect territorial boundaries. Such investment is helping to restart production in the area's mineral industries and enabling the reestablishment of industry's linkages to former commercial partners, which were terminated during the civil strife of the mid-1990s.

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CROATIA

Petroleum extraction and refining remained the main sector of Croatia's mineral industry. Most of Croatia's output of industrial minerals was consumed in the domestic market. The country remained heavily reliant on imports of metals for its industrial needs.

Minerals in the National Economy

In 2006, Croatia's gross domestic product (GDP) based on constant prices increased by about 4.8% compared with that of 2005. Industrial production rose by 4.5% compared with that of 2005; the output of the mining and quarrying sector increased by about 10.3%. The production (value) of natural gas and petroleum and industrial minerals increased by 7.6% and 17.6%, respectively, compared with that of 2005. In 2006, Croatia's imports of mineral products, petrochemicals, and base metals constituted about 36% of the value of total imports, which was an increase of about 3% compared with imports from these categories in 2005 (Central Bureau of Statistics of the Republic of Croatia, 2007, p. 207, 299, 383-388).

Production

In 2006, Croatia's metals sector reported mixed production results. The production of secondary aluminum declined by almost 60% compared with that of 2005; crude steel production increased by more than 9%. Major industrial minerals used in construction, such as cement and sand and gravel, reported production increases of 4.4% and more than 218%, respectively. Similarly, production increases were reported for ceramic clay (52%), lime (8%), crude silica products (6.8%), and crushed stone (17%) (table 5).

In 2006, Croatia also reported mixed output results for domestic fossil fuels; natural gas output rose by almost 19%, but that of petroleum declined by about 3% (table 5).

Structure of the Mineral Industry

Table 6 presents information on important Croatian mineral facilities.

Commodity Review

Mineral Fuels

INA-Industrija Nafte d.d. Zagreb (INA), which was Croatia's state-owned natural gas and petroleum exploration and

production company, reported total investments in exploration and development in 2006 of about $223 million. Of the total 2006 expenditure for exploration and development, $14.1 million, or about 21% of the investment outlay, was earmarked for INA's domestic exploration, which centered on work in the North Adriatic area in a joint-venture project (called EDINA) with Edison (S.p.A.) of Italy. EDINA worked on the area's Izabela Block where a gas reservoir was discovered during the drilling of the Irena-1 exploration well. Another consortium made up of ENI S.p.A. of Italy's subsidiary Agip (INAgip) and INA, discovered two new gasfields in the Adriatic during drilling of two exploratory wells (Ana-1 and Vesna-2) in the Ivana Block. Onshore exploration in the Pannonian Basin involved geophysical surveys in a 167-square-kilometer (km^2) area in the Medimurje-Peklenica region. Exploration also was conducted in the Zalata prospect area in the Drava Basin on the border of Croatia and Hungary. Preliminary results indicated the presence of hydrocarbons; complete analysis, however, was anticipated for early 2007. In September, INA and MOL Hungarian Oil and Gas Plc (MOL) concluded an agreement for joint exploration for hydrocarbons at Zalata, Hungary, and Podravska Slatina, Croatia. Croatia's total domestic and foreign (Angola, Egypt, Namibia, and Syria) exploration work for 2006 yielded INA recoverable fossil fuel reserves that amounted to more than 25 million barrels of oil equivalent (INA-Industrija Nafte d.d. Zagreb, 2007, p. 35-37).

Major development activities in the natural gas sector included the operational startup of the Ika and the Ida gasfields in the Adriatic Sea, the gas pipeline connection of the Ivana-K production platform and the Pula onshore terminal, and the startup of production operations at three gas wells in the Katarina gasfield (INA-Industrija Nafte d.d. Zagreb, 2007, p. 38).

Outlook

Major consumption increases of industrial minerals used in the construction sector are anticipated during the reconstruction, expansion, and modernization of Croatia's infrastructure. The expected development and redevelopment is associated with such major commercial transportation hubs as Croatia's Adriatic Sea ports and transport facilities that radiate from these ports to major commercial centers within and outside the country (International Bank for Reconstruction and Development, 2006, p. 1-7).

The extraction and processing of hydrocarbons are expected to remain the principal elements of Croatia's mineral industry. Steel and industrial minerals designated for construction, however, may see increases of production in the future as infrastructure development begins to increase. The International Bank for Reconstruction and Development (World Bank Group) and several other international financial institutions chose Croatia as a priority market in southern Europe for investment in infrastructure (International Bank for Reconstruction and Development and International Finance Corporation, 2004).

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MACEDONIA

The mineral industry of Macedonia continued to show recovery in 2006. Macedonia's installed production capacities included those for the mining and processing of metals (mainly nonferrous) and for a variety of industrial minerals; mineral fuels were limited to the production of lignite. Crude petroleum was imported and processed at the country's sole domestic refinery. In 2006, the production of lead-zinc ores was resumed; the output of these commodities had ceased in 2003 owing to financial concerns and labor disputes. Environmental issues also contributed to production stoppages and closures (table 7; Metal Bulletin, 2003).

Minerals in the National Economy

The country's gross domestic product (GDP) in 2006 increased by about 3.7% compared with that of 2005; industrial production accounted for about 17% of the GDP. Industrial production rose by about 3.6% compared with that of 2005. Mining and quarrying and manufacturing reported production volume increases of 11.5% and 3.6%, respectively. The mineral industry, which comprised mining and quarrying (metals, industrial minerals, and mineral fuels), the output of base metals, and the production of construction materials, constituted about 33% of the total value of industrial production (Republic of Macedonia State Statistical Office, 2007a, b). Macedonia's summary foreign trade data for 2006 indicated that imports of crude material (including ores and concentrates) and mineral fuels constituted about 24% of total imports, of which mineral fuels constituted more than 20%. Exports in this category amounted to 14.1% of total exports; mineral fuels accounted for more than 9% (Republic of Macedonia State Statistical Office, 2007a, b). The total value of exports in 2006 increased by about 16% compared with that of 2005. This increase in the value of exports was accounted for mainly by increases in the export values of such metals as copper, iron and steel, and nickel and petroleum derivatives, which followed global price increases for these commodities in 2006. Among metals, steel exports' contribution to the increase of total exports in 2006 amounted to 39%; steel exports accounted for about 28% of the total value of exports. Exports by petroleum derivatives and metal ores amounted to about 8% and 3% of the total value of exports, respectively. Factors that affected the increase in the value of Macedonia's exports had the same effect on total imports, which increased in value (euro basis) by almost 15%. The increased market values of energy products and steel in 2006 accounted for more than 27% and 16%, respectively, of this increase (National Bank of Macedonia, 2007).

Production

In 2006, Macedonia's production of metals generally showed increases. Following a hiatus of production during the 2004-05 period, Macedonia resumed the production of lead and zinc ore and concentrate.

Structure of the Mineral Industry

Table 8 presents information on Macedonia's major mineral facilities.

Commodity Review

Metals

Copper and Gold.—The gross weight production of copper ore increased by 63% compared with that of 2005; the production of recoverable copper in concentrate increased by 54% during the same period (table 7).

Exploration activity during the year included plans by Sirius Exploration plc of the United Kingdom to undertake further exploration and the evaluation of the Kadiica and the Osogovo copper porphyry deposits in northeastern Macedonia. Sirius was to undertake the work under the auspices of a joint-venture agreement with Phelps Dodge Corp. of the United States. Preliminary analysis showed the gold values at Kadiica to range from 0.8 grams per metric ton (g/t) to 7.2 g/t (Mining Journal, 2005; Sirius Exploration plc, 2006).

