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The Mineral Industries of the Commonwealth of Independent States

Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan

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The Commonwealth of Independent States (CIS) was created in December 1991 by Republics of the former Soviet Union and then extended to all the former Soviet Republics except the Baltic states of Estonia, Latvia, and Lithuania. In the adopted Declaration, the participants of the CIS declared their interaction to be based on the principle of the sovereign equality of all members and that the member states were independent and equal subjects of international law. The CIS is not a state and it does not have supranational powers. In 2005, the members of the CIS were Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. On August 26, 2005, Turkmenistan discontinued permanent membership and became an associate member.

The stated purpose of the CIS is to provide a common economic space in the CIS region. Although they are pledged to economic integration, the countries of the CIS have taken few actual measures to make the CIS a functioning integrated economic bloc similar to the European Union (EU).

ARMENIA

Armenia was a major producer of molybdenum. The Zangezur copper-molybdenum complex possesses large molybdenum reserves that are concentrated in the Kadzharan deposit. Besides molybdenum, Armenia has significant deposits of copper and gold; smaller deposits of lead, silver, and zinc; and deposits of industrial minerals, including basalt, diatomite, granite, gypsum, limestone, and perlite. Table 7 is a list of the country's major mineral reserves.

In 2005, seventeen mining and metallurgical enterprises were in operation; the largest enterprises mined copper and molybdenum ore or extracted gold from tailings. The country also produced aluminum foil based on raw materials imported from Russia and had a diamond cutting industry using imported raw materials (Mining Journal, 2005). The country had almost no domestic fuel production and relied for electric power on a nuclear powerplant and hydroelectric plants. It imported fuel for its nuclear powerplant and natural gas from Russia.

The value of mineral production in 2005 totaled $180 million or about 5% of the gross domestic product (GDP). Mining and nonferrous metallurgy accounted for 55% of the value of industrial production (table 1). The mineral sector accounted for 11% of the value of the country's capital stock (table 2).

Production

In 2005, in the aggregate, the volume of metallic ores mined decreased although nonmetallic ore production increased. The volume of output in both the ferrous and nonferrous metallurgical sectors increased compared with output in 2004 (table 3). The output volume of individual mineral commodities with respect to ouput in 2004 varied by commodity (table 4).

Structure of the Mineral Industry

The diamond cutting industry appeared to be in flux; it was not possible to verify the continuing existence of a number of diamond cutting enterprises and a few new diamond cutting enterprises apparently were established. Russia's major aluminum company RUSAL invested more than $100 million in Armenal, which was owned by RUSAL. The Armenal foil plant reopened in December 2005 after being closed for about 1 year for renovation. Plans called for the plant to produce 25,000 metric tons per year (t/yr) of foil. The plant, which would be supplied with raw material from RUSAL, was expected to produce 12% of all foil produced in the CIS by 2007 (table 5; Azom.com, 2005§[1]).

Trade

In terms of value, cut diamond was the country's leading mineral export followed by copper and ores and slags, of which molybdenum ores and concentrates had the most value. The country reported significant exports of iron and steel, which were either transshipments or scrap as the county had no domestic steel industry (table 6).

Outlook

Further development of the country's mineral production sector is projected as additional funds become available for mineral sector development. Mineral production has been increasing (except for in the diamond-cutting industry) and the country is making a particular effort to attract investment in its mining sector. Molybdenum output is expected to increase as a result of a successful privatization program that involved

[1]References that include a section mark (§) are found in the Internet Reference(s) Cited sections.

a $200 million investment that has enabled the Zangezur copper-molybdenum complex to begin reequipping its mining and processing operations in 2005. The goal is to increase the ore-processing capacity at the Kadzharan deposit by 50% to between 12.5 and 13 million metric tons per year (Mt/yr) of ore by 2008. The Armenian Copper Program (ACP) is also in the process of having the large Teghout copper-molybdenum deposit reevaluated and, if it proves feasible for development, the deposit will be second only to the Kadzharan deposit in the size of its copper and molybdenum reserves. International companies are investing in developing gold deposits in Armenia, including Ararat Gold Recovery Company (a 100% subsidiary of Sterlite Ltd. of Canada) and United States-based Global Gold Corp. Production of aluminum foil is also expected to increase with the restarting of the Armenal plant.

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Major Sources of Information

Ministry of Trade and Economic Development
Ministry of Nature Protection of the RA
Armenian Development Agency
National Statistical Service of the Republic of Armenia

AZERBAIJAN

Azerbaijan produced a range of metals and industrial minerals, including such metals as alumina, aluminum, lead, steel, and zinc. Its major importance as a world mineral producer, however, was based on its petroleum extracting industry. The country has been a significant oil producer for more than a century, but recent focus has been on developing offshore resources in the Caspian Sea. Production from the country's Soviet-era fields are in decline, but since independence, foreign direct investment in offshore fields had revitalized the country's oil sector through the development of large-scale new projects and the refurbishment of older projects. In 2005, Azerbaijan had signed more than 20 major agreements to develop oilfields with approximately 30 companies from 15 countries (U.S. Energy Information Administration, 2006§).

Oil extraction and refining accounted for more than 75% of the value of industrial production (table 8). The oil extraction and refining sectors and the metallurgy and metal fabrication sectors employed more than 60,000 people in 2005 (table 9). The country was becoming a major producer of oil and was producing far more oil than it consumed, but its natural gas production in 2005 was still significantly below its consumption (table 10). The country was increasing its steel products production at the Baku Steel company, which was a privately owned company that produced steel products from steel scrap.

Production

In 2005, production increased for practically all mineral commodities. Crude petroleum production increased by more than 43% compared with that of 2004 (table 11). The country was developing its steel industry, although it is still on a small scale.

Trade

Fuels accounted for 76% of the value of exports in 2005 (table 13). The country's major export was crude petroleum, almost all of which was sold on world markets rather than supplied to other CIS countries. Other mineral exports included petroleum refinery products and alumina (tables 14, 15). The country imported a variety of mineral commodities, including natural gas (table 15).

Mineral Resources

Azerbaijan's major mineral wealth is in its oil and gas reserves. Offshore hydrocarbon structures in the Caspian Sea accounted for most of the country's oil and gas production. Azerbaijan's proven crude oil reserves were estimated to range from 7 billion to 13 billion barrels (Gbbl) [or from about 950 millon meteric tons (Mt) to 1.8 billion metric tons (Gt)] based on various industry journals and Government sources. The State Oil Company of the Azerbaijan Republic (SOCAR) has estimated that proven reserves are 17.5 Gbbl (about 2.4 Gt) using the Soviet reserve classification system. This evaluation was not based on market economy criteria and may include resources that are not economically viable. Estimates of natural gas reserves also vary. According to the Oil & Gas Journal, Azerbaijan has proven natural gas reserves of roughly 30 trillion cubic feet (about 850 billion cubic meters, and BP p.l.c. estimates that the country has 48 trillion cubic feet (about 1.4 trillion cubic meters) of proven gas reserves (U.S. Energy Information Administration, 2006§).

Outlook

Although some effort has been made to promote balanced mineral development of all the country's mineral resources, the country's economic development has depended primarily on the development of its large offshore oil and gas resources. These resources are expected to be the country's chief source of revenue for the coming decades.

In 2004, Azerbaijan exported approximately 211,000 barrels per day (bbl/d) of oil. Exports are expected to more than double to 478,000 bbl/d in 2006 and to reach as high as 1.1 million barrels per day (Mbbl/d) by 2008 (U.S. Energy Information Administration, 2006§).

Azerbaijan was a net natural gas importer in 2005. The country is expected to become a significant gas exporter following the development of the Shah Deniz natural gas deposit, which is considered to be one of the world's largest natural gas field discoveries of the past 20 years. According to BP (the project operator), Shah Deniz has potential recoverable reserves of about 15 trillion cubic feet (about 424 billion cubic

meters) of natural gas and 600 million barrels [(Mbbl)—about 82 Mt] of condensate. Other industry and trade sources have estimated that the field contains as much as 35 trillion cubic feet (almost 1 trillion cubic meters) of gas. The field is being developed by the Shah Deniz consortium, whose members include BP, LukAgip, National Iranian Oil Company (NICO) International, SOCAR, Statoil ASA of Norway, TotalFinaElf, and Türkiye Petrolleri Anonim Ortaklig (TPAO) of Turkey (U.S. Energy Information Administration, 2006§).

In the first phase of the Shah Deniz field's development, production of natural gas for export was expected to begin in late 2006. In the second phase, according to BP, the Shah Deniz project could produce an additional 1 trillion cubic feet per year (about 28 billion cubic meters per year) of natural gas by as early as 2015 (U.S. Energy Information Administration, 2006§).

Although Azerbaijan lacks any infrastructure for the export of natural gas, efforts were underway to secure export routes and customers for gas deliveries beginning in 2006. The main conduit for Azerbaijan's natural gas exports would be the South Caucasus Pipeline, also known as Baku-T'bilisi-Erzurum, which would run parallel to the Baku-T'bilisi-Ceyhan oil pipeline for most of its route before connecting to the Turkish gas pipeline network near the town of Horasan in Turkey. Pipeline construction began in late 2004 and was scheduled to be completed during the first quarter of 2007. The pipeline was expected to carry 233 billion cubic feet per year (about 6.6 billion cubic meters per year) initially; this volume could be increased later to up to 700 billion cubic feet per year (about 58 billion cubic meters per year) with the future addition of compression stations (U.S. Energy Information Administration, 2006§).

With the new pipeline infrastructure in place, Shah Deniz would be capable of producing approximately 350 billion cubic feet per year (about 9.9 billion cubic meters per year) of natural gas by 2009. Supplies of natural gas from Shah Deniz and associated gas from the Azeri Chirag Gunashli (AGC) and the Bakhar-2 projects are expected to make Azerbaijan self-sufficient in natural gas and to result in significant export revenues (U.S. Energy Information Administration, 2006§).

Internet Reference Cited

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Major Sources of Information

State Statistical Committee of the Republic of Azerbaijan
Ministry of Economic Development
Ministry for Industry and Energy Ministry of Ecology and Natural Resources Agriculture
State Oil Company of the Azerbaijan Republic (SOCAR)

BELARUS

Belarus had a number of significant mineral production enterprises, including a steel minimill, a nitrogen production enterprise, and two oil refineries. An oil pipeline that passes through Belarus transported about 70 Mt/yr of Russian oil to Europe. The Belneftekhim State Concern for Oil and Chemicals, which included among its many enterprises the country's oil production, refining, and transport facilities and potash production enterprise, was the largest concern in the country. It included 50 organizations, of which nearly all were enterprises that produced chemical products. The country's only mineral production enterprise that played a major role in world markets was its potash production enterprise Belaruskali, which mined the Starobin deposit. In 2005, Belarus ranked third in the world in potash production.

Production of mineral products, including chemicals and petrochemicals, construction materials, electric energy generation, fuels, and metals accounted for 47.2% of the value of industrial output (table 17). Utilization of current production capacity was almost 100% in every branch of mineral production except oil refining (table18). The Belneftekhim concern accounted for about 19% of the value of industrial output and 25% of the value of exports; it employed about 120,000 people (Belneftekhim, 2007§).

Production

In 2005, production increased for the majority of mineral commodities compared with that of 2004, including potash, for which Belarus was a major world producer (table 19).

Trade

Fertilizers, petroleum refinery products, and iron and steel were Belarus' main mineral commodity exports. Its major mineral imports were iron and steel and mineral fuels (table 21).

Mineral Resources

Belarus has only one mineral deposit of major significance, the Starobin potash salt deposit, which is one of world's largest potash deposits. The Starobin deposit contains camalite (magnesium-bearing salt), edible rock salt, and sylvinite (potash-bearing salt). The potash salts are contained within the rock salt layers. Several dozen potash levels are found at the deposit. The commercial part consists of four levels. These commercial levels occur at depths of from 400 to 1,200 meters (m) and more. Their thickness varies from 4 to 20 m (Production Almagamation Belaruskali, 2005b§).

Outlook

Belarus' main mineral production enterprise, the potash producer Belaruskali, has been put on a list of state-owned companies that cannot be privatized (Creon, 2006§). Plans for Belaruskali until 2012 call for the improvement of its export potential by increasing its potash fertilizer production capacity to 9 Mt/yr. To attain this target, the following projects would have to be completed: construction of the Beryozovski and Krasnaya Sloboda Mines to maintain and extend reserves owing to decreasing reserves at the No. 1 and 2 mining enterprises; modernization and reconstruction of existing mines, processing plants and auxiliary shops; and reduction in the environmental

impact of mining and processing in the area of Soligorsk (Production Almagamation Belaruskali, 2005a§).