Iron and Steel and Nickel.—Activity in the ferrous metals sector showed an increase of about 2% for steel output compared with that of 2005 (table 7). In 2006, Macedonia's imports of steel products amounted to almost $300 million; exports amounted to about $202 million. The production of ferronickel (gross weight) increased by about 45% compared with that of 2005; the output of nickel in ferronickel increased by about 35%. Imports of nickel ores and concentrates amounted to about $38 million; exports of ferronickel amounted to more than $202 million (table 7; Republic of Macedonia State Statistical Office, 2007c).

Industrial Minerals

Macedonia continued to produce bentonite, cement, feldspar, gypsum, sand and gravel, stone (carbonate and silicate), and other construction materials mainly for export. The value of output for these commodities in 2006 increased by about 22% compared with that of 2005. In 2006, Macedonia's domestic consumption of cement (Portland) rose by 28%; the consumption of sand and gravel declined by 8% and 65%, respectively (Republic of Macedonia State Statistical Office, 2007d).

Mineral Fuels

Lignite mining and petroleum refining were the only industries in Macedonia's mineral fuels sector. Lignite production in 2006 declined by about 3% compared with that of 2005. Domestic mining supplied about 70% of the fuel for the Bitola coal-fired electric power station, which supplied more than 70% of the country's electricity needs. It has been reported, however, that lignite resources could be exhausted by 2010 at the present rate of production (National Bank of Macedonia, 2007, p. 71-72).

In 2006, Canadian and Kazakh companies expressed interest in exploring for petroleum resources in Macedonia at the Engilija field near Sveti Nikole. Bankers Petroleum Ltd. of Calgary, Alberta, Canada, which had working experience in nearby Albania, signed a cooperative agreement in May for exploration in the area (Alexander's Gas & Oil Connection, 2006).

Outlook

Despite the moribund status of nonferrous metals production in 2005, the production of copper, lead-zinc, and associated metals is expected to resume and grow in volume owing not only to the availability of these minerals but also to the gradual progress in environmental remediation and to increasing regional stability and investor confidence. Foreign direct investment (FDI) in the country's mining and quarrying sector in 2005 (the latest year for which data were available) amounted to more than $20.5 million, which was more than three times greater than FDI in 2004.

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MONTENEGRO

In 2006, Montenegro formally seceded from Serbia and Montenegro, which was the remnant of what was formerly known as Yugoslavia. Montenegro's mineral industry included facilities for the mining and processing of bauxite, dimension stone (calcareous and quartzite), and sand and gravel. Metal production included alumina refining for primary aluminum smelting and steel output; mineral fuels production was limited to lignite (table 9).

The latest available data (2005) recorded the contribution of the mining and quarrying sector to the gross domestic product (GDP) at about 1.5%. In 2006, the total value of the output of the mining and quarrying sector increased by about 2.9% compared with that of 2005; the value of lignite output rose by 17.5%; that of metal ores (bauxite) and industrial minerals declined by 1.9% and 13.7%, respectively (Montenegro Statistical Office, 2007, p. 71, 117). In terms of volume, the production of bauxite declined by 2% compared with that of 2005. The output of alumina, aluminum, and steel increased by about 1%, 4%, and 78%, respectively, compared with that of 2005. The volume output of lignite increased by about 17% (table 9). In 2006, total investment in Montenegro's economy amounted to euro (€) 475 million (about $627 million), which was an increase of about 43% compared with that in 2006. The share of investment in the country's mineral industry (mining and processing of coal, industrial minerals, and metals) amounted to about 22% of total investment in 2006 (Montenegro Statistical Office, 2007, p. 77).

Outlook

Aluminum output will remain Montenegro's major commercial mineral export asset. Montenegro's mineral industry will serve primarily domestic economic needs.

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SERBIA

Serbia was a modest producer of bauxite, copper, and lead and zinc ores, and such industrial minerals as clays, feldspar, gypsum, magnesite, pumice, and salt. The output of mineral fuels included coal, natural gas, and petroleum.

Minerals in the National Economy

Despite internal continuing tensions arising from efforts of Serbia's Kosovo Province to gain independent nation status, in 2006, Serbia reported economic progress. Serbia reported that its gross domestic product (GDP) in constant prices grew by 5.7% compared with that of 2005. The overall value of mining and quarrying increased by 4.9% compared with that of 2006.

Production

In 2006, the value of output of fossil-based energy carriers (coal, natural gas, peat, and petroleum) increased by 4%. The value of nonenergy-related mine output increased by more than 112% (Republichki Zavod za Statistiku Srbije, 2007, p. 126-129). In 2006, the export volumes of coal and metal ores declined by about 19% and 27%, respectively, compared with those of 2005. The export value of metal ores increased by about 29% compared with 2005 (Republichki Zavod za Statistiku Srbije, 2007, p. 126-129).

Structure of the Mineral Industry

The Government continued to reduce restrictions on foreign investment in the country's mineral industry. In 2006, foreign investment in the country's mineral industry encompassed such targets as the Rudarsko Topionicki Bazen Bor (RTB Bor) (a copper mining and processing complex in Serbia) and magnesite and nickel interests in Serbia's Kosovo Province. Table 11 presents information of Serbia's significant mineral facilities.

Commodity Review

Metals

Aluminum.—After the dissolution of Serbia and Montenegro, Serbia's production of aluminum was limited to secondary metal, which in 2006 increased by 272% to 1,219 metric tons (t) (table 10). In 2006, Serbia's imports of nonalloyed aluminum amounted to 43,476 t; exports of aluminum and aluminum products amounted to 54,209 t (Republichki Zavod za Statistiku Srbije, 2007, p. 289, 293).

Copper.—In 2006, Serbia's production of copper ore declined by about 4% compared with that of 2005. Imports of copper concentrates amounted to 125,665 t, which was an increase of 9% compared with that of 2005 (Republichki Zavod za Statistiku Srbije, 2007, p. 289, 293). The output of total primary and secondary refined copper increased by more than 32%; primary refined copper metal alone increased by about 52% during this period (table 10).

In midyear, the Government of Serbia announced plans to privatize RTB Bor, which was the country's major production complex for copper ores, concentrates, and smelted and refined copper metal. The plan called for an initial sale of 82% of Bor's shares of stock. Earlier in the year, representatives of Antofagasta Holdings plc of Chile and East Point Holdings of Cyprus had expressed interest in acquiring RTB Bor's assets (Metals Insider, 2006, p. 7).

The mining and processing operations at RTB Bor were considered one of the major regional point sources of environmental pollution (airborne and those entrained into aquifers) that required remedial action prior to the company's privatization. Major pollutants included sulfates of cadmium, copper, iron, lead, and zinc. Additionally, a concrete culvert/collector beneath the flotation tailings site, which was in a state of deterioration, required rapid intervention. In 2005, the International Bank for Reconstruction and Development (World Bank Group) approved a loan valued at about $30 million for upgrading RTB Bor complex, especially those facilities that were largely responsible for the environmental pollution. About $15 million was to be allocated for the reclamation of aquifers and lands adjacent to the RTB Bor complex (Tanjug, 2005; Peck and Zinke, 2006, p. 35-37, 40). In 2006, the World Bank Group's International Development Association provided grants to the Government of Serbia for improving the economy of the Bor region. The Government of Serbia indicated that part of the grant's funds would be allocated for a remediation study of Bor's tailing ponds not under consideration for privatization (Privatization Agency of the Republic of Serbia, 2006).