With the aid of foreign partners and investors, planned facility reconstruction is in progress in the oil refining sector. The modernization is intended to deepen the oil refining process and to switch to essentially new technologies to address increasing environmental challenges (Belnefetkhim, 2007§).

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Major Sources of Information

Belneftekhim State Concern for Oil and Chemicals
Ministry of Natural Resources and Environmental Protection
Ministry of Statistics and Analysis of the Republic of Belarus

GEORGIA

During the Soviet period, a range of minerals were mined in Georgia, which included arsenic, barite, bentonite, coal, copper, diatomite, lead, manganese, zeolite, and zinc, among others. Most of these commodities were still being produced in 2005, although in lesser quantities. The country had been a major producer of high-grade manganese ore for about a century, although ore reserves were being depleted. Part of the manganese was used within Georgia for ferroalloy production. Following the dissolution of the Soviet Union, the level of mineral production in Georgia declined sharply. Although production in the mineral industry was reviving in 2005, Georgia did not produce any mineral products in quantities that would be of more than regional significance.

Georgia's main role in the world mineral supply was to serve as a transport route for oil and gas shipments out of the Caspian region to world markets. Three of the new large oil and gas export pipelines that had been or were being constructed in the Caspian region pass through Georgia. These three are the Baku-Tbilisi-Ceyhan, the Baku-Tbilisi-Erzurum, and the Baku-Supsa ("Western Early Oil Route") pipelines. No routes were planned to cross Armenia owing to Azerbaijan's troubled relationship with Armenia.

In 2005, Georgia had 148 enterprises that were involved in mining and quarrying out of a total of 4,632 industrial enterprises, which comprised 3.2% of the total number of industrial enterprises. Seven of these 148 enterprises were state owned and the rest were private. The distribution of these enterprises based on the type of mineral extraction is shown in table 22. In 2005, the labor force involved in mining and quarrying totaled 8,600 out of a total industrial labor force of 94,300, or 8.6% of the industrial labor force. State-owned mining and quarrying enterprises employed 5,700 people and private enterprises employed 2,900 people. The distribution of the labor force among mining and quarrying enterprises is shown in table 23. Mining and quarrying contributed 10.4% of the total value of industrial production in 2005. The distribution of the value of industrial production contributed by type of mining activity is shown in table 24.

Of the total value of output for mining and quarrying, state-owned enterprises produced about one-third of the value of output, and the remaining two-thirds was produced by privately owned enterprises. Of the total value of industrial capital stock, mining and quarrying enterprises accounted for 3.4% of the value. The distribution of the value of capital stock based on the type of mining and quarrying is shown in table 25 (State Department for Statistics of Georgia, 2006§).

Trade

Georgia exported a large percentage of its major mineral products. These products included copper ores and concentrates, ferroalloys produced from domestically produced manganese ore, and nitrogenous fertilizers. The country also exported significant quantities of ferrous scrap and waste. Georgia's major mineral imports were oil and gas. The quantity and value of exports and imports of mineral commodities are listed in tables 28 and 29.

Mineral Resources

Georgia has more than 300 explored mineral deposits, only about one-half of which have been brought into production. For the past 100 years, the manganese ore deposits near the town of Chiatura have represented a significant source of manganese ore production. Chiatura ores supplied the county's Zestafoni ferroalloys plant. The Chiatura deposit's resources were estimated to be 215 Mt of manganese ore, of which about one-half has been depleted. The country has 11 explored oilfields with reportedly 28 Mt of oil resources; larger oilfields are also thought to exist. Georgia reportedly has more than 400 Mt of coal resources. The Black Sea coast in Adjaria is thought to contain large gasfields with 8.5 billion cubic meters of resources already explored and potential resources estimated to be 125 billion cubic meters. The country also has resources of arsenic, barite, copper, diatomite, dimension stone, marble, and lead-zinc, as well as raw materials for producing cement (American Chamber of Commerce in Georgia, 2005§). Important deposits include the Askana bentonite clay deposit in Ozurgeti, the Kisatibi diatomite deposit in the Akhaltsikhe District, the Kvaisa zinc deposit in the Java district, the Luhkumi arsenic deposit in the Ambrolauri district, and the Madneuli polymetallic (barite, copper, lead-zinc, pyrite, silver, sulfur, gold bearing quartzites) deposits in the Bolnisi region (American Chamber of Commerce in Georgia, 2005§).

Outlook

Although the Georgian economy has experienced significant economic growth, growth in the mining and metallurgical sector has lagged behind that of the overall economy. Georgia's

major revenues from minerals are expected to derive from its role as a transport route for Caspian Sea hydrocarbons. Oilfield and gasfield development could take place off the Black Sea shelf as a number of major international companies are assessing the region's production potential. Only two mining enterprises are operating in Georgia—the Chiatura manganese enterprise and the Madneueli polymetallic mining enterprise. Both had previously lacked investment resources to introduce modern technology that would enable them to produce near their potential. In 2005, however, a joint venture of Austrian, Georgian, and Russian bidders reportedly won the privatization tender for the manganese mining enterprise for $132 million, and Stanton Equities Corporation reportedly won a privatization bid for a gold mine at Madneuli (American Chamber of Commerce in Georgia, 2005§).

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Major Sources of Information

Ministry of Environmental Protection and Natural Resources
Ministry of Economic Development
Ministry of Fuel and Energy

KAZAKHSTAN

Kazakhstan ranks second only to Russia among the countries of the CIS in its quantity of mineral production. It is endowed with large reserves of a wide range of metallic ores, industrial minerals, and fuels, and its metallurgical sector is a major producer of a large number of metals from domestic and imported raw materials. In 2005, its metal mining sector produced bauxite, chromite, copper, iron, lead, manganese, and zinc ores, and its metallurgical sector produced such metals as beryllium, bismuth, cadmium, copper, ferroalloys, lead, magnesium, rhenium, steel, titanium, and zinc. The country produced significant amounts of other nonferrous and industrial mineral products, such as alumina, arsenic, barite, gold, molybdenum, phosphate rock, and tungsten. The country was a large producer of mineral fuels, including coal, natural gas, oil, and uranium.

The country's economy is heavily dependent on the production of minerals. Output from Kazakhstan's mineral and natural resources sector for 2004 (the latest year for which data were available) accounted for 74.1% of the value of industrial production, of which 43.1% came from the oil and gas condensate extraction (table 30). In 2004, the mineral extraction sector accounted for 32% of the GDP, employed 191,000 employees, and accounted for 33.1% of capital investment and 64.5% of direct foreign investment, of which 63.5% was in the oil sector (International Monetary Fund, 2005).

Since the breakup of the Soviet Union, Kazakhstan has been perceived globally as a supplier of mineral commodities, which include oil, nonferrous metals, and uranium. Kazakhstan has been developing a rich mineral resource endowment. Intensive raw materials production and exports have helped the economy to overcome economic crises and ensured high rates of economic growth during the past 3 years (International Monetary Fund, 2005).

The economy of Kazakhstan has been growing owing to the state policy of attracting foreign investment into its extraction industries. Kazakhstan was the first CIS country assigned with investment sovereign rating, and The World Bank has listed Kazakhstan among the 20 most attractive countries for investment. As a small economy with large fuel and mineral resources, however, Kazakhstan has not been particularly attractive for investment in the manufacturing sector, which makes the country highly vulnerable to fluctuations in commodity prices (World Bank, The, 2006§).

In view of the danger of the economy not using effectively the excess profits from the extracting sectors and foreseeing a possible negative effect from a sharp downfall of oil prices, the Government established the National Fund to accumulate surplus oil revenues. The revenues in the Fund are to be used for the overall development of the national economy (World Bank, The, 2006§).

Environment

Kazakhstan faces a number of environmental challenges, including industrial pollution, land degradation and desertification, and contamination from its former role in nuclear weapons development and testing in the Semipalatinsk region. Significant improvements in the environmental situation of the Northern Aral Sea area has been made owing to dam construction and river flow regulation (World Bank, The, 2006§).

Production

In 2005, Kazakhstan increased its production of petroleum (its major mineral commodity in terms of value) compared with production in 2004. Results were mixed regarding the production of other mineral commodities, with production increasing for some commodities, such as alumina, chromite, silver, titanium sponge, uranium, and zinc metal, but decreasing for others, such as copper metal, iron ore, lead metal, and steel (table 31).

Structure of the Mineral Industry

Kazakhstan's law holds that no sector of the economy is fully closed to investors, and, in 2005, a large number of Kazakhstan's mineral production enterprises had significant foreign ownership. In 2005, the Government of Kazakhstan also maintained ownership in a number of mineral production enterprises; the percentage of ownership varied depending on the enterprise (U.S. Department of State, 2006§). Despite being open to foreign investment and even listed on Western stock exchanges, the ownership structure of some major mineral producing enterprises was not entirely transparent

(Roberts, 2006§). Table 32 is a list of major mineral production enterprises in Kazakhstan.

Trade

In 2005, fuel and oil products comprised 69% of the value of exports. Ferrous and nonferrous metals were other significant export products. The value of commodity exports from the mineral extraction sectors increased considerably in 2005, owing to an increase in the price of oil and other mineral commodities (World Bank, The, 2006§). Table 33 is a summary of Kazakhstan's major mineral exports and imports.

Mineral Resources

Kazakhstan's mineral resource base is characterized by a large number of oilfields and gasfields and by a large variety of mineral resources. The country ranks among the world's leading countries in its reserves of chromite, lead, zinc, and, uranium; it also has significant reserves of bauxite, copper, gold, iron ore, manganese, natural gas, and petroleum. According to data reported from Kazakhstan, the country is one of the 10 leading countries in the world for a significant number of mineral resources (table 34).

Within the CIS (based on the reserve classification system that was used in the Soviet Union and then by many of its successor states), Kazakhstan ranked first in its reserves of chromite and lead, possessing 97% and 38%, respectively, of all CIS reserves. The country ranked second in manganese, nickel, oil, phosphate rock, silver, and zinc, and third in coal, gas, gold, and tin (Embassy of Kazakhstan to the United States and Canada, 2007§).

Commodity Review

Kazakhstan was a major world producer of chromite, copper, lead and zinc, petroleum, and uranium.

Metals

Chromium.—Kazakhstan was the world's second ranked chromite producer. Production was centered in the Aqtobe region of northwestern Kazakhstan at the Khromtau complex. Chromite production was significantly expanding with the aid of Western investment. London-based Oriel Resources Plc acquired 100% of the Voskhod chromite project in February 2005 and, based on the positive results of a feasibility study, planned to fast-track development of the Voskhod project. Discovered in 1963, the Voskhod chromite deposit lies within the Khromtau District of the Aqtobe Region. Although surrounded by a group of existing mines, it had never been worked. The ore grade reportedly averages 48% Cr_2O_3 with concentrate upgraded to 57% Cr_2O_3. Production from Voskhod was expected to be 900,000 t/yr; production would begin in 2008 and continue for 14 years. The Voskhod Mine was projected to be one of the world's leading suppliers of high-grade chromite. Oriel subsequently was awarded an extension to the Voskhod contract license area to include the Karaagash deposit which has, according to the former Soviet reserve classification system, C2 and P1 classified resources of some 7.8 Mt. Assuming positive results of a confirmatory drilling program, theses resources could extend mining beyond Voskhod's projected 20-year life (Oriel Resources Plc, 2006§).

Copper.—Kazakhmys plc, which was the firm that controlled most copper mining and metal production in the country, was engaged in a number of projects to ensure growth in the short term and provide for reserve replacement in the longer term. The majority of these projects was expected to begin production in the near or medium term and would include both new mine development and expansion of existing mines. The new mines included the Artemovskoye (which was part of the East Region complex), which was completed ahead of schedule and had the capacity to produce 28,000 t/yr of copper and 98,000 t/yr of zinc; the Zhaman-Aybat (which was part of the Zhezkazgan mining-metallurgical complex), which was under construction and has reserves of 75.3 Mt of ore that contains 1.069 Mt of copper; and the Aktogay (which was part of the Balkhash mining-metallurgical complex), which was being evaluated for development of an open pit to mine that was expected to produce 1.614 Gt of ore at an average grade of 0.36% copper, or 5.810 Mt of copper. Expansion of existing mines would include that of the East Saryoba underground mine (which was part of the Zhezkazgan complex), the Akbastau and the Kosmurun Mines (which were part of the East Region complex), and the Taksura open pit (which was part of the North Mine) (Kazakhmys plc, 2006§).