In 2006, Dundee Precious Metals Inc. (DPM) signed exploration and mining concession contracts with the Government of Serbia that covered the Coka Kupjatra, the Coka Kuruga, and the Tilva Njagra concessions, which are located near Crni Vrh and about 10 kilometers northwest of Bor. These concession areas are contiguous and cover an area of about 153 square kilometers. The provisions of the agreement call for a 3-year exploration period for copper-gold deposits with an extension of 2 additional years and mining rights for a 25-year period. DPM agreed to an aggregate 4% smelter and concession royalty and a payment of $4 million. DPM planned to allocate $13.6 million during the first year of exploration work (Dundee Precious Metals Inc., 2006). DPM continued work on 15 previously granted exploration concessions, which are also located in the Bor vicinity (Reuters, 2005). The primary ore type in this region, which is known as the Timoc Magmatic Complex district (part of Carpatho-Balkan Metallogenic Province), consists of porphyry deposits; such other ore types as epithermal deposits were believed to be near exhaustion. The main mineral commodities mined in the Timoc district were copper, gold, and silver; important associated commodities were lead and zinc, molybdenum, and platinum group metals; the principal ore deposits in this region, apart from Bor, are the Borska Reka, the Majdanpek, and the Veliki Krivelj deposits. Dundee's target sites additionally were believed to contain cadmium, germanium, rhenium, and selenium (Republic of Serbia Ministry of Mining and Energy, 2004, p. 20).

In early 2006, Eurasian Minerals Inc. of Vancouver, British Columbia, Canada, which conducted exploration work near Bor at the Borovo-Donje Nevlje, the Brestovac, the Lece, the Plavkovo, the Stara Planina, and the Zajaca concessions, announced the discovery of gold and gold-copper mineralization at Plavkovo and Stara Planina. Sampling at Stara Planina showed gold ranging from 3.76 parts per million (ppm) to 50.4 ppm and copper ranging from 1.73% to 3.76%. Sampling at Plavkovo revealed gold ranging from 1.12 ppm to 1.41 ppm and copper at an average grade of 0.49% (Eurasian Minerals Inc., 2006a, b). In late 2006, however, Eurasian Minerals signed a letter of intent to sell its Serbian exploration properties to the Reservoir Capital Corp. of Vancouver, British Columbia, Canada (Eurasian Minerals Inc., 2006a, b).

Iron and Steel.—In 2006, Serbia's output of pig iron and steel increased by about 37% and 43%, respectively compared with that of 2005 owing largely to high global and domestic demand (table 10). The United States Steel Corporation (USS) owned and operated Serbia's Smederevo steel mill (USSB) (table 11).

Lead and Zinc.—A clearer picture of future mine production of lead and zinc awaits the resolution of the final political status of Serbia's lead-and zinc-rich Kosovo Province and definitive exploration results in the Bor region. Rudarsko-Metalursko-Hemijski Kombinat za Olovo I Cink Trepca [Trepca lead-zinc mining, beneficiation, and smelting complex (Trepca)] remained under a United Nations (UN) protectorate status. In 2006, the production of lead-zinc ore increased by more than 6% (table 10).

Industrial Minerals

Serbia and Montenegro produced a broad range of industrial minerals, which included cement, crude magnesite, lime, quartz sand, and sand and gravel. In 2006, the production of such major construction materials as cement and sand and gravel increased by about 13% and 14%, respectively, compared with output levels in 2005.

Mineral Fuels

Coal, Natural Gas, and Petroleum.—In the mineral fuels sector, the total production of coal increased by about 5% compared with that of 2005, which was mainly accounted for by a 5.3% growth in lignite production. The production of natural gas declined by about 12% during this period; the output of petroleum increased slightly (1%) (table 10).

Serbia continued to rely on imports of energy raw materials for its economy. In 2006, the value of imports of energy products amounted to about $1.4 billion, which was an increase of about 37% compared with that of 2005; exports were valued at about $647 million, which was about 39% more than in 2005. In 2006, total energy imports exceeded total energy exports by about 111% (Statistical Office of the Republic of Serbia, 2007).

The Russian Federation continued to be Serbia's major supplier of natural gas and petroleum. In 2006, Russia accounted for 100% of Serbia's imports of natural gas (more than 2 billion cubic meters). Russia accounted for about 96% of Serbia's total imports of crude petroleum (2.5 Mt) (Statistical Office of the Republic of Serbia, 2007). At yearend 2006, Serbia and Russia announced plans to build a natural gas pipeline that would carry gas from Russia through Turkey, Bulgaria, Serbia, Croatia, and Slovenia to northern Italy; the pipeline would have a design capacity of 20 million cubic meters per year (Alexander's Gas & Oil Connections, 2006).

The Mineral Industry of the Serbian Province of Kosovo

The Serbian Province of Kosovo became a United Nations (UN) protectorate in 1999 under the provisions of UN Security Council Resolution 1244 following the Kosovo crisis that year. More recently, the UN Interim Administration Mission in Kosovo (UNMIK) was involved in efforts to restore Kosovo's infrastructure, industry, and economy, in general, much of which was damaged or destroyed in the conflict of 1999. To promote the reconstruction and development of Kosovo's mineral sector, UNMIK undertook the drafting of mining legislation and the establishment of an independent commission on mines and minerals. The Province of Kosovo's mineral assets include metals [bauxite, iron ore (nickeliferous), and lead-zinc ore], mineral fuels (lignite), and industrial minerals (aggregates, dimension stone, and magnesite) (International Bank for Reconstruction and Development, 2005, p. 3-7).

Outlook

Serbia is slowly recovering from extreme political and social tension, which pervaded the region in the late 1990s and early

2000s and disrupted long-established regional markets. The production of all minerals was expected to recover slowly during the next several years owing to such factors as investor reticence stemming from a lack of full regional stability, especially the uncertainty about Kosovo's future status.

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SLOVENIA

Slovenia relied mostly on foreign sources of minerals for its economy. Domestic mine production continued to be limited to the extraction of coal, natural gas, petroleum, and a variety of industrial minerals. In 2006, the import value of mine and quarry products amounted to about 2% of the value of total imports. Imports of metal ores and concentrates constituted about 7% of the total value of imports of mine and quarry products; industrial minerals, 14% of that value; and energy-related products, about 79%. In terms of value, imports of mine and quarry products exceeded exports by more than nine times (Statistical Office of the Republic of Slovenia, 2007, p. 387).

Minerals in the National Economy

In 2006, Slovenia's gross domestic product (GDP) increased by about 6% compared with that of 2005. Industrial production constituted more than 21% of Slovenia's GDP; the mining sector's contribution to the GDP amounted to about 0.4%.

Production

The total value of production of mine and quarry products increased by more than 10% compared with that of 2005. The output value of basic metals and industrial minerals increased by about 27% during the same period.

Structure of the Mineral Industry

Slovenia's metallurgical sector included the Kidri Kidričevo evo Talum d.o.o. primary aluminum smelter and the following three steel mills: Slovenske Železarne (SŽ), which was a state-owned holding company that maintained ownership of SŽAcroni Jesenice d.o.o. (Acroni); Store Steel Ltd. (formerly a subsidiary of the Inexa Group of Sweden); and SŽ Metal Ravne d.o.o. (Metal Ravne).

Commodity Review

Metals

Aluminum.—In 2006, Talum's output (by volume) of primary aluminum increased by about 1% compared with that of 2004. In 2006, work at Talum continued on the installation of facilities to produce 75,000 metric tons per year (t/yr) of secondary aluminum. The aim of the project, which was scheduled for completion in 2007, was to maintain output at levels prior to the closure of potline B in 2005. Talum's management had decided to close potline B owing to cost considerations involved in modernizing the potline to meet the European Union's environmental standards. Talum planned to expand the capacity of potline C, the output of which would be mixed with remelted aluminum scrap (Metals Insider, 2006, p. 6; Talum d.d., 2007).

Iron and Steel.—In 2006, Slovenia's total output of crude steel rose by about 7.6% compared with that of 2005; the output of steel semimanufactures increased by about 6.3% (table 12). In 2006, Acroni continued facility modernization that included the installation of a new stainless steel plate production line and a dust abatement unit. These projects, which were completed in September, cost about $29 million (Acroni d.o.o., 2006).

Industrial Minerals

Activity in the country's industrial minerals sector included significant increases in the output of lime, sand and gravel, and crushed stone, which amounted to 37%, 83%, and 17%, respectively, compared with those of 2005 (table 12). Slovenia's production of mineral fuels continued to decline in 2006. The output of brown coal, lignite, natural gas, and petroleum declined by 1.2%, 0.3%, 4.0%, and 4.7%, respectively, compared with output levels attained in 2005 (table 12).

Outlook

During the past decade, Slovenia's economic transition from a central planning model to an open market system has gradually

diminished the role of the mineral industry, and higher value industries began playing an increasingly greater role in the country's economy. Raw materials needed by Slovenian industry will continue to be imported to an even greater extent.

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TABLE 1
ALBANIA: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity[2]		2002	2003	2004	2005	2006
METALS						
Bauxite[e]		5,000	5,000	--	-- [3]	--
Chromium:						
Chromite, gross weight		215,000 [e]	220,000 e	160,300	170,000 [3]	210,120
Marketable ore and concentrate:						
Marketable ore (41.6% Cr_2O_3)		82,000	89,000	40,000	50,000	50,000
Concentrate		9,000	10,000	14,430	16,270	10,000
Total		91,000	99,000	54,430	66,270	60,000
Copper:						
Ore, gross weight		--	--	29,030	73,000	10,000
Concentrate:						
Gross weight		--	--	3,210	8,480	2,000
Cu content[e]		--	--	642	1,696 [3]	400
Iron and steel:						
Metal, ferroalloys, ferrochromium		22,800	37,800	34,650 [r]	34,400 [r]	17,040
Steel:						
Crude steel		96,600	86,117	98,026	87,000 [r]	100,000
Rolled steel		--	--	135,000	100,000 [r]	100,000
INDUSTRIAL MINERALS						
Cement, hydraulic	thousand metric tons	348	578	530	575 [e]	600
Clay, kaolin[e]	do.	350	--	300	310 [3]	300
Dolomite[e]		1,000,000	1,500,000	1,613,000 [3]	1,000,000 [3]	1,000,000
Olivinite[e]		200	200	200	200	200
Salt		22,746	21,448	24,783	25,000 [e]	25,000
MINERAL FUELS AND RELATED MATERIALS						
Asphalt and bitumen, natural[4]		4,200	42,076	61,035	43,000 [r]	45,000
Coal, lignite	thousand metric tons	20,300	18,000	12,600	13,100 [r]	13,000
Gas, natural, gross production[5]	thousand cubic meters	9,150	11,617	11,965	11,347	11,000
Petroleum:						
Coke		40,000	57,541	58,712	47,900	45,000
Crude, gross weight		350,038	359,253	399,740	448,041	400,000

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

[1]Table includes data available through November 2007.

[2]In addition to the commodities listed, a variety of industrial minerals and construction materials (common clay, quartz, sand and gravel, stone, and titanomagnetite) are produced, but output is not reported quantitatively, and available information is inadequate to make reliable estimates of output.

[3]Reported figure.

[4]Includes asphalt and bitumen produced at petroleum refineries.

[5]Separate data on marketable production are not available, but gross and marketed output are regarded as being nearly equal.

TABLE 2
ALBANIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2006[1]

(Thousand metric tons unless otherwise specified)

Commodity		Location of main facilities (all state-owned)	Annual capacity
Cement		Elbasan, 32 kilometers southeast of Tirana; Kruje, 20 kilometers northwest of Tirana; Shkoder, 85 kilometers northwest of Tirana; and Vlore, southwest of Tirana	1,200
Chromite		Bater (including Bater I and II and Martanesh), 40 kilometers northwest of Tirana	450
Do.		Bulquize (including Bulquize south, Fush, Terrnove, and Todo Maco), 35 kilometers northwest of Tirana	450
Do.		Kalimash, 60 kilometers north of Tirana	250
Do.		Kam, 70 kilometers north of Tirana	100
Do.		Klos, 20 kilometers northeast of Tirana	50
Do.		Pogradec (including Katjiel, Memelisht, Pojske, Pishkash, and Prrenjas), 50 kilometers east of Tirana	100
Coal, lignite		Maneze, Mezes, and Valias Mines in Tirana Durres area; Krabe Mine, 20 kilometers southeast of Tirana; Alarup and Cervnake Mines, in Pogradec area, 80 kilometers southeast of Tirana; Mborje-Drenove Mine in Korce area, 85 kilometers southwest of Tirana; and Memaliaj Mine in Tepelene area, 110 kilometers south of Tirana	2,500
Copper:			
Ore		Fushe-Arrez, 80 kilometers north of Tirana	350
Do.		Gjejan, 100 kilometers northeast of Tirana	150
Do.		Golaj (including Nikoliq and Pus), 120 kilometers northeast of Tirana	150
Do.		Kurbnesh-Perlat, 55 kilometers northeast of Tirana	100
Do.		Rehove, 110 kilometers southeast of Tirana	100
Do.		Reps (including Gurch, Lajo, Spac, and Thurr), 55 kilometers north of Tirana	350
Do.		Rreshen, 50 kilometers north of Tirana	50
Do.		Shkoder (including Palaj, Karma I and II), 85 kilometers northwest of Tirana	100
Smelter		Kukes, 110 kilometers northeast of Tirana	6
Do.		Lac, 35 kilometers northwest of Tirana	7
Do.		Rubik, 50 kilometers north of Tirana	4
Ferrochromium		Burrel, 35 kilometers northeast of Tirana	40
Do.		Elbasan, 32 kilometers southeast of Tirana	36
Iron ore		Prrenjas (Bushtrica, Prrenjas, Skorska I and II), 70 kilometers southeast of Tirana	650
Do.		Guri i Kuq (including Cervenake, Grasishta, Guri i Kuq, Hudenisht and Guri Pergjrgjur), 25 kilometers east of Tirana	500
Natural gas	million cubic feet	Gasfields on southwest Albania between Ballsh and Fier	16,000
Nickel, smelter		Elbasan	6
Petroleum:			
Crude	42-gallon barrels per day	Oilfields at Marineze, Ballsh, Shqisht, Patos, Kucova, Gorrisht, and others	35,000
Refined	do.	Refineries: Ballsh, Cerrik, Fier, and Stalin	33,000
Steel		Steel of the Party Metallurgical Combine at Elbasan	150

[1]A substantial portion of these enterprises have been operating significantly below capacity during the transition to a market economy; the capacities provided in this table represent only the latest available information and may not show the true status of these enterprises.