Lead and Zinc.—Kazzinc JSC operated most of the country's lead and zinc mining and metallurgical enterprises. It also produced copper and precious metals. It employed about 22,000 people in mining, beneficiation, metallurgy, power generation, and auxiliary production. The company was established in 1997 through the merger of eastern Kazakhstan's three main nonferrous metals companies—Leninogorsk (now Ridder) Polymetallic complex, Ust-Kamenogorsk Lead and Zinc complex, and Zyrianovsk Lead Complex. The controlling block of shares in Kazzinc was sold by the state to the private sector, with Glencore International AG of Switzerland becoming the company's main investor (Kazzinc JSC, 2006a§). In addition to Kazzinc, ZAO Yuzhpolimetal Corp. produced about 60,000 t/yr of lead metal from its Shymkent lead plant; and Kazakhmys produced more than 20,000 t/yr of zinc metal at the Balkhash zinc plant (Notarov, 2005).

Kazzinc's development strategy called for it to join the ranks of the world's leading producers of lead and zinc. Almost all Kazakhstan's lead and zinc production was exported, which placed Kazakhstan already among the world's leading lead and zinc exporting countries. In 2005, Kazakhstan's lead and zinc producing enterprises were operating below capacity. The Ust-Kamenogorsk complex had the capacity to produce more than 150,000 t/yr of lead and 240,000 t/yr of zinc; the Ridder complex, 25,000 t/yr of lead and 110,000 t/yr of zinc; and the Balkhash zinc plant, 100,000 t/yr of zinc. The Shymkent lead plant was working far below capacity owing to a lack of raw material (Notarov, 2005).

Kazzinc mined lead-zinc ores from the Maeeyevskoye, the Ridder-Sokol'noye, and the Tishinskoye deposits, and processed lead and zinc at the Ridder and the Ust-Kamenogorsk

complexes. Plans called for beginning mining in 2006 at the Shaimreden deposit in Kustanay oblast, which would enable Kazzinc to produce an additional 60,000 t/yr of zinc (Notarov, 2005). In the fourth quarter of 2004, Kazzinc began production at the new Shubinsky mining subsidiary, which would operate the Shubinsky underground mine in the vicinity of Ridder. Reserves at the Shubinskoe deposit were estimated to be 1.5 Mt of lead-zinc and copper ores (Kazzinc JSC, 2006b§).

Mineral Fuels and Related Materials

Petroleum.—Kazakhstan has the Caspian Sea region's largest recoverable crude oil reserves. In 2005, its production accounted for almost two-thirds of the approximately 2 Mbbl/d that was produced by CIS countries in the Caspian region. The country was poised to become an even more significant supplier to world oil markets in the next decade. Kazakhstan produced approximately 1.29 Mbbl/d of oil in 2005 and consumed 222,000 Mbbl/d, resulting in net exports of more than 1 Mbbl/d. The Kazakhstan Government projected increasing production levels to about 3.5 Mbbl/d by 2015, which would come mainly from production of about 1 Mbbl/d from the to-be-developed offshore Kashagan field, 700,000 Mbbl/d from the onshore Tengiz field, 600,000 Mbbl/d from the to-be-developed onshore Kurmangazy field, and 500,000 Mbbl/d from the onshore Karachaganak field. The remainder would come from the development of smaller fields. Major growth would come from an approximately 75% increase in production from the Tengiz field and by development of the Kashagan field, which would add an additional 1 Mbbl/d after 2010 (U.S. Energy Information Administration, 2006§).

Uranium.—Kazakhstan was the third ranked country in the world in volume of uranium production. The company Kazatomprom was the fourth ranked uranium producer in the world (Dzhakizhev, 2004).

Approximately one-fifth of the world's uranium reserves are located in Kazakhstan. Total resources of uranium are more than 1.5 Mt, and more than 1.1 Mt can be mined by in situ leaching. Projections made by the head of Kazatomprom called for uranium production in Kazakhstan to increase to 6,465 metric tons (t) in 2007, 8,300 t in 2010, and 9,300 t in 2015 from about 4,350 t in 2005 (Dzhakizhev, 2004).

At the Stepnogorsk mining and chemical complex, which was Kazatomprom's main production enterprise, plans called for increasing production by expanding the volumes of uranium production in Mining Group No. 1, further developing the Vostok field, and completing development of the Zvezdnoye field (Kazatomprom, 2007§).

Outlook

The large predicted oil resources of the Kazakhstan sector of the Caspian shelf will require a significant amount of investment to develop. The required cumulative investment could be as much as $160 billion, of which about $10 billion would be for the initial stage of exploration, including field appraisal. Western companies already have invested more than $7 billion. A constraint to obtaining investment funds to develop the Caspian shelf is the lack of resolution of the territorial status of the Caspian Sea in regards to the demarcation lines and the ownership rights of the bordering states. This issue may have been partially resolved, however, with the agreement between Kazakhstan and Russia to partition the seafloor of the Caspian along the midline between the two countries. Similar agreements have been concluded between Kazakhstan and Azerbaijan, and between Azerbaijan and Russia (Embassy of Kazakhstan to the United States and Canada, 2007§). Also, in the energy sector, Kazakhstan will play an increasingly important role as one of the world's main suppliers of uranium.

Although Kazakhstan has adequate lead and zinc reserves to allow it to expand production through the next decade, expansion will depend on Kazakhstan's companies being able to acquire financing and the participation of foreign firms in developing large lead and zinc deposits (Notarov, 2005).

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Kazatomprom
Kazzinc JSC
Ministry of Energy and Mineral Resources
Ministry of Environmental Protection
Ministry of Geology
Ministry of Industry and Trade

KYRGYZSTAN

During the Soviet period, Kyrgyzstan was the main producer of mined mercury and of mercury and antimony metal. Following the dissolution of the Soviet Union, the country's leading mineral sector became the gold mining sector with the development of the Kumtor gold deposit by Canada's Cameco Corp., which concluded an agreement for project development with the Kyrgyz Government in 1994. On January 5, 2004, Cameco Corp. and the Kyrgyz Government announced their agreement to transfer all the assets of the Kumtor Gold Company to a new Canadian company called Centerra Gold Inc. (Centerra Gold, Inc., 2006a§). Besides Kumtor, the country's main mining enterprises were the Kadamzhay antimony mining and metallurgical complex, the Khaydarkan mercury mining and metallurgical complex, and the Makmal gold mining complex.

The Government participated directly in the mining sector through equity holdings in the Government-owned mining company Kyrgyzaltlyn. Kyrgyzaltyn's holdings include the Kadamzhay antimony mining and metallurgical complex, the Kumtor Operating Company, the Makmal gold mining complex, the Sary-Dzhasskiy gold mine, the Soltan-Sary gold mine, the Terek-Sayskiy gold mine, and others. Centerra owned 100% of the Kumtor Gold Company and the Government of Kyrgystan (through Kyrgyzaltyn) owned a 15.6 % share of Centerra (Mines & Communities, 2005§). Kumtor's significance to Kyrgyzstan's economy was large. It accounted for approximately 10% of Kyrgyzstan's GDP and about one third of all export earnings. The Kumtor gold mine employed 1,600 people (Smith, 2005). The Cameco/Centerra investment in the Kumtor gold mine was one of the largest single foreign investments in Central Asia (Canadian Embassy in Alamaty, 2006§). The mine had been the subject of complaints about environmental issues, worker safety, and financial transparency, however, which led to protests and work stoppages in 2005.

Excluding Kumtor, which is not included in some of some of Kyrgyzstan's national statistical economic data, the other parts of the mining sector did not make a significant contribution to the GDP. Even excluding Kumtor, the mining sector was a significant recipient of foreign direct investment, which was primarily directed towards the gold sector.

Production

In 2005, gold production at the Kumtor mine fell by almost 25% compared with that of 2004. Excluding Kumtor, the value of all mineral production in 2005 decreased by 13.9%. The value of the extraction of energy resources decreased by 17.7% compared with that of 2004 but increased by 17.3% for the extraction of other mineral resources. The value of output for the metallurgical sector and finished metal products decreased by 23.8% and included a large decrease in the value of output of antimony and antimony products (Interfax Statistical Report, 2006). The output of mineral products by physical unit is shown in table 35.

The Kara-Balta mining and metallurgical complex processed molybdenum, refined gold, and uranium. According to agreements signed with the Kazakh Government in the 1990s, Kara-Balta had produced about 450 t/yr of U_3O_8 from uranium concentrate provided by the Stepnoye and the Tsentralnoye Mining Directorates in Kazakhstan. In July 2000, Kazakhstan, Kyrgyzstan, and Russia agreed to form a three-way venture whereby Kara-Balta would process additional uranium concentrate from Kazakhstan's Zarechnoye deposit for the Russian nuclear power industry. In 2004, Kazakhstan stopped supplying Kara-Balta with uranium ore, and uranium processing at Kara-Balta ceased. The Government of Kyrgyzstan tried several times in 2005 to sell the plant, but was unsuccessful (Nuclear Threat Initiative, 2006§).

Mineral Resources

As of December 31, 2005, proven and probable reserves at the Kumtor gold deposit were reported by Centerra Gold to be 154 t (Centerra Gold Inc., 2006c§). Besides Kumtor, as of January 1, 2003, 19 primary and secondary gold deposits were listed on the Government's inventory. Licenses had been granted for the development of 15 deposits. More than 40 commercial or near-commercial gold deposits had been discovered in Kyrgyzstan, and further exploration and deposit evaluation could increase this number.

Most of the gold reserves were concentrated in four major known deposits that were under development. The Kumtor and the Makmal deposits were being mined, and the Jerooy and the Taldy-Bulak deposits were undergoing evaluation. The Makmal deposit was almost depleted. Other smaller high-grade, low tonnage deposits, such as the Solton-Sary and Kuran-Dhzailiau, were also being developed (MBendi Information Services (Pty) Ltd., 2005§).

Outlook

Production from the country's major mineral producing enterprise, the Kumtor gold mine, is projected by Centerra (the company's owner) to increase to about 26 t in 2009 from its 2005 level of 15.6 t. From 2009 onward, production would begin to decrease until it would cease in 2013 (Centerra Gold Inc., 2006b§).

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Major Sources of Information

Kyrgyzaltyn Joint Stock Company
Ministry of Foreign Trade and Industry
National Statistical Committee of the Kyrgyz Republic

MOLDOVA

Moldova has a small mineral industry that was primarily engaged in the mining and production of industrial minerals and products, including cement, dimension stone, gypsum, limestone, and sand and gravel. The country's most significant enterprise in the mineral sector was its steel minimill. In 2005, the extractive industries, which accounted for less than 2% of the value of the country's industrial production, increased the value of their output by 14% compared with that of 2004 (Statistica Moldovei, 2005§; 2006§). The country has more than one hundred deposits of industrial minerals and small oil and gas reserves, which it hoped to develop with the aid of foreign investors (Austrian Energy Agency, 2005§).

In 2005, more than 70% of the value of the country's mineral imports came from the CIS. Moldova does not have any oil refineries and was entirely dependent on imports of petroleum products. Almost all these imports came from Romania and Ukraine although, in the 1990s, almost all came from Russia. Moldova imported all the gas it consumed from Russia (Austrian Energy Agency, 2005§).

Moldova's steel minimill in Ribnita had the capacity to produce more than 1 Mt/yr of crude steel. The country's steel mill was located in the region of Transnistria (officially, Pridnestrovie), which is a territory within the internationally recognized boundaries of the Republic of Moldova. Transnistria declared its independence as a separate Republic of the Soviet Union on September 2, 1990. Although the separatist Pridnestrovian Moldovan Republic (PMR) has exercised de facto control over most of Transnistria, its independence had not been recognized by the Government of Moldova. The steel mill was Transnistria's leading industry and accounted for about 50% of the region's budget revenues. Steel was one of Transnistria's major exports.

Outlook

The Moldova steel works increased its production capacity and was producing more than 1 Mt/yr of steel. It was the country's only major mineral industry enterprise and planned to cease operation of various production units during October 2006 to conduct technical modernization. A revamped long-products line was to be delivered toward the end of October 2006, which would enable the steel works to fulfill its production plan for 2007. The steel works had stopped some operations for several months in 2005 because of a border dispute with Ukraine, but was again exporting to CIS countries despite logistical problems involved in organizing rail shipments to and from the border post (American Metal Market, 2006§).

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RUSSIA

Russia is one of the world's leading mineral producing countries and accounts for a large percentage of the CIS's production of a range of mineral products, including metals, industrial minerals, and mineral fuels. In 2005, Russia ranked among the leading world producers or was a significant producer of such mineral commodities as aluminum; arsenic; asbestos; bauxite; boron; cadmium; cement; coal; cobalt; copper; diamond; fluorspar; gold; iron ore; lime; lithium; magnesium compounds and metals; mica scrap, sheet, and flake; natural gas; nickel; nitrogen; oil shale; palladium; peat; petroleum; phosphate; pig iron; potash; rhenium; silicon, steel; sulfur; titanium sponge; tin; tungsten; and vanadium.