TABLE 3
BOSNIA AND HERZEGOVINA: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity[2]		2002	2003	2004	2005	2006
METALS						
Aluminum:						
Bauxite		71,312	573,000	916,928	1,031,618 r	816,768
Alumina, metallurgical grade		--	35,011	356,844	447,260 r	350,000
Metal, ingot; primary and secondary		102,271	112,503	121,296	131,232	136,190
Iron and steel:						
Ore and concentrate:						
Gross weight		212,114	126,929	280,596	3,176,748 r	3,439,587
Fe content		106,000	63,000	140,300	1,500,000 r	1,700,000
Metal:						
Ferroalloys e		20,000	20,000	19,820 3	15,000	20,000
Pig iron e		60,000	60,000	60,000	60,000	60,000
Crude steel		115,222	166,368	117,170	283,111	469,122
Semimanufactures e		150,000	113,000	150,000	150,000	200,000
Lead:						
Concentrate, gross weight		--	--	1,668	1,700	1,700
Metal, smelter, primary and secondary e		100	100	35	50	50
Manganese ore: e						
Gross weight		2,000	2,000	2,000	2,000	2,000
Mn content		500	500	500	500	500
Zinc concentrate, gross weight		--	--	2,135	2,200	2,000
INDUSTRIAL MINERALS						
Asbestos, all kinds e		500	500	500	500	500
Barite concentrate e		80	80	65	160	190 3
Cement	thousand metric tons	912,611	890,179	1,044,944	1,025,540 r	1,226,319
Clays:						
Bentonite		13,050	16,967	24,353	24,882 r	24,050
Ceramic clay, crude		4,340	35,861	16,784	14,553 r	15,000
Fire clay, crude		10	--	--	--	--
Kaolin:						
Crude		6,500	50,000	46,000 3	45,000	42,422
Calcined		3,000	--	--	--	--
Dolomite, crude		96,584	96,776	223,378	128,639 r	130,000
Gypsum:						
Crude		44,200	63,050	139,520	152,939 r	128,399
Calcined		6,504	6,042	6,000 e	6,000	6,000
Lime		58,316	79,302	146,000	186,000 r	180,000
Magnesite, crude		2,000	2,000	2,000	2,000	2,000
Nitrogen, N content of ammonia		500	500	500	500	500
Quartz, quartzite, glass sand e		50,000	50,000	50,000	119,831 r, 3	120,000
Salt, all sources		200,000	200,000	260,500	392,240 r	416,305
Sand and gravel, excluding glass sand	thousand cubic meters	362	476	450	574 r	600
Sodium compounds: e						
Soda ash		-- 3	11,804 3	11,000	11,000	11,000
Caustic soda		5,000	5,000	5,000	5,000	5,000
Sodium bicarbonate		500	500	500	500	500
Stone (excluding quartz and quartzite), dimension, crude:						
Ornamental	square meters	35,900	35,800	35,000 e	35,000 e	35,000 e
Crushed and brown, n.e.s.	thousand cubic meters	321	153	150	150	150
Other	cubic meters	11	--	--	--	--
MINERAL FUELS AND RELATED MATERIALS						
Brown coal and lignite	thousand metric tons	7,799	9,006	8,896	9,000	9,965
Petroleum refinery products		291,000	72,000	110,000	110,000	110,000

eEstimated; estimated data are rounded to no more than three significant digits. rRevised. -- Zero.

[1]Table includes data available through November 2007.

[2]In addition to commodities listed, common clay was also produced, but available information is inadequate to make reliable estimates of output.

[3]Reported figure.

TABLE 4
BOSNIA AND HERZEGOVINA: STRUCTURE OF THE MINERAL INDUSTRY IN 2006

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies	Location of main facilities	Annual capacity
Alumina		Ukio Banco Investment Group	Plants at Birac-Zvornik	600
Do.		Aluminij d.d. Mostar.	Plant at Mostar	280
Aluminum		do.	Smelter at Mostar	150
Bauxite		Energoinvest	Mines at Vlasenica, Jajce, Bosanska Krupa, Posusje, Listica, Citluk, and other locations	2,000
Cement		Tvornica Cementa Kakanj d.d.	Plant at Kakanj	650
Do.		D.D. Fabrica Cementa Lukavac	Plant in Lukavac	340
Coal:				
Brown		SOUR Titovi Rudnici Uglja, Tuzla	Mines in BiH	12,000
Lignite		do.	do.	7,000
Ferroalloys		Elktrobosna, Elektrohemijska i Eletrotermijska Industrija	Plant at Jajce	80
Iron ore		Mittal Mines	Mines at Ljubija	5,000
Lead-zinc ore		Energoinvest	Mine and mill at Srebrenica	300
Manganese ore		Mangan-Energoinvest	Mine and concentrator at Buzim	100
Petroleum, refined	thousand 42-gallon barrels per day	Energoinvest: Rafinerija Nafte Bosanski Brod	Refinery at Bosanski Brod	100
Pig iron		B-H Steel-Zeljezara Ltd. (Kuwait Consulting and Investment, 50%, and Zeljezara Zenica Ltd., 50%)	Blast furnace at Zenica	2,250
Salt, rock	cubic meters per year	Hemijski Kombinat "Sodaso," Rudnik Soli i Solni Bunari	Mines at Tusanj	120,000
Do.	do.	do.	Production from brine at Tuzla, BiH	2,000,000
Steel, crude		Mittal Steel Zenica (Zenica) (Mittal Steel Company Ltd., 92%)	Plant at Zenica	2,060

TABLE 5
CROATIA: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity[2]		2002	2003	2004	2005	2006
METALS						
Aluminum:						
Metal, ingot, secondary		1,000	1,200	5,500	6,256 r	2,457
Alloys		812	1,180	1,100	1,100 e	350
Semimanufactures, rolled		33,774	38,114	35,000	35,000 e	20,000
Steel:						
Crude, from electric furnaces		33,851	43,380	80,000	73,640 r	80,516
Semimanufactures, hot rolled		--	13,000	50,000	58,000	60,000
INDUSTRIAL MINERALS						
Cement	thousand metric tons	3,378	3,654	3,811	3,481 r	3,633
Clays:						
Bentonite		12,102	13,568	16,000	17,391 r	16,410
Ceramic clay		150,000 e	188,000	637,000 e	197,921 r	300,718
Gypsum:						
Crude		145,000	166,000	148,000	196,133 r	170,351
Calcined[e]		1,200 [3]	1,400	1,200	1,200	1,200
Lime	thousand metric tons	269	251	250	1,988 r	2,155
Nitrogen, N content of ammonia	do.	289	322	404	400	400
Pumice and related materials, volcanic tuff	do.	41	29	23	21 r	17
Salt, all sources		36,885	31,281	23,000	36,970 r	29,589
Sand and gravel, excluding glass sand		15,000 r, e	15,000 r, e	116,000 r, e	114,785 r	365,550
Silica:						
Quartz, quartzite, glass sand		275,121	237,141	128,000	130,888 r	139,730
Glass:						
Flat glass	thousand square meters	390	495	400 e	400 e	400 e
Container glass		148,612	171,070	150,000 e	150,000 e	150,000 e
Other hollow glass		1,711	1,466	1,400 e	1,400 e	1,400 e
Stone, excluding quartz and quartzite, dimension stone, crude:						
Ornamental	square meters	1,127,948	1,093,573	1,000,000 e	1,000,000 e	1,000,000 e
Crushed and brown, n.e.s.	thousand metric tons	14,736	19,022	19,000 e	15,103 r	17,625
Other[e]	cubic meters	25,000	25,000	20,000	20,000	20,000
Sulfur, byproduct of petroleum		7,069	7,471	7,500 e	7,500 e	7,500 e
MINERAL FUELS AND RELATED MATERIALS						
Carbon black		19,386	21,497	21,000 e	20,000 e	20,000 e
Natural gas, gross production	million cubic meters	2,122	2,190	1,851	2,283 r	2,714
Petroleum, crude:						
As reported, includes condensate	thousand metric tons	1,108	1,052	1,155	980 r	951
Refinery products		4,513,338	4,742,012	4,500,000 e	4,000,000 r, e	4,000,000 e

[e]Estimated; estimated data are rounded to no more than three significant digits. [r]Revised. -- Zero.