In 2005, the Russian economy benefited significantly from high oil, gas, and metal prices. Oil revenues accounted for about 14% of the GDP. Following the mineral fuel industry, the next leading branch of the mineral industry in terms of its contribution to the national economy was the metallurgical sector, which contributed 19% of the value of industrial production, accounted for 11.1% of the value of industrial capital stock, and employed 9.3% of the industrial labor force (Aminov, 2006). In 2005, a total of 1,071,000 people were employed in the mineral extraction sector and made up 1.6% of the country's labor force (Russian Federal Statistical Service, 2006§). Investment in mineral extraction and metallurgy accounted for about 20% of total investment in the Russian economy (table 41).

A new subsoil law remained under discussion. The current law of 1992, as amended, does not impose any special restrictions on companies with foreign participation, with the exception of diamond and radioactive materials, but this appeared likely to change to the disadvantage of foreign companies, especially those interested in investing in large or strategic deposits, such as the Udokan copper deposit or the Sukhoi Log gold deposit (Mining Journal, 2006§).

As proposed, the new mining law under discussion would include certain restrictions on foreign participation, limiting it to 49% for some commodities. This restriction would apply to deposits with large reserves of more than 150 Mt of oil,

75 billion cubic meters of gas, 10 Mt of copper, and 700 t of gold; to strategic raw materials, which include diamond, nickel, high-purity quartz, rare earths, and uranium; and to mineral deposits located near defense and military facilities and frontier areas. Also, discussions were underway to lower the quantity of reserves from the above specified quantities for restricted deposits (Mining Journal, 2006§).

Production

In 2005, the value of mining and quarrying production, including extraction of mineral fuels, increased by 1.3% compared with that of 2004; when mineral fuels are excluded, it fell by 3.2% (Russian Federal Statistical Service, 2006§). Increases and decreases in the production of individual mineral commodities are shown in table 44. New capacity put into operation in the mineral sector is shown in table 42.

Structure of the Mineral Industry

Production in the mineral sector was highly concentrated. For more than 10 minerals, the majority of production was conducted by one company. For example, Gazprom controlled almost the entire production of natural gas in Russia, Noril'sk Nickel Mining and Metallurgical Company (MMC) produced more than 90% of Russian nickel and platinum-group metals (PGM), and ALROSA Company Ltd. produced almost all the country's diamond. The Ministry of Natural Resources reported that the copper and other mineral industries also are highly concentrated, but that the situation is better for coal and alluvial gold (table 43) (Trutnev, 2005). Despite this concentration, Russian metallurgical and mining companies were medium-sized compared with those in other countries; in the steel sector, Russian producers are generally smaller than their international counterparts. Table 45 is a list of mineral producing enterprises.

Trade

The value of mineral exports to the Russian economy has been increasing in recent years; and, in 2005, the minerals sector accounted for more than 70% of the value of exports (tables 46, 47, 48, and 49). Mineral fuels were by far the leading category of exports in terms of value. In 2005, mineral products accounted for about 12% of the total value of imports, of which metals imported from both inside and outside the CIS accounted for more than 70%.

Mineral Resources

Approximately 20,000 Russian mineral deposits have been explored, and more than one-third of these have been mined. The Ministry of Natural Resources cited serious problems in the sector, which included the depletion of reserves and the low discovery rate of new reserves (table 50). The system of reporting reserves in the Soviet Union (and which Russia very often employed for its resource reporting) was based on establishing drilling parameters to ascertain the certainty of reserves. Unlike the method used in market economy countries, this method does not include the use of market-based economic criteria to establish the feasibility of developing these resources using current technology at prevailing market conditions. Thus, reserve data based on the Soviet method cannot be compared to market economy definitions of reserves. Furthermore, Soviet data on reserves for many mineral resources was either kept secret or was difficult to obtain, and the same holds true for Russian mineral resource data. By 2005, however, Russian companies had begun to seek exposure to Western markets and stock exchanges to raise money in larger quantities and more cheaply than in Russia. A number of state secrecy laws were repealed, which has led some Russian companies to start reporting their reserves and resources according to the Australasian Joint Ore Reserves Committee (JORC) code of the Australasian Institute of Mining and Metallurgy.

Commodity Review

Metals

Aluminum.—RUSAL was Russia's leading domestic aluminum producing company and, along with SUAL, which was the second ranked domestic aluminum producer and the leading domestic bauxite producer, controlled all Russian aluminum, alumina, and bauxite production enterprises. Plans for RUSAL called for merging its resources with that of SUAL and with Swiss-based Glencore International AG to become the United Company RUSAL. This merger would start a new stage in the development of RUSAL and make it the global leader in aluminum production.

RUSAL was investing to expand and modernize its production facilities. It was engaged in commissioning the Khakas Aluminum Smelter with a capacity of 300,000 t/yr. Plans for RUSAL also called for modernizing the Sayanogorsk aluminum smelter in 2006 to increase output of aluminum and alloys and to modernize the Nikolayev Alumina refinery in Ukraine to increase output to 1.6 Mt/yr of alumina. RUSAL also planned to continue to expand production capacity at the Achinsk alumina refinery, increasing its output to 1.1 Mt/yr of alumina (RUSAL, 2007§). Included in the company's investment project portfolio is the Komi Aluminum project, which was initiated by SUAL. The project foresees the development, construction, and operation of a bauxite-alumina complex in the Komi Republic, using material from the Middle Timan bauxite deposit. The design capacity of the complex was 6 Mt/yr of bauxite and 1.4 Mt/yr of alumina. The completion of this project would considerably reduce the Russian aluminum industry's dependence on foreign countries for raw material supplies (SUAL, 2005§).

Copper.—More than 50% of Russia's copper metal production was produced by Noril'sk Nickel from ore mined by the company. The remainder came from a much smaller amount of ore mined in the Ural Mountains and a large amount of secondary material. As nickel-rich ores at Noril'sk Nickel become depleted, Noril'sk Nickel will switch to mining larger quantities of ores, which will be primarily copper-rich ores that have a higher copper content relative to their nickel content than the nickel-rich ores, but are lower in metal content for

both metals. This change could increase copper output as Noril'sk Nickel tries to maintain its level of nickel production. Noril'sk Nickel's strategy up to 2010, however, appears to be to maintain its production of nickel-rich ores which may delay the significant increase in copper production (Humphries, 2006§).

The leading copper producer in the Ural Mountain region—the Urals Mining and Metallurgical Company (UMMC)—controls a large number of mining and metallurgical enterprises in the Urals. The company was planning to develop its raw material base and to increase its output of copper in concentrate to 105,000 t in 2010 from 72,000 t in 2003. Mine output in the Urals would also expand as mine development takes place at the Russian Copper Company Limited, which was the country's third ranked copper producer and which also controlled mining and metallurgical enterprises in the Ural Mountain region. Development of the large Udokan deposit in Chita oblast was still on hold. Reserves at Udokan and neighboring deposits were reported as ranging from 10 to more than 20 Mt of copper in ore at grades of between 0.7% and 4% copper (Helmer, 2007§; Ural Mining and Metallurgical Company, 2006§).

Gold.—Russia was having a difficult time expanding gold production because reserves at existing enterprises were being depleted and gold mining companies were experiencing greater difficulties in obtaining licenses to mine new deposits. Formerly, local Government entities could issue such licenses, but in 2005, these licenses could be obtained only through the Russian Ministry of Natural Resources based in Moscow (Kochetkov, 2005). Placers contain 18.2% of the country's reserves but they were being significantly depleted, and most existing placer mining operations were unlikely to survive beyond 2011. However, placers still contributed nearly 50% of annual production. In 2005, no new gold deposits were put into production (Mining Journal, 2006§).

More than one-half of Russia's hard rock gold resources occur in the Maiskoye, the Natalkinskoe, the Nezhdaninskoe, the Olimpiada, and the Sukhoi Log deposits in Siberia and in the Russian Far East. More than 66% of Russian gold production comes from just six eastern regions (Amur, Irkutsk, Khabarovsk, Krasnoyarsk, Magadan, and Sakha-Yakutia) (Mining Journal, 2006§). During the past 4 years, foreign companies have controlled 15% to 18% of Russian gold production, which was the largest share held for any commodity in the Russian mining industry. These foreign-held enterprises produced a total of between 30 and 36 t/yr of gold. Among Russia's leading gold producers, Bema Gold Corp., Highland Gold Mining Ltd., High River Gold Mines, Kinross Gold Corp., and Peter Hambro Mining Plc, were foreign-listed and/or foreign-controlled companies. Projects being developed by these foreign firms were expected to contribute significantly to the growth in Russian gold production in the next 5 years and could increase Russia's gold output to about 250 t/yr if they are all successfully developed. The most advanced international gold project was the Bema Gold Corp.'s development of the Kupol deposit, where production was scheduled to start in 2008 (Mining Journal, 2006§). Table 51 is a list of the leading Russian gold mining companies in 2005, which accounted for almost 70% of total production. Table 52 is a list of the leading foreign-owned gold mining companies, which accounted for about 17% of total production. The gold mining companies listed in the tables often controlled gold mines that are not listed in the tables. Significant byproduct gold was produced by mining operations of UMMC in the Ural Mountain region and Noril'sk Nickel's operations in East Siberia on the Taimyr Peninsula (165,000 ounces in 2005).

Iron and Steel.—Russia is the world's fourth-ranked steel producer after China, Japan, and the United States. Table 54 is a list of Russia's major steel mills and their ferrous metals production in 2004 and 2005. Russia shares the lead with Japan as the world's leading steel exporter. From 1998 to 2005, Russian steel production increased by more than 50%. Between 1998 and 2005, investment in the steel sector greatly increased, which improved economic indicators for steel enterprises and enabled them to improve product quality. Nevertheless, the steel sector was still in need of investment to improve its ability to compete and to expand production capacity. The process of investing in the modernization and expansion of Russian steelmaking capacity was continuing at a number of steelmaking enterprises, which included the Chelyabinsk, the Kuznetsk, the Magnitogorsk, the Nizhniy Tagil, the Novolipetsk, the Oskol, the Uralsk, the West Siberian, and other steel mills.

According to a Russian analysis, the country's steel mills can be divided into three categories based on the level of technology they employ. The mills in the first category are the country's three largest (Magnitogorsk, Severstal, and Novolipetsk), which also have the highest levels of technology. For example, this first group of mills has the lowest percentage of open-hearth production, the highest level of continuous casting, and produces the highest quality assortment of steel products. The second tier steel mills consist of the Chelyabinsk, the Nizhniy Tagil, the Kuznetsk, the Oskol, the Uralsk, and West Siberian mills. The remaining mills make up the third tier (Yuzov and others, 2006).

The trend in the Russian steel industry (as in other mineral industries) was to consolidate enterprises under the ownership of a few major firms. The country's leading steel holding company was Evraz (a Luxembourg-registered steel company) that had holdings that include three of the leading steel mills in Russia (Kuznetsk, Nizhniy Tagil, and West Siberian). Russia's third ranked steel producer, Severstal, was discussing a merger with Arcelor of Luxembourg, in part to thwart a hostile takeover bid for Arcelor by Mittal Steel of India, which was consolidating steel mills worldwide. Russian steelmakers saw the need to create a company of sufficient size and pricing power to compete with the Mittal conglomerate and also a company large enough to expand beyond Russia (Kramer, 2006§).

Iron Ore.—Russian steel companies relied on iron ore from domestic deposits. These deposits often were owned by more than one Russian steel company. In 2005, steel companies were acquiring iron ore producers to help make their companies more vertically integrated (Mining Journal, 2006§). Russia's iron ore mines and iron and steel works often were located far apart. Almost 60% of iron ore reserves are located in the Kursk magnetic anomaly (KMA) in European Russia and about 15% are located in the Ural Mountains region. Russia's major iron ore mines are listed in table 53. High-grade reserves at the open pit operations in the KMA were becoming depleted, although the area hosts significant lower grade resources in the weathered zones. These zones were estimated to contain 4 Gt of reserves

and up to 60 Gt of potential resources, but exploiting such low-grade ores would require expensive beneficiation technology.

Iron ore output was expected to be in the range of 100 to 105 Mt/yr by 2010 (Mining Journal, 2006§). A further limited increase in iron ore production was projected to the year 2020 without a significant expansion of the resource base. The resource base for iron ore was not considered very attractive for investment because of the low grade of the ores, technological problems related to mining and processing the ores, and taxation issues (Krivtsov and others, 2005).