[1]Table includes data available through November 2007.

[2]In addition to commodities listed, common clay also was produced, but available information is inadequate to make reliable estimates of output.

[3]Reported figure.

TABLE 6
CROATIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2006

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies	Location of main facilities	Annual capacity
Alumina		Jadral, Jadranski Aluminijum	Jadral Alumina Plant	150
Aluminum		Boris Kidric Tvornica Lakih Metala	Smelter at Sibenik	75
Do.		Top-Tvornica Olovni i Aluminjskikh	Semimanufactures producer at Savska	NA
Cement		Dalmacija Cement	Sv. Jurai plant at Kastel Sucurac	1,300
Do.		do.	Sv. Kajo plant at Solin	750
Do.		do.	Majdan plant at Solin Majdan	780
Do.		Istra Cement International D.D.	Plant at Pula	70
Do.		Tvornica Cementa Koromacno	Plant at Koromacno	420
Do.		Tvornica Cementa Umag D.D.	Cement plant at Umag	480
Do.		Nasicecement D.D.	Nacise plant at Tajnovac	840
Coal, bituminous		Istarski Ugljenokopi Rasa	Mines at Labin and Potpican	500
Natural gas	million cubic feet	INA-Industrija Nafte d.d. Zagreb (INA)	Main natural gasfields at Bogsic Lug and Molve	70,000
Petroleum, crude	thousand 42-gallon barrels per day	do.	Oilfields in Croatia and Slovenia (Benicanci, Zutica, Struzec, Ivanic Grad, Lendava, and other locations)	70
Do.	do.	do.	Refineries at Urinj and Rijeka	160
Do.	do.	do.	Refinery at Sisak	150
Pig iron		Metalurski Kombinat Zeljezara Sisak	2 blast furnaces at Sisak	235
Salt	cubic meters	Solana Pag, Solana Ante Festin	Pag Island (marine salt)	13
Steel, crude		SP MK Zeljezare Sisak d.d.	Plant at Sisak	75
Do.		Jadranska Zelejzara Split	Plant at Split	170

NA Not available.

TABLE 7
MACEDONIA: ESTIMATED PRODUCTION OF MINERAL COMMODITIES[1, 2]

(Metric tons unless otherwise specified)

Commodity[3]		2002	2003	2004	2005	2006
METALS						
Aluminum, metal, ingot, secondary		4,000	4,000	4,000	4,000	4,000
Cadmium, smelter output	kilograms	111 [4]	75 [4]	--	--	--
Copper, mine and concentrator output:						
Ore, gross weight	thousand metric tons	1,200	1,200	--	2,536 [r, 4]	4,132 [4]
Concentrate:						
Gross weight		15,000	15,000	--	100,000 [r]	170,000
Cu content		5,600	2,567 [4]	--	21,800 [4]	33,591 [4]
Gold	kilograms	500	400	--	750	700
Iron and steel:						
Ferroalloys:						
Ferronickel (38% Ni), gross weight		17,000 [4]	15,000	14,000	20,000 [r]	29,000 [4]
Ferrosilicon		60,000	50,000	56,000	71,249 [r, 4]	59,023 [4]
Total		77,000	65,000	70,000	91,249 [r, 4]	88,023 [4]
Steel, crude		224,601 [4]	291,354 [4]	315,000 [4]	321,170 [r, 4]	326,484 [4]
Semimanufactures		261,886 [4]	305,111 [4]	637,000 [4]	650,000 [4]	650,000
Lead:						
Mine output, concentrate, Pb content		15,000 [4]	5,000 [4]	-- [4]	-- [4]	15,600 [4]
Primary and secondary:						
Smelter		3,500	3,500	-- [4]	-- [4]	-- [4]
Refined		19,800	8,000 [4]	-- [4]	-- [4]	-- [4]
Nickel, metal, Ni content of FeNi		5,149 [4]	5,629 [4]	5,300 [4]	8,100 [4]	10,900 [4]
Silver	kilograms	12,000	10,000	--	--	--
Zinc:						
Concentrate, Zn content		10,000	4,000 [4]	-- [4]	--	21,700 [4]
Metal, refined, primary and secondary		38,000	15,100 [4]	-- [4]	--	--
INDUSTRIAL MINERALS						
Cement	thousand metric tons	600	768 [4]	820 [4]	800	800
Clays, bentonite		25,000	25,000	25,000	25,000	25,000
Diatomite		5,000	5,000	5,000	5,000	5,000
Feldspar		21,000	21,000	21,000	27,076 [r, 4]	38,124 [4]
Gypsum, crude		150,000 [r]	150,000 [r]	150,000 [r]	190,232 [r, 4]	267,760 [4]
Lime		500	500	500	500	500
Pumice and related materials, volcanic tuff		50,000	50,000	50,000	50,000	50,000
Sand and gravel, excluding glass sand	thousand cubic meters	100	100	100	100	100
Stone, excluding quartz and quartzite:						
Dimension, crude	square meters	150,000	150,000	150,000	150,000	150,000
Ornamental	thousand cubic meters	300	300	300	300	300
Crushed and broken, n.e.s.[5]	cubic meters	5,000	5,000	5,000	5,000	5,000
Other	thousand metric tons	25,000	25,000	25,000	25,000	25,000
Talc, washed		550	550	550	1,955 [r, 4]	1,025 [4]
MINERAL FUELS AND RELATED MATERIALS						
Lignite	thousand metric tons	8,640 [4]	8,360 [4]	8,500 [4]	6,880 [r, 4]	6,650 [4]
Petroleum, refinery products	thousand 42-gallon barrels	6,000	6,000	6,200	7,000	7,000

[1]Estimated data are rounded to no more than three significant digits; may not add to totals shown. [r]Revised. -- Zero.

[2]Table includes data available through November 2007.

[3]In addition to commodities listed, common clay also is produced, but available information is inadequate to make reliable estimates of output.

[4]Reported figure.

[5]Not elsewhere specified.

TABLE 8
MACEDONIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2006

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies	Location of main facilities	Annual capacity[e]
Cement	Azbestcementa "Usje" Preduzece za Proizvodnju Cementa	Plant at Skopje	2,190
Chromite, concentrate	Jugohrom, Hemijsko-Elektrometakurski Kombinat (HEK)	Concentrator at Radusa	150
Copper ore	Bucim, Rabotna Organizacija za Rudarstvo i Metalurgija za Baker	Mine and mill at Bucim, near Radovis	4000
Ferroalloys	Jugohrom, Hemijsko-Elektrometalurski Kombinat (HEK)-Jegunovce	Plant at Jegunovce	80
Iron ore	Skopje, Rudnici i Zeljezarnica Skopje	Mines at Tajmiste, Demir Hisar, and Damjan	1,000
Lead metal	Zletovo, Topilnica za Cink i Olovo	Imperial smelter at Titov Veles	40
Do.	do.	Refinery at Titov Veles	40
Lead-zinc, concentrate	Sasa–Makedonska Kamenica Mine (Sase, Rudnici za Olovo i Cink)	Mill near Kamenica	65
Lead-zinc ore	Prepobotuvacki, Kombinat Zletovo-Sasa: Sase, Rudnici za Olovo i Cink	Mine near Kamenica	300
Do.	Zletovo, Rudnici za Olovo i Cink	Mine and mill near Probistip	700
Nickel:[1]			
Ore	Feni Industries	Mine and opencast mine near Kavadarci	2,300
Metal	do.	Ferronickel plant at Kavadarci	7
Steel, crude	Makstil A.D. Skopje (Duferco Group, 54.4%)	Plant at Skopje	260
Zinc metal	Zletovo, Topilnica za Cink i Olovo	Imperial Smelter plant and refinery at Titov Veles	65

[1]Nickel in ferronickel.