Nickel.—In Russia, which was the world's leading nickel producing country, more than 90% of nickel was produced by Noril'sk Nickel, which mined deposits of mixed sulfide ores mainly near Noril'sk in East Siberia, but also on the Kola Peninsula. The projected long-term ore output for Noril'sk Nickel in 2005 was raised to 22 Mt/yr. The 2005 level of production was 14 Mt of ore. With metal prices and demand at very high levels, the new higher projections were in accord with Noril'sk Nickel's marketing strategy. To maintain and increase output levels, Noril'sk Nickel was planning to switch to mining a greater proportion of cuprous and disseminated ores rather than nickel-rich ores, which were being depleted. Noril'sk Nickel also was developing new mines to replace depleted reserves of nickel-rich ore. The company's cuprous ore reserves, which are abundant, have a much lower nickel content and a somewhat lower copper content, and the disseminated ores are lower in all base-metals content than the nickel-rich ores. The nickel-rich, cuprous, and disseminated ores, however, are not greatly dissimilar in their PGM content (Kaytmazov and others, 2005; Levine and Wilburn, 2003).

The Skalisty Mine, which is located on the Taimyr Peninsula, was under development; it was expected to achieve its design capacity of 1.2 Mt/yr of nickel-rich ore in 6 to 7 years. Skalisty was scheduled to produce 310,000 t of ore in 2004. Development of the Gluboky Mine, which is located on the Taymyr Peninsula, was in the planning stage; the mine was scheduled to come onstream to mine nickel-rich ore by 2013-14. Gluboky and Skalisty would produce a combined 2 Mt/yr of nickel-rich ore (Interfax Mining and Metals Report, 2004).

Despite its development plans, obstacles were preventing Noril'sk Nickel from making major investments in developing its facilities. The investment in its nickel operations that was planned for the period up to 2010 would result in only modest increases in production, although a significant reduction in production would be averted (Humphries, 2006§).

Platinum-Group Metals.—Noril'sk Nickel's operations (located mainly on the Taymyr Peninsula) in East Siberia and also on the Kola Peninsula produce more that 90% of the country's PGM output. About 10 t/yr of PGM consisting almost entirely of platinum was mined from alluvial deposits throughout the country.

In 2004, Russia repealed the law that kept PGM production data secret and, in 2005, repealed the law that kept PGM reserve data secret. The Government published reserve figures for its major PGM holdings at the Noril'sk Nickel complex in 2005. Based on an independent audit carried out by Micon International Co. Ltd. according to the Australian Joint Ore Reserves Committee (JORC) Code, Noril'sk Nickel's reserves of combined proven and probable reserves of all six platinum group elements (iridium, osmium, palladium, platinum, rhodium and ruthenium) at Noril'sk Nickel's holdings in East Siberia as of December 31, 2004, were reported to be 81.791 million troy ounces. Proven and probable reserves were reported to be 62.183 million troy ounces of palladium and 15.993 million troy ounces of platinum with ore grades that ranged from 5.5 grams per metric ton (g/t) to 11.1 g/t. Measured and indicated mineral resources were reported to be an additional 141 million troy ounces of palladium and 40 million troy ounces of platinum. These reserves are adequate for Noril'sk Nickel to maintain current levels of palladium and platinum production for more than 20 years (Noril'sk Nickel MMC, 2005§).

Despite Noril'sk Nickel's development plan to significantly increase ore extraction, the company was proceeding more slowly than its stated plans would indicate and it appeared that through 2010, Noril'sk Nickel would try to keep output levels at about the 2005 level (Humphries, 2006§).

Industrial Minerals

Diamond.—ALROSA accounted for 97% of Russian diamond production and about 25% of world rough diamond production in 2005. Its major mining operations were located in the Sakha Yakutia Republic but, in 2005, the company began production at the Lomonosov diamond deposit in the northern European part of the country in Arkhangelsk oblast. The company had five mining and beneficiation enterprises in Sakha Yakutia—the Aikhal, the Anabar, the Mirnyy, the Nyuruba, and the Udachnyy (ALROSA Company Ltd., 2007§).

In 2005, ALROSA was able to maintain its level of mine output through its program of gradually switching to underground mining to extract low-grade diamond ore reserves. ALROSA had started underground operations at the No. 7/8 Block of the Internatsiolnal'nyy underground mine and was continuing construction of underground mining at the Mir and the Udachny Mines. To maintain stable operations, ALROSA would need to increase its ore reserves by carrying out intensive prospecting for new diamond deposits. The company planned to increase its investment in exploration significantly. A new Mirny Exploration Expedition was established to concentrate on exploration (ALROSA Company Ltd., 2006§).

On June 28, 2005, full-scale mining was initiated at ALROSA's Lomonosov Division OAO Severalamz in the Arkhangelsk region with the commissioning of ore treatment plant No. 1 at the Lomonosov deposit. The plant was designed with the capacity to process about 1 Mt/yr of ore. Diamonds from the deposit are of gem quality, which accounted for the high appraisal value of the reserves at $12 billion. The diamond deposit's effective life was estimated to be about 50 years from the time the plant was put into operation (ALROSA Company Ltd., 2005§).

Phosphate Rock.—The OJSC Apatit enterprise, which is located on the Kola Peninsula, was the leading producer of apatite concentrate in Russia and one of the world's leading suppliers of phosphate raw material; its core activities were the mining and beneficiation of apatite and nepheline-syenite ores at 10 deposits that have estimated combined reserves of

3.5 Gt. The development plan for Apatit to 2015 assumes an optimal level of apatite concentrate production of 8.5 Mt/yr that would require levels of ore extraction of 27 to 28 Mt/yr (GD Associates Oy, 2004§). To maintain output, the enterprise would need to develop underground mining significantly. In 2001, the percentage of ore mined underground was 38%; by 2015, this percentage was expected to increase to 75%. Investment to renovate the beneficiation complex, reduce energy expenditures, reduce emissions harmful to the environment, and acquire new equipment to improve labor productivity was also needed.

Mineral Fuels and Related Materials

Projections of Russia's fuel production are based on the country's Energy Strategy for Russia for the Period up to 2020 issued in 2003 by the Ministry of Energy of the Russian Federation. This strategy envisions three potential scenarios: optimistic, moderate, and critical. The optimistic scenario is characterized by the growth of GDP at the rate of 4.7% to 5.2% annually, by a sevenfold increase of investment in fixed capital for this period compared with the 2000 level, and by high world prices for oil and gas. The oil prices envisioned by this strategy in 2003, even for the optimistic scenario, were about one-half of the 2005 oil prices. The moderate scenario is characterized by a GDP growth of 3.3% to 3.4% annually to 2020, an increase of investment in fixed capital by 3.6 times, and fixed prices for oil at a little more than one-half of the optimistic scenario and gas prices about 20% lower than in the optimistic scenario. The critical scenario is characterized primarily by low world oil prices (Ministry of Energy of the Russian Federation, 2003§; Mastepanov, 2006§).

Coal.—The Energy Strategy for Russia for the Period up to 2020 foresees the need for coal production to increase to between 310 and 330 Mt by 2010 and to between 375 and 430 Mt by 2020 to meet expected domestic demand. Russia has 22 coal basins with 114 coal deposits that are unevenly distributed across the country. In 2005, the country had 241 operating coal mines, which included 104 underground mines and 137 open pits with a total production capacity of 315 Mt/yr. Total coal reserves registered in the State Register of Reserves were estimated to be about 200 Gt, and registered reserves in the explored categories $A+B+C_1$ in the reserve classification system that was used in the Soviet Union and later Russia were reported as 106 Gt. These include coal reserves in operating coal mines, in mines under construction, and in areas explored in detail for new mine construction. As foreseen in the country's energy strategy program, coal production must increase by 10 to 15 Mt/yr between 2005 and 2010 and by a total of 105 Mt by the year 2020. Although the creation of additional coal production capacity through upgrading and expansion of existing mines and development of new mines was possible based on reserves, doing so would require a level of investment in the coal sector far in excess of the historic level of investment in the past 5 years and casts doubt on the feasibility of the planned expansion. At current rates of investment coal production capacity by the year 2020 would be in the neighborhood of 375 Mt/yr. This optimistic investment scenario would depend to a large extent on an increase in foreign investment, particularly from Chinese, Japanese, and South Korean companies (Voskoboynik, 2006).

Natural Gas.—The country's energy strategy predicts natural gas production to range between 635 to 665 billion cubic meters in 2010 and between 680 and 730 billion cubic meters in 2020 (Ministry of Energy of the Russian Federation, 2003§). These gas production goals were to be achieved by development in the traditional gas-producing regions, the main one of which was West Siberia, and in the new oil- and gas-producing provinces in East Siberia, in the Russian Far East, in the European North including offshore in the Arctic Sea, and on the Yamal Peninsula. Along with the development of big fields, the strategy recommends development of small gasfields, primarily in the European part of the country in the Ural Mountains, the Volga, and the North West regions.

Almost all the country's gas production was under the control of the company Gazprom. Gazprom's natural gas production forecast called for only modest production growth of about 1.3% by 2008. Growth in Russia's natural gas sector has been slowed primarily by aging fields, state regulation, Gazprom's monopolistic control over the industry, and insufficient export pipelines. Three major fields in Western Siberia—Medvezh'ye, Urengoy, and Yamburg—accounted for more than 70% of Gazprom's total natural gas production, but these fields were in decline. Although Gazprom projected increases in its natural gas output between 2008 and 2030, most of Russia's natural gas production growth was expected to come from independent gas companies, such as Itera, Northgaz, and Novatek (U.S. Energy Information Administration, 2007a§).

Reassessment of the energy strategy has been ongoing since the strategy was issued in 2003. A Gazprom subsidiary issued a report recommending a change of export strategy for the Russian gas industry. It determined that Russia should decrease exports of natural gas to European markets and concentrate instead on developing new gasfields to keep up with domestic demand, which was rising faster than was envisioned in the 2003 report and could necessitate the development of new gasfields on the Yamal Peninsula and in other places (Radio Free Europe Radio Liberty, 2006§).

Petroleum.—The Energy Strategy for Russia for the Period up to 2020 includes several scenarios that predict a range for Russian oil production of between 445 and 490 Mt/yr by 2010 and between 450 and 520 Mt/yr in 2020 (Ministry of Energy of the Russian Federation, 2003§). Oil production and growth was to be centered in the traditional oil-producing regions, such as in West Siberia, the North Caucasus, and the Volga region and in new oil and gas Provinces in the European North (Timan-Pechora region), in eastern Siberia and the Russian Far East, and in the south in the North Caspian region. Although the base of the country's oil production for this period would remain the West Siberian oil and gas province, priority areas for new development were to be in the eastern and the southern regions of the country. New field developments were likely to produce almost all Russia's annual oil growth in the next 5 years and would likely produce more than one-half of the country's oil in 2020. In the next 5 years, new field developments at the Middle Caspian project at Kurmangazy (OAO Lukoil Oil Co.); the Komsomolskoye and the Vankorskoye projects (OAO

Rosneft Oil Co.); the Prirazlomnoye project (OAO Rosneft Oil Co. and OAO Gazprom); the Sakhalin Island projects; the West Salymskoye project (Shell Joint Venture); and the Timan Pechora project (OAO Lukoil Oil Co. and ConocoPhillips) would help compensate for production decreases at older fields (U.S. Energy Information Administration, 2007b§).

Uranium.—Uranium mining in Russia was conducted entirely by the corporation JSC TVEL's ore mining enterprises, and in particular by open pit mining at its subsidiary JSC Priargunsky Industrial Mining & Chemical Union and also by in situ underground leaching at its subsidiaries CJSC Dalur in the Kurgan region and JSC Khiagda in Buryatia. Annual uranium production was about 3,400 t, of which more than 90% was produced by Priargunsky. Uranium-bearing ores and solutions were processed to generate uranium concentrates, which were shipped for further reprocessing at the JSC Chepetsky Mechanical Plant.

The country's annual natural uranium consumption amounted to approximately 9,000 t. According to projections, the demands for uranium by the nuclear industry in Russia will grow by 1.7 times. The "TVEL Uranium" program was launched by TVEL Corporation to further develop uranium production up to 2010; an increase in ore mining to 4,300 t of uranium in 2010 was envisioned. Mining was being developed at the JSC Dalur enterprise in the Kurgan region, which produced about 200 t of uranium in 2005. The enterprise planned to increase production by 15% to 20% annually to produce 1,000 t by 2010 (TVEL Corporation, 2005a§). The construction of mine No. 6 at the Priargunsky deposit had been started to increase ore production (TVEL Corporation, 2005b§).

The JSC Khiagda enterprise was developing a pilot mining operation to mine the Khiagdinskoye deposit in Buryatiya using underground well leaching. Khiagda commenced commercial operations in 2005 and Khiagda planned to have the capacity to produce 1,000 t/yr of uranium by 2012. Total reserves at the JSC Khiagda site reportedly amount to 100,000 t of uranium (TVEL Corporation, 2005c§).

Outlook

The Russian Ministry of Natural Resources has developed a draft of a long-term program "On the Exploration and Prospecting of Subsoil Reserves and Reproduction of the Mineral Resource Base for a Period until 2020," but despite this draft, Russia appears to have no clear strategy for developing its mineral resources. Rather, the country is intensively extracting its fuel and nonfuel mineral reserves, which is leading to the depletion of the majority of these reserves before the year 2020, if not much sooner.

In 2004 and 2005, Russian steel companies presented initial public offerings (IPOs) in the Western markets. This trend of presenting IPOs is set to continue in other sectors of the mineral industry. Consolidation of assets is also a recent trend, which is evident with the creation of Russia's leading aluminum producer, United Company RUSAL, through such consolidation.

There is also a trend to internationalize Russia's mineral enterprises. Russian companies, such as ALROSA, Noril'sk Nickel, and RUSAL, are acquiring major foreign assets. Many of Russia's leading companies aspire to become major international players. Although Severstal's bid for Arcelor (which would have created the world's largest steel company) appears to have failed, it is unlikely to be the last such bid from a Russian corporation.

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Major Sources of Information

Federal Service for Ecological, Technological, and Atomic Oversight
Federal State Statistics Service
Ministry of Atomic Energy
Ministry of Industry and Energy
Ministry of Natural Resources

TAJIKISTAN

Tajikistan's major mineral-producing enterprise was the Tajik Aluminum smelter (TadAz) in Tursunzade (formerly Regar), which had a design capacity to produce 517,000 t/yr of aluminum. Tajikistan's mineral industry at one time mined or produced aluminum, antimony, arsenic, boron, celestite, cement, coal, construction materials, fluorspar, gold, lead and zinc, mercury, molybdenum, natural gas, petroleum, salt, semiprecious and decorative stones, silver, strontium, tin, tungsten, and uranium.

Only a few primarily nonprecious metal mining production enterprises were still operating in 2005. These included the Anzob mining and beneficiation complex, which mined reserves of the Dzhidzhikrutskoye antimony-mercury deposit and supplied metallurgical enterprises in Kyrgyzstan; the Altyn-Topkan mining directorate; and the Adrasman mining and beneficiation complex, which developed copper-bismuth and lead-silver ores. The main output of Adrasman included concentrate with a lead content of 43% and a silver content of 5,943 g/t.

Adrasman also had been producing concentrates for the production of bismuth, copper, fluorspar, gold, zinc, and—the most valuable component of the ore mined by Adrasman—silver. Gold mining had begun during the Soviet period and a number of foreign firms were engaged in developing the country's gold reserves. By 2001, the country was able to almost completely satisfy its own salt requirements through development of the large Kamysh-Kurganskoye and Khodzha-Muminskoye deposits.

The country's fuel requirements had been met almost completely through imports of oil products and coal from other CIS countries. In 2005, the extraction of coal was below 50,000 t/yr compared with its previous peak of more than 800,000 t/yr, and plans called for reviving and expanding coal production.

The metallurgical sector produced about 45% of the value of industrial production and was composed solely of the Tajik aluminum plant. The construction materials sector produced less that 2% of the value of industrial production, and the fuel and energy sector produced more than 5% (State Statistical Committee of Tajikistan, 2005, p. 188).

Trade

In 2004 (the latest year for which trade data were available), nonprecious metals accounted for 62.2% of the total value of exports, and other mineral products, 7% (State Statistical Committee of Tajikistan, 2005, p. 268). The Tajik aluminum plant was the country's main export earner; it provided more than 50% of the country's export earnings. To supply its aluminum plant with alumina, Tajikistan imported almost equal amounts of alumina from inside and outside of the CIS. Its main supplier in the CIS was Azerbaijan, which supplied more than twice the amount of each of the next-ranked suppliers, which were, in order of amount supplied, Russia, Ukraine, and Kazakhstan. For other imported mineral products, Uzbekistan supplied portland cement and nitrogenous fertilizers and Kazakhstan supplied phosphate fertilizers. The country imported natural gas from Uzbekistan and oil products mainly from Turkmenistan, but also much smaller amounts from, in order of amount supplied, Kazakhstan, Russia, and Uzbekistan (State Statistical Committee of Tajikistan, 2005, p. 272-275).

Mineral Resources

Tajikistan has what are termed, according to the reserve classification system that was used in the Soviet Union, industrial reserves of metals, which include bismuth, cadmium, copper, gallium, germanium, indium, tellurium, thallium, selenium, and others. In its reserves of antimony, boron, lead, silver, and zinc, Tajikistan had occupied a leading place among the Republics of the Soviet Union. The Bol'shoy Konimansur deposit, which had undergone detailed exploration, but had not been developed, was reportedly the largest polymetallic silver porphyry deposit in the Soviet Union. The country's largest gold deposits are located in the Zeravshan Valley.

In 2005, more than 400 mineral deposits had been discovered and explored. According to information from the Academy of Sciences of the Republic of Tajikistan, 28 gold deposits

had been identified with a total estimated resource of almost 430 t of gold. The Bol'shoy Konimansur deposit in the north of Tajikistan was reportedly the world's second largest deposit of silver. At an annual extraction rate of 50 t/yr of silver, the deposit would have the potential to sustain production for 150 years. The country's antimony resources are reportedly the largest in the CIS. The Sughd region has antimony and mercury resources, as well as 214 deposits of other mineral resources, which include bismuth (3 deposits), coal (11 deposits), copper, fluorspar (5 deposits), gold (15 deposits), iron (3 deposits), lead (1 deposit), molybdenum, oil and gas (11 deposits), salt (1 deposit), silver (7 deposits), strontium (2 deposits), tungsten (1 deposit), and zinc (16 deposits). In the north of Tajikistan, numerous deposits of construction and decorative materials, such as marble, granite, volcanic tuff, and limestone, occur. In central Tajikistan, the Maikhura tungsten deposit was discovered approximately 95 kilometers (km) from Dushanbe. The Republic's only known deposit of boron is located at Ak-Arkhar (Tajikistan Development Gateway, 2007§).

Outlook

Tajikistan plans to expand aluminum production. In 2004, Russia's leading aluminum producer, RUSAL, signed an agreement with the Tajikistan Government on cooperation in energy and aluminum production. RUSAL planned to invest more than $1 billion in Tajikistan by participating in the construction of a hydroelectric powerplant, building a new 200,000-t/yr aluminum smelter, and modernizing and adding 100,000 t/yr of additional capacity to the existing smelter (Socor, 2004§). Uzbekistan expressed opposition to RUSAL's plans to expand aluminum production at the existing smelter, complaining that effluvia generated by the Tajik plant was causing widespread environmental damage to Uzbekistan's agricultural lands (Sadikov, 2006§). Furthermore, as of January 2007, Tajikistan officials were expressing concern that RUSAL was not proceeding to fulfill its commitments to construct these projects and that work had still not begun on either the modernization of the existing smelter or construction of the new smelter, although work on the hydropower plant was underway without RUSAL's participation. At the time of the writing of this report (January 2007) RUSAL stated that it was still prepared to fulfill its commitments for these projects (Avesta Tajikistan News, 2007§).

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Major Sources of Information

Ministry of Economy and Trade
Ministry of Nature Protection
State Statistical Committee

TURKMENISTAN

Although Turkmenistan produces a wide range of industrial minerals, its major mineral resources are its oil and gas reserves; the country is a leading regional natural gas producer. Turkmenistan has several of the world's largest gasfields, which include the Dauletabad, which was brought into production in 1982, and the Shatlykskiye, which was brought into production in the early 1970s (U.S. Energy Information Administration, 2005§). Turkmenistan has oil refineries at Seydi and Turkmenbashy.

The country's leading nonfuel mineral enterprises were the Arpaklenskiy barite-witherite and the Cheleken ozokerite enterprises, the Gaurdak sulfur plant, the Karabogazsulfate association, the Kara-Kum sulfur plant, and the Oglanly bentonite mining enterprises. One of the leading enterprises that extracted chemical raw materials was the Karabogazsulfate association, which mined the Kara-Bogaz Gol lagoon off the Caspian Sea. The association produced bischofite, Caspian Sea salt, epsomite, Galauber's salt, and sodium sulfate. In the western part of the country, the Boyadagskoye, the Cheleken, and the Nebitdag deposits of iodine-bromine waters were being developed; the waters were processed at the Cheleken and the Nebitdag iodine/bromine plants.

All mineral production enterprises were state owned and all deposits were being developed by enterprises subordinate to the state and its ministries. The state permitted foreign participation through joint-venture arrangements.

Trade

Exports of natural gas and oil and oil products accounted for about 80% of Turkmenistan's merchandise exports, and the country has benefited from the recent high world market prices for oil. The Central Asia pipeline, which is routed into the Russian natural gas pipeline system, was the region's only main gas pipeline. More than 90% of Turkmenistan's natural gas exports were transported via the eastern branch of the Central Asia pipeline. For 2005 and 2006, Turkmenistan negotiated improved payment terms for its natural gas exports with Russia and Ukraine, which included the elimination of barter settlements and an almost 50% increase in the export price. A 25-year natural gas export agreement signed with Russia in 2003 could help maintain a steady stream of foreign exchange inflows. However, the limited capacity of the existing natural gas pipelines and lack of alternative natural gas export routes

constrains the country's natural gas export potential and makes exports vulnerable to disruptions (World Bank, The, 2006§). A small portion of the country's gas exports go to Iran via the Korpedzhe to Kurt-Kui pipeline, which was completed in December 1997 (Olcott, 2004§).

Mineral Resources

Turkmenistan has a variety of unevenly distributed mineral deposits. More than 80% of the country's territory is composed of the Kara-Kum desert. According to estimates by the Oil & Gas Journal, Turkmenistan ranked fifteenth in the world in the quantity of its natural gas reserves, which were estimated to be 71 trillion cubic feet (about 2 trillion cubic meters) (U.S. Energy Information Administration, 2005§). The largest natural gas fields are located in the Amu-Dar'ya Basin, and possibly one-half of the country's natural gas reserves are located in the giant Dauletabad-Donmez field. In addition to Amu-Dar'ya, Turkmenistan contains large natural gas reserves in the Murgab Basin, particularly the giant Yashlar deposit, which contains an estimated 27 trillion cubic feet of gas (Republic of Turkmenistan, undated§).

Turkmenistan reportedly has 546 Mbbl of proven oil reserves, with possible reserves (mainly in the western part of the country and in undeveloped offshore areas in the Caspian Sea) of up to 1.7 Gbbl (Republic of Turkmenistan, undated§). As of 2001, Turkmenistan had an inventory of 162 nonfuel mineral deposits with confirmed reserves; these deposits included 10 deposits of mineral salts (7 of sodium and 3 of potash), 7 of barite, 3 of coal, 2 of carbonate material for soda production, 2 of celestite, 2 of kaolin, 2 of marble onyx, 2 of natural sulfur, 2 of ozokerite, 1 of bentonite, 1 of natural pigments, and 128 of various construction materials (which included 7 of dimension stone, 5 of filing stone, 3 of cement raw materials, 3 of glass raw materials, and 3 of gypsum). Of these deposits, 62 were under development.

Outlook

Turkmenistan could increase its natural gas production if pipeline capacity is increased. A number of new pipelines that originate in Central Asia are under consideration, including a proposed Trans-Afghan pipeline to export Central Asian natural gas via Afghanistan to Pakistan (U.S. Energy Information Administration, 2005§).

In the spring of 2006, Turkmenistan's President signed an agreement with China to build an export pipeline eastward to export Turkmenistan's gas. According to the agreement, in the first phase of the project (starting in 2008), Turkmenistan was to deliver about 30 billion cubic meters per year of gas via Uzbekistan and Kazakhstan to Urumci in western China and beyond to Shanghai; these volumes were to be increased to up to 50 billion cubic meters per year by 2010. Experts have cast doubt on the project's feasibility for a number of reasons, including a lack of details about the financing and construction (Kimmage, 2006§). According to a 10-year program initiated in 2000, Turkmenistan plans to raise its oil production to nearly 1 Mbbl/d (or by almost 50 Mt/yr) by 2010 (Republic of Turkmenistan, undated).