TABLE 9
MONTENEGRO: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity[2]		2002	2003	2004	2005	2006
METALS						
Aluminum, gross weight:						
Alumina, calcined		237,396	239,739	245,005	235,196 [r]	236,740
Bauxite		611,500	540,051	610,000	672,345 [r]	659,370
Metal, ingot, primary		111,689	116,744	115,080	116,995 [r]	121,762
Iron and steel, metal, crude steel		17,458	6,438	29,809	28,115	49,978
INDUSTRIAL MINERALS						
Lime	thousand metric tons	11,123	8,136	10,591 [r]	6,008	8,118
Salt (sea water evaporate)		--	32,500	20,000	15,000	5,000
Sand and gravel, excluding glass sand	cubic meters	135	352	--	--	--
Stone, excluding quartz and quartzite, dimension, crude:						
Ornamental (marble blocks)	square meters	36,349	29,844	12,321	21,404	43,057
Crushed and broken, n.e.s.	cubic meters	72,523	49,981	41,936	92,506	90,000
Other, stone products	do.	29,433	40,399	33,919	26,149	25,000
MINERAL FUELS AND RELATED MATERIALS						
Coal, lignite		1,751,000	1,618,000	1,514,000	1,288,016	1,502,334

[e]Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. [r]Revised. -- Zero.
[1]Table includes data available through November 2007.
[2]In addition to commodities listed, common clay and diatomite also are produced, and tellurium may be recovered as a copper refinery byproduct, but available information is inadequate to make reliable estimates of output.

TABLE 10
SERBIA: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity[2]		2002	2003	2004	2005	2006[e]
METALS						
Aluminum ingot, secondary		300 [e]	300 [e]	300 [e]	328	1,219 [3]
Copper:						
Mine and concentrator output:						
Ore:						
Gross weight	thousand metric tons	7,968	5,714	5,495	6,005	5,775 [3]
Cu content		38,000	28,000	25,000	27,000	28,000
Concentrate:						
Gross weight		185,000 [e]	102,000	95,000	97,000	93,000
Cu content		36,900	26,400	24,000	26,100	25,100 [3]
Metal:						
Blister and anodes:						
Primary		36,000	14,000	12,000	16,300	15,400
Remelted		6,700 [e]	3,600	1,100	6,000	5,000
Total		42,700	17,600	13,100	22,300	20,400 [3]
Refined:						
Primary		26,897	9,000	12,000	25,300 [r]	35,400
Remelted		9,000 [e]	5,029	7,000	6,000	6,000
Total		35,897	14,029	19,000	31,300 [r]	41,400 [3]
Gold, refined	kilograms	858	363	400	400	400
Iron and steel, metal:						
Pig iron		485,000	635,481 [r]	959,019 [r]	1,115,195 [r]	1,529,177 [3]
Crude steel		596,000	569,199	1,167,000	1,286,000	1,837,000 [3]
Semimanufactures		877,000	947,191 [r]	1,543,453 [r]	1,890,330 [r]	2,379,918 [3]
Lead:						
Ore:						
Gross weight (Pb-Zn ore)		284,000	183,000	180,000	162,000 [r]	172,000 [3]
Pb content[e]		3,100	2,000	2,000	1,600 [r]	1,900
Metal, primary and secondary, refined		200	500	800	700 [r]	700
Magnesium, metal[e]		1,800	1,500	1,500	1,500	1,500
Platinum-group metals:[e]						
Palladium	kilograms	10	8	8	8	8
Platinum	do.	1	1	1	1	1
Selenium[e]	do.	15,000	7,000 [3]	7,000	7,000	7,000
Silver, mine output, Ag content	do.	6,838	2,028	2,000 [e]	2,000 [e]	2,000 [e]
Zinc:						
Concentrator output, gross weight[e]		20,300	6,500	3,800 [r]	2,600 [r]	6,200
Zn content of concentrate[e]		6,900	2,200 [r]	1,300 [r]	900 [r]	2,100 [3]
Refined		1,478	62	4,000	6,000	4,000
INDUSTRIAL MINERALS						
Asbestos fiber, all grades		372	111	110 [e]	143 [r]	157
Cement	thousand metric tons	2,396	2,075	2,240	2,276 [r]	2,565 [3]
Clays:						
Ceramic clay[e]		30,000	25,000	25,000	25,000	30,000
Fire clay:[e]						
Crude		30,000	30,000	30,000	30,000	40,000
Calcined		10,000	10,000	10,000	10,000	10,000
Kaolin, crude		95,622	99,460	95,000 [e]	95,000 [e]	110,000
Feldspar, crude		7,813	3,045	3,500 [e]	3,500 [e]	3,500
Gypsum, crude		54,937	42,261	45,000 [e]	45,000 [e]	45,000
Lime	thousand metric tons	468	402	400	400	400
Magnesite:						
Crude	do.	33	24	20	20	20
Caustic calcined[e]		2,500	2,000	1,500	1,500	1,500
Mica, all grades		426	185	200	200	200
Nitrogren, N content of ammonia		65,000 [e]	60,000	138,000 [r]	111,000 [r]	80,000
Pumice and related volcanic materials, volcanic tuff[e]		100,000	100,000	100,000	100,000	100,000
Salt, all sources		42,243	78,271	75,000	75,000	75,000
Sand and gravel, excluding glass sand	thousand cubic meters	2,074	1,507	1,500	7,556 [r]	8,633 [3]

See footnotes at end of table.

TABLE 10—Continued
SERBIA: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity[2]		2002	2003	2004	2005	2006[e]
INDUSTRIAL MINERALS—Continued						
Silica:						
Quartz sand		258,801	260,880	260,000	260,000	260,000
Glass		104,000	65,000	80,000	80,000	80,000
Sodium compounds:						
Caustic soda		6,787	7,450	7,000 [e]	7,000 [e]	7,000
Sodium sulfate[e]		800	800	800	800	800
Stone, excluding quartz and quartzite, dimension, crude:						
Ornamental	square meters	103,000	69,000	70,000	70,000	70,000
Crushed and broken, n.e.s.[e]	thousand cubic meters	3,000	2,000	2,000	2,000	2,000
Other, stone blocks[e]	cubic meters	1,000	500	500	500	500
Sulfur, byproduct:[e]						
Metallurgy	thousand metric tons	75	40	50	50	50
Petroleum	do.	1	1	1	1	1
Total	do.	76	41	51	51	51
MINERAL FUELS AND RELATED MATERIALS						
Coal:						
Bituminous	thousand metric tons	70	54	50	65 [r]	65 [3]
Brown	do.	423	397	352	363 [r]	316 [3]
Lignite	do.	32,995	34,543	35,192	34,565 [r]	36,404 [3]
Total	do.	33,488	34,994	35,594	34,993 [r]	36,785 [3]
Natural gas, gross production	million cubic meters	400	364	317	320	280 [3]
Petroleum:						
Crude, as reported	thousand metric tons	682	671	652	648 [r]	654 [3]
Refinery products	do.	2,369	2,380	2,300 [e]	2,300 [e]	2,300

[e]Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. [r]Revised. -- Zero.
[1]Table includes data available through November 2007.
[2]In addition to commodities listed, common clay and diatomite also are produced, and tellurium may be recovered as a copper refinery byproduct, but available information is inadequate to make reliable estimates of output.
[3]Reported figure.