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Major Sources of Information

Ministry of Building Materials Industry
Ministry of Energy and Industry
Ministry of Oil and Gas and Mineral Resources

UKRAINE

Ukraine was a major world producer of coal, ferroalloys, ilmenite, iron ore, manganese ore, and steel. The country's steel exports were of major importance on world markets. Other major mineral commodity exports were iron ore and ferroalloys.

Ukraine was a lesser producer of a number of other metallic mineral products, which included alumina, aluminum, cadmium, germanium, secondary lead, magnesium, mercury, nickel, rutile, uranium ore, secondary zinc, zircon, zirconium, and a large number of industrial minerals, which included dolomite, graphite, kaolin, limestone fluxes, potash, quartz, salt, soda ash, and a variety of building materials. Ukraine is one of the world's leading energy transit countries. Its large oil and gas pipeline networks transport Russian and Caspian Sea oil and gas across its territory.

In a study conducted by the Institute of Economics, the Ukrainian Academy of Sciences, and other experts, production from mineral raw materials accounted for 40% of Ukraine's GDP in 2000, and about 60% of the country's budget revenues (Gurskiy and Kalinin, 2005). Despite the significance of mineral raw materials to the country's economy, Government support for the geological sector has greatly decreased since the dissolution of the Soviet Union. At the time of the breakup, 41 geological organizations that employed 58,760 persons were state supported; by 2003, the number of state-supported organizations had decreased to 11 and the number of workers to 9,839. The level of Government funding for geologic work had been reduced by more than 70%. Owing to the lack of financial support, the country was experiencing a shortage of needed specialists and was lacking up-to-date technology and equipment (Gurskiy and Kalinin, 2005).

Ukraine established a Ministry of the Environment and introduced a pollution fee system that levies taxes on air and water emissions and solid waste disposal. The revenues obtained are used for environmental protection activities. Enforcement of

this pollution fee system, however, was lax (U.S. Department of State, 2006§).

Production

In 2005, the extractive industries experienced a 4.4% growth in the value of output compared with that of 2004 as output rose by 6.2% for mining metallic ore, by 3% for coal and peat extraction, and by 2.5% for oil and gas production. Ukraine, however, experienced a reduction in the value of output in the coke, metallurgical, and oil-refining sectors. In the metallurgical sector, the value of output decreased by 0.2% compared with that of 2004 (Interfax Statistical Report, 2005). The production of specific major mineral commodities in 2005 showed mixed results, with production increasing for iron ore and titanium sponge but decreasing for crude steel and coal (table 59). Production data for ferrous metals at Ukrainian mines and metallurgical plants are provided in tables 60, 61, 62.

Explored iron ore reserves in Ukraine were reportedly 32.2 Gt, which placed it among the leading countries of the world. The iron ore deposits that were in production have been intensively developed for a long period of time and reserves were being depleted, particularly the high-grade ores that could be easily extracted. In 2005, seven iron ore mining enterprises were extracting ore from 11 open pits and four enterprises were mining at 8 underground mines. Reserves were considered adequate to maintain current levels of output at open pits for 36 to 95 years and at underground mines for 9 to 50 years. Iron ore mining contributed about 3% of the GDP (Kolosov, and Dyadechkin, 2005).

Structure of the Mineral Industry

In 2005, Ukraine's mineral sector consisted of about 365 enterprises, which included 3 ferroalloy plants, 7 pipe production plants, 14 ferrous metals plants, 16 coke chemical plants, 17 refractories plants, 26 nonferrous metals enterprises, 26 ore mining enterprises, and 35 enterprises that produced secondary ferrous and nonferrous metals (table 63). The nonferrous sector includes ore mining and metal production of such commodities as alumina, aluminum, antimony, hard alloys, lead, magnesium, mercury, rare metals, semiconductor materials, silicon, titanium, and zinc (Embassy of Ukraine in Japan, 2002§).

Ukraine reportedly ranks second in the world in manganese reserves, which were estimated to be 2.3 Gt. However, commercial reserves at operating enterprises were reportedly 200 Mt, of which only 15% were of the higher grade oxide ores. The majority of the manganese ore has a high phosphorus content. Two mining and beneficiation complexes mined manganese ore from nine open pits and five underground mines (Kolosov and Dyadechkin, 2005).

Trade

In 2005, Ukraine's main mineral product exports were iron ore and steel products. Ukraine increased exports of iron ore by 8.5% but reduced the amount of rolled-steel exports by 3.8% compared with that of 2004. Its main mineral imports in terms of value were oil and natural gas from Russia and Turkmenistan (tables 64 and 65).

Almost all Ukraine's iron ore exports went outside the CIS to the formerly centrally planned economy countries of eastern Europe, with a small amount going to Russia (Interfax Mining and Metals Report, 2006a, d). Ukrainian steel exports went to countries outside the CIS, which included China, countries in the EU, and the United States (Interfax Mining and Metals Report, 2006b, c).

Mineral Resources

Ukraine holds a leading place among the countries of the CIS, Europe, and the world in the quantity of some of its mineral resources. The Donets Basin, where coal has been mined since 1795, is the main source of coal in Ukraine. This Basin, which is located in the Donetsk and the Luhansk oblasts, extends farther east to Rostov oblast in Russia. With a total area of approximately 60 thousand square kilometers, the Basin's coal resources are estimated to be 109 Gt. Other major deposits include iron ores in the Kryvyi Rih Basin (estimated resources of 18.7 Gt), and the Kremenchuh (4.5 Gt), the Bilozersk (2.5 Gt) and the Kerch (1.8 Gt) iron ore basins. Ukraine's manganese ore fields in the Nikopol Basin are some of the largest in the world. The majority of the manganese ore has a high phosphorus content (Kolosov and Dyadechkin, 2005).

Ukraine also has substantial deposits of other metallic ores, including mercury, nickel, and titanium and nonmetallic ores, including potash, rock salt, and sulfur. Its graphite resources are the largest on the European continent. The country also has uranium deposits from which it planned to increase production in the future (Ukraine Ministry of Foreign Affairs, 2006§).

Outlook

In 2005, Ukraine's metallurgical industry was working at a high rate of capacity utilization, with pig iron production capacity being utilized at 86.5% and steelmaking capacity, at 94.3%, which does not leave extensive room for growth unless new capacity is added (Internet-Gazeta, 2007§). Ukraine's steel industry, which experienced continuous growth from 1999 to 2004, decreased production in 2005 owing to unfavorable market conditions referred to as the "China factor." While high demand from China had been stimulating growth in Ukraine's steel industry, in 2005, China switched from being a net importer to a net exporter of steel, which not only closed the Chinese markets to Ukraine, but also curtailed Ukraine's exports to other countries of Southeast Asia. To remain competitive on the world steel market, Ukraine must invest in state-of-the-art equipment to produce steel of the same quality and at the same cost as other leading world steel-producing countries (Kisil' and others, 2006).

Despite the country's reporting large quantities of iron ore and manganese reserves based on the reserve reporting system of the Soviet Union, a large portion of these "reserves" are not economically exploitable and therefore would not qualify as reserves by market economy standards for defining reserves.

For example, of the 17.7 Gt of iron ore listed as "economic reserves" at existing enterprises under the Soviet reserve reporting system, only 7.71 Gt were considered suitable for commercial extraction, of which 450 Mt were of rich ores with an iron content of between 54% to 62%, and the remainder was low-grade ore with an iron content of between 24% to 30%. Furthermore, mining conditions were worsening with the increasing depth of open pits and underground mines. Depths at some open pits have reached 350 m and, at some underground mines, between 1,400 and 1,500 m (Kolosov and Dyadechkin, 2005).

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Ministry of Economy
Ministry of Emergencies and Affairs of Population Protection from the Consequences of Chernobyl Catastrophe
Ministry of Environmental Protection
Ministry of Fuel and Energy
Ministry of Industrial Policy
Ministry of Science & Technology
State Committee for State Resources Fund
State Committee for Statistics

UZBEKISTAN

Uzbekistan was a major world producer of two mineral commodities, gold and uranium. It was a significant regional producer of a number of mineral commodities, including nonferrous metals and natural gas.

In 2004 (the latest year for which data were available), the nonferrous metals sector was the leading mineral producing sector, producing 15.4% of the total value of industrial production. It was followed by the fuel sector, with 13.4%; the construction materials sector, with 3.9%; and the ferrous metals sector, with 2.6% (OOP Gosudarstvennogo Komiteta Respubliki Uzbekistana po Statistike, 2005a).

Table 66 lists the number of enterprises for various types of mineral production sectors from 2002 to 2004. Table 67 lists the number of workers employed in the various mineral sectors. Table 68 lists the role of state ownership in the mineral production sectors.

Structure of the Mineral Industry

Table 70 is a listing of Uzbekistan's mineral production enterprises. In 2005, two of the country's largest enterprises were the Navoi mining and metallurgical complex (NMMC), which produced gold and uranium, and the Almalyk mining and metallurgical complex, which produced copper, lead, zinc, and byproduct metals, which included gold. NMMC was part of the Uzbekistani state holding company Kyzylkumredmetzoloto.

Gold production was centered at the Muruntau deposit, which is located near the town of Zarafshan. NMMC, which mined the Muruntau deposit, was the leading gold producer in Central Asia. NMMC's gold production has averaged between 57 and 60 t/yr in recent years (Interfax Mining & Metals Report, 2004). NMMC also shared production from the Zarafshan-Newmont joint venture, which NMMC co-owned with the Newmont Mining Corp. The Zarafshan-Newmont joint venture recycled tailings at the Muruntau gold lode. The processing plant was officially opened on May 25, 1995. The joint venture initially contracted to process 220 Mt of ore at an average grade of 1.23 g/t gold that contains 5.1 million ounces (159 t) of recoverable gold. Zarafshan-Newmont employed about 900 people (Newmont Mining Corp., 2005§).

Uranium production in Uzbekistan took place at three in situ leaching (ISL) operations in central Uzbekistan, which were subordinate to NMMC. All uranium production in Uzbekistan was the property of the Uzbekistan Government. Since 1992, all Uzbekistan's uranium production was exported mainly to the United States through the U.S.-based intermediary Nukem, Inc. NMMC produced UO_2 and U_3O_8 (yellowcake) from uranium concentrate derived from ISL operations at Uzbekistan's three operational mining directorates.

Trade

In 2003 and 2004 (the latest years for which trade data were available), the category ferrous and nonferrous metals comprised 6.4% and 8.6%, respectively, of the total value of exports and 7.9% and 10.3%, respectively, of the total value of imports

for these years (OOP Gosudarstvennogo Komiteta Respubliki Uzbekistana po Statistik, 2005b). Trade data for other categories of mineral commodities were not available. Data on the country's two leading export earning mineral commodities, gold and uranium, do not appear to be included in the above trade data.

Mineral Resources

The country has identified more than 2,800 deposits with more than 100 types of mineral raw materials. More than 100 deposits have undergone detailed exploration. Uzbekistan reportedly ranks among the leading five countries in the world in what it terms confirmed reserves of gold and uranium. Among the largest deposits is the Muruntau gold deposit, which is located in the Kyzyl Kum region. This region was one of the leading gold-bearing provinces in the world, with more than 10 other gold deposits besides Muruntau under study. All significant uranium deposits are located in the central Kyzylkum area, which is a 125-km-wide belt that extends 400 km from Uchkuduk in the northwest to Nurabad in the southeast. The country's main copper reserves are found in the ores of the Almalyk region, which also contain large reserves of gold, molybdenum, rhenium, selenium, silver, sulfur, tellurium, and zinc. These other ore constituents account for more than 40% of the value of the ore.

In the central Kyzyl-Kum area, the Dzheroy-Sardara Morroccan-type phosphate deposit has been evaluated to have reserves of 57.7 Mt of phosphate anhydride that are prepared for development. Uzbekistan also has a raw material base for the production of potash fertilizers at the Tyubegatanskoye deposit in southern Uzbekistan; the deposit has what are termed in Uzbekistan's reserve classification system, "explored reserves" of 200 Mt of raw salts with a potassium chloride content of 36.8%.

Outlook

Ore processing from the Zarafshan-Newmont joint venture is scheduled though mid-2011 (Newmont Mining Corp., 2005§). Navoi has drafted a gold industry development program to 2010, which projects gold production to rise by 20% by 2010 (Interfax Mining & Metals Report, 2004).