TABLE 11
SERBIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2006

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies	Location of main facilities	Annual capacity
Antimony, ores and concentrates		Zajaca, Rudarsko Tapionicarski Bazen	Mines and mills near Zajaca, Serbia	80.
Do.		do.	Mines and mill at Rajiceva Gora, Serbia	300.
Antimony, metal		do.	Smelter at Zajaca, Serbia	4.
Cement		Becinska Fabrika Cementa	Plant at Beocin, Serbia	2,031.
Do.		Fabrika Cementa Novi Popovac	Plant at Popovac, Serbia	1,613.
Coal:				
Bituminous		Ibarski Rudnici Kamenog Uglja	Mines at Jarando and Usce, near Baljevac na Ibru, Serbia	250.
Lignite		SOUR Kolubara, Rudarsko Energetsko Industrijski Kombinat, RO	Opencast mines: Polje B and Polje D	10,000.
Do.		Kolubara Povrsinski Kopovi	Tamnavski Kopovi (also known as Kolubarski Rudnici Lignita), near Vreoci, Serbia	14,000.
Do.		SOUR Elektroprivreda Kosova, RO Kosovo, Proizvodnja Separacija i Transport Uglja	Opencast mines: Dobro Selo and Belacevac, near Obilic, Serbia	2,000.
Copper		Rudarsko Topionicki Bazen Bor (RTB Bor)	Smelter at Bor, Serbia	180.
Do.		do.	Electrolytic refinery at Bor, Serbia	180.
Do.		do.	Mine and mill at Bor, Serbia	5,000 ore.
Do.		do.	Mine and mill at Majdanpek, Serbia	15,000 ore.
Do.		do.	Mine and mill at Veliki Krivelj, Serbia	8,000 ore.
Lead, metal		Rudarsko-Metalursko-Hemijski Kombinat za Olovo i Cink Trepca (Trepca)	Smelter at Zvecan, Serbia	180.
Do.		do.	Refinery at Zvecan, Serbia	90.
Lead-zinc ore		do.	Mines at Ajvalija, Kopanaonik, Badovac; Trepca, Blagodat, Lece; Veliki Majdan, Tisovak; and Kisnica, Rudnik, Suplja Stijena	5,000.
Do.		do.	Mills at Kriva Feja, Lece, Rudnik, Badovac, Leposavic, Zvecan, and Maravce, Suplja Stijena	3,160.
Do.		Veliki Majdan Rudnik Olova i Cinka	Mine at mill near Krupanj, Serbia	250.
Magnesite, concentrate		Rudnici Magnezita "Sumadija"	Mine and plant at Sumadija, 20 kilometers northwest of Cacak, Serbia	120.
Do.		Rudnik i Industrija Magnezita "Strezovce"	Opencast mine at Beli Kamen, Strezovce, near Itiova Metrovica, Serbia	300.
Do.		do.	Sinter plant at Strezovce	40.
Do.		Magnohrom, Rudnik Magnezita "Magnezit"	Mine at Bela Stena, Baljevac na Ibru, Serbia	30.
Natural gas	million cubic feet	Naftaplin (Naftagas), RO za Istrazivanje, i Prozvodnju Nafte i Gasa	Natural gasfields in Serbia: Kinkinda and others	30,000.
Petroleum:				
Crude	thousand 42-gallon barrels per day	Naftagas, Naftna Industrija	Oilfields in Serbia: Kikinda and others	30.
Refined	do.	Naftagas, Naftna Industrija: Rafinerija Nafte Pancevo	Refinery at Pancevo, Serbia	110.
Do.	do.	Rafinerija Nafte Novi Sad	Refinery at Novi Sad, Serbia	28.
Pig iron		U.S. Steel Serbia	Blast furnace at Smederevo, Serbia	720.
Steel, crude		do.	Plant at Smederevo, Serbia	2,200.
Zinc, metal		Rudarsko Metalursko Hemijski Kombinat Olova i Cinka Trepca, Metalurgija Cinka	Electrolytic plant at Titova Metrovica, Serbia	40.
Do.		Hemijska Industrija Zorka	Electrolytic plant at Sabac, Serbia	40.

TABLE 12
SLOVENIA: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity[2]		2002	2003	2004	2005	2006
METALS						
Aluminum, ingot, primary		87,600	109,800	120,666	138,500	139,600
Iron and steel, metal:						
Ferroalloys:						
Ferrosilicocalcium[e]		100	--	--	--	--
Ferrosilicon[e]		9,000	9,000	9,000	9,000	9,000
Crude steel from electric furnaces		481,000	541,000 r	566,000 r	583,000 r	627,000
Semimanufactures		400,000	594,000	621,000	638,939	678,854
Lead, refined, secondary		15,400	15,400	16,000	15,400	15,400
INDUSTRIAL MINERALS						
Cement[e]	thousand metric tons	1,250	1,300	1,300	1,500 r	1,500
Clays:						
Bentonite[e]		4,122 [3]	4,000	1,000 r	140 r	130
Ceramic clay, crude		2,000 e	2,261	1,819	1,800 e	1,800 e
Lime	thousand metric tons	1,636,000 r	1,500,000 r, e	1,500,000 r, e	1,840,287 r	2,522,793
Pumice and related materials, volcanic tuff[e]		40,000	40,000	40,000	40,000	40,000
Quartz, quartzite, glass sand[e]		200,000	200,000	200,000	200,000	200,000
Salt, all sources		128,212	125,000 e	1,000 r, e	803 r	1,624
Sand and gravel, excluding glass sand		5,000,000 r	5,000,000 r, e	5,000,000 r, e	3,750,707 r	6,871,519
Stone, excluding quartz and quartzite, crude:						
Dimension		6,858	12,603	10,667	15,262	15,000 e
Crushed stone		10,000,000 r	10,000,000 r	10,000,000 r	12,176,491 r	14,213,319
MINERAL FUELS AND RELATED MATERIALS						
Coal:						
Brown coal	thousand metric tons	639	608	611	594	587
Lignite	do.	4,048	4,222	4,198	3,945	3,934
Natural gas	thousand cubic meters	6,000 e	4,900	5,040	4,335	4,163
Petroleum, crude		763	482	344	298	284

rRevised. -- Zero.
eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. rRevised. -- Zero.
[1]Table includes data available through November 2007.
[2]In addition to commodities listed, coke, common clay, and petroleum products also were produced, but available information is inadequate to make reliable estimates of output.
[3]Reporterd figure.

TABLE 13
SLOVENIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2006

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies	Location of main facilities	Annual capacity
Alumina	KidričevoTalum d.o.o.	Plant at Kidricevo	120
Aluminum	do.	Smelter at Kidricevo	72
Cement	Salonit Anhovo	Plant at Anhovo	1,120
Coal:			
Brown	SOZC, Rudarsko Energetski Kombinat E. Kardelj	Mines: Sasavski Rudnici at Trbovlje, Hrastnik, Ojstro, Senovo, and Kanizarnica	1,300
Lignite	Rudarsko Energetski Kombinat Velenje, RO Rudnik Lignita-Velenje	Mine at Velenje	5,000
Lead metal	Rudnik Svinca in Topilnica, Mezica	Smelter at Mezica	35
Do.	do.	Refinery at Mezica	30
Petroleum, refined	Industrija Nafte d.d. Zagreb (INA) Rafinerija Nafte Lendava	Refinery at Lendava	16
Pig iron	Zdruzeno Podjetje Slovenske Zelezarne	Two blast furnaces at Zelazara Jesenice	300
Do.	Zelezara Store	Electric reduction furnaces at Store pri Celju	290
Steel, crude	Slovenske Zelezarne	Plant at Jesenica	400
Do.	do.	Plant at Ravne	162
Do.	do.	Plant at Store	140