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Ministry of Foreign Economic Relations, Investments, and Trade
State Committee for Nature Protection
State Committee on Land Resources, Geodesy, Cartography and State Cadastre
State Committee on Statistics
State Geology Committee

TABLE 1
ARMENIA: STRUCTURE OF MINERAL INDUSTRY OUTPUT

(Percentage of the value of total industrial output)

Sector	2001	2002	2003	2004	2005
Metallurgy:					
Ferrous	0.1	0.1	0.0	0.3	0.0
Nonferrous	13.7	16.8	21.7	31.0	37.2
Mining	6.6	9.1	10.9	18.1	17.4

Source: Statistical Yearbook of Armenia 2006, National Statistical Service of the Republic of Armenia, accessed at URL http://www.armstat.am/Arm/StatData/Taregirq_06/indexeng.html.

TABLE 2
ARMENIA: VALUE OF CAPITAL STOCK, BY SECTOR

(Million dollars)[1]

Sector	2001	2002	2003	2004	2005
Chemical and petrochemical	49.9	53.5	72.8	78.8	89.1
Construction materials	30.4	28.1	33.7	39.8	55.5
Electric power	2,979.4	2,870.5	2,339.5	2,402.1	2,060.6
Food industry	26.8	26.4	31.4	27.0	26.5
Light industry	185.8	209.1	230.9	257.2	305.8
Logging, woodworking, pulp and paper	8.0	9.7	9.1	12.7	12.5
Machinery manufacturing and metalworking	147.3	142.8	122.6	141.7	159.8
Metallurgy:					
Ferrous	0.8	0.7	0.7	2.8	0.3
Nonferrous	127.6	147.2	242.8	256.3	333.1
Total[2]	3,556.1	3,487.9	3,083.4	3,218.5	3,043.2

[1]One U.S. dollar equals 334.375 Armenia drams.
[2]Totals may not add due to independent rounding.

Source: Statistical Yearbook of Armenia 2006, National Statistical Service of the Republic of Armenia, accessed at URL http://www.armstat.am/Arm/StatData/Taregirq_06/indexeng.html.

TABLE 3
ARMENIA: INDEX OF VOLUME OF PRODUCTION, BY SECTOR

(Percentage of the previous year)

Sector	2001	2002	2003	2004	2005
Metallurgy:					
Ferrous	86.4	76.5	83.5	119.8	125.3
Nonferrous	133.5	121.5	109.5	104.9	112.9
Mining	119.7	119.6	11.9	110.5	95.4
Of which:					
Metal ores	121.0	119.7	111.6	110.6	95.2
Nonmetallic ores	106.2	117.7	119.1	104.3	105.7

Source: Statistical Yearbook of Armenia 2006, National Statistical Service of the Republic of Armenia, accessed at URL http://www.armstat.am/Arm/StatData/Taregirq_06/indexeng.html.

TABLE 4
ARMENIA: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity		2001	2002	2003	2004	2005
METALS						
Aluminum:						
Rolled		91	132	10,880 [r]	7,726 [r]	--
Foil		2,699	5,240	9,317	6,193	--
Copper:						
Concentrate, Cu content		16,460	16,641	18,068 [r]	17,700 [r, e]	16,256
Blister, smelter, primary[e]		4,000	6,700	7,500	7,500 [r]	9,800 [2]
Gold, mine output, Au content	kilograms	1,900	3,200	1,800	2,100	1,400
Molybdenum, concentrate, Mo content		2,943	2,884	2,763	2,950 [r, e]	3,030
Rhenium[e]	kilograms	750	800	1,000	1,000	1,200
Silver[e]	do.	3,000	5,500	4,000	4,000	4,000
Zinc, concentrate, Zn content		745	782	2,056 [r]	1,927 [r]	3,196
INDUSTRIAL MINERALS						
Caustic soda		4,900	3,600	1,800 [r]	2,800 [r]	6,200
Cement	thousand metric tons	300	355	384	501 [r]	605
Clays, bentonite, powder		1,000 [e]	258	642 [e]	700	550
Diamond, cut	thousand carats	186	370	400	263 [r]	224
Gypsum		12,800	44,900	57,800	65,000	44,200
Limestone	thousand metric tons	11,900	12,500	13,000	16,000 [e]	17,000
Perlite[e]		35,000	35,000	35,000	35,000	35,000
Salt		30,300 [r, e]	30,300	31,900	31,600 [r]	34,700

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

[1]Table includes data available through November 2006.

[2]Reported figure.

TABLE 5
ARMENIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Aluminum, rolled and foil	Armenal (formerly Kanaker aluminum plant)	K'anak'err	25,000
Copper:			
Mine output, Cu content	Facilities in operation:		30,000 [3]
	Agarak copper-molybdenum mining and processing complex	Agarak	
	Kapan mining directorate	Kapan	
	Zangezur copper-molybdenum complex mining Kadzharan deposit	Kadzharan	
	Facilities not in operation:		
	Akht'ala mining directorate	Akht'ala	
	Shamlugh mining directorate	Shamlugh	
Blister	Armenian Copper Programme cjsc (ACP)	Alaverdi	15,000
Diamond, cut stones	Aghavni diamond-cutting works[4]	Nor Geghi	NA
Do.	Amma group diamond-cutting works[4]	Artashat	NA
Do.	Andranik-Dashk diamond-cutting works	Nor Hachyn	NA
Do.	Arevakn diamond producing plant	do.	NA
Do.	Diamond Company of Armenia (DCA)	Yerevan	NA
Do.	Diamond Tech	Talin	NA
Do.	Lori diamond-cutting works	Nor Hachyn	NA
Do.	Lusampor[4]	Melik'gyugh	NA
Do.	Punji diamond-cutting works[4]	Yerevan	NA
Do.	Sapphire diamond-cutting works	Nor Hachyn	NA
Do. thousand carats	Shoghakan gem-cutting plant	do.	120
Gold kilograms	Zod mining complex	Zod	2,000
Do.	Megradzor deposit	Megradzor	NA
Do.	Lichkvazkoye, Shaumyanskiy Rayon, Sotkskoye, and Terterasarskoye deposits	NA	NA
Iron ore	Hrazdan deposit	Sulagyan Mountains	NA
Molybdenum, mine output, Mo content	Zangezur copper-molybdenum complex, mining Kadzharan deposit	Kadzharan	20,400
Do.	Agarak copper-molybdenum mining and processing complex	Agarak	2,000
Perlite thousand metric tons	Aragats-Perlite mining-beneficiation complex	Aragats deposit	1,110
Zinc, mine output, Zn content	Kapan mining directorate	Kapan	NA

[e]Estimated; estimated data are rounded to no more than three significant digits. NA Not available.

[1]Table includes data available through December 2006.

[2]Many location names have changed since the breakup of the Soviet Union. Many enterprises, however, are still named or commonly referred to based on the former location name, which accounts for discrepancies in the names of enterprises and that of locations.

[3]Capacity estimates are totals for all enterprises that produce that commodity.

[4]Current existence of enterprise can not be confirmed.

TABLE 6
ARMENIA: MAJOR EXPORTS AND IMPORTS OF MINERAL COMMODITIES IN 2005

Commodity and country[1]	Value (dollars)	Percentage of total value[2]
EXPORTS		
Natural or cultured pearls, precious or semiprecious stones:	335,461,175	100.0
Of which:		
Belgium	118,510,928	35.33
Israel	111,999,424	33.39
United States	49,700,830	14.82
Switzerland	22,549,913	6.72
Iron and steel:	240,699,954	100.0
Of which:		
Netherlands	110,486,090	45.90
Germany	90,644,145	37.66
British Virgin Islands	21,812,849	9.06
Copper and articles thereof:	46,944,153	100.0
Of which:		
Germany	39,369,850	83.87
Netherlands	3,353,488	7.14
Ores, slag and ash:	45,346,110	100.0
Of which:		
British Virgin Islands	23,809,200	52.51
Germany	6,046,977	13.34
Netherlands	4,233,011	9.33
Belize	3,959,501	8.73
Iran	2,752,547	6.07
Switzerland	2,546,702	5.62
Molybdenum ores and concentrates:	27,524,137	100.00
Of which:		
British Virgin Islands	23,809,200	86.50
Netherlands	1,716,905	6.24
IMPORTS		
Natural or cultured pearls, precious or semiprecious stones:	347,588,659	100.0
Of which:		
Belgium	146,299,493	42.09
Israel	101,531,056	29.21
Switzerland	28,376,862	8.16
United States	23,522,476	6.77
Luxembourg	22,729,023	6.54
Mineral fuels, mineral oils and products of their distillation:	261,998,473	100.0
Of which:		
Russia	92,014,711	35.12
Panama	63,178,053	24.11
United Kingdom	51,917,319	19.82
Iran	37,120,302	14.17

[1]Commodity groups are in order by value.
[2]Percentages listed by country for each commodity may not add to 100%.

Source: United Nations Statistics Division, Commodity Trade Statistics Database (COMTRADE), accessed via URL http://unstats.un.org/unsd/comtrade.

TABLE 7
ARMENIA: MINERAL RESERVES

(Thousand metric tons unless otherwise specified)

Commodity		Quantity
Copper		7,200
Gold[1]	metric tons	379
Molybdenum		790

[1]Reported as a resource.

Source: Mining Journal, Armenia, Special publication, London, November 2005, p. 12.

TABLE 8
AZERBAIJAN: STRUCTURE OF MINERAL INDUSTRY OUTPUT

(Percentage of the value of total industrial output)

Sector	2001	2002	2003	2004	2005
Extractive	58.7	59.5	56.9	57.5	66.7
Petroleum refining	14.9	14.0	15.4	13.8	10.5

Source: Azerbaijan in Figures, 2006, State Statistical Committee of Azerbaijan Republic, accessed at URL http://www.azstat.org/publications/azfigures/2006/en/index.shtml.

TABLE 9
AZERBAIJAN: MINERAL INDUSTRY LABOR FORCE, BY SECTOR

(Thousand persons)

Sector	2001	2002	2003	2004	2005
Extractive	35.5	34.9	38.6	39.6	40.3
Metallurgy and metal fabrication	9.2	11.3	12.3	13.1	13.1
Petroleum refining	6.2	6.3	6.4	6.8	6.8

Source: Azerbaijan in Figures, 2006, State Statistical Committee of Azerbaijan Republic, accessed at URL http://www.azstat.org/publications/azfigures/2006/en/index.shtml.

TABLE 10
AZERBAIJAN: CONSUMPTION OF MAJOR MINERAL FUELS, BY SECTOR

Sector		2001	2002	2003	2004	2005
Crude oil	metric tons	6.3	6.4	6.3	6.4	7.5
Natural gas	billion cubic meters	8.3	8.3	8.7	9.2	9.5

Source: Databases of Statistical Information, Balance of Fuel Energy, 2006, State Statistical Committee of Azerbaijan Republic, accessed at URL http://www.azstat.org/statinfo/balance_fuel/en/index.shtml.

TABLE 11

AZERBAIJAN: PRODUCTION OF MINERAL COMMODITIES[1, 2]

(Metric tons unless otherwise specified)

Commodity		2001	2002	2003	2004	2005
METALS						
Aluminum, primary and secondary		--	--	18,565	29,537	31,762
Alumina	thousand metric tons	88 [r]	91	180	232	315
Iron ore, marketable:						
Gross weight		4,700	400 [e]	3,100	19,100	7,300
Fe content[e]		2,700	230	1,800	11,100	3,650
Steel:						
Crude		1,605	524	1,531	21,570	58,912
Pipes		2,076	2,545	5,400 [r]	84	1,257
INDUSTRIAL MINERALS						
Bromine[e]		2,000	2,000	2,000	2,000	2,000
Caustic soda		21,800 [r]	20,500 [r]	21,600 [r]	24,700 [r]	30,000
Cement		522,600	847,700	1,012,700	1,427,500 [r]	1,537,500
Gypsum		1,750	1,039	3,848	8,840 [r]	28,242
Iodine		1,016 [r]	377 [r]	349 [r]	300 [r]	300
Limestone		577,900	631,500	762,000	1,273,000 [r]	1,256,443
Salt		3,734	5,380	7,645	9,234	10,319
Sulfuric acid		9,500	17,000	22,500 [r]	26,700 [r]	18,700
MINERAL FUELS AND RELATED MATERIALS						
Natural gas	thousand cubic meters	5,534,600	5,143,700	5,127,700	4,995,400	5,732,100
Petroleum:						
Crude		14,909,100	15,333,500	15,251,300	15,348,800	21,993,600
Refinery products		5,200,000 [r, e]	6,051,900	6,156,400	6,607,200	7,655,900

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

[1]Table includes data available through November 2006.

[2]For some metals, including copper, gold, lead, molybdenum, silver, and zinc, and for a number of industrial minerals that Azerbaijan produced, data were not sufficient to derive production estimates or to determine if production had ceased.

TABLE 12
AZERBAIJAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Locations or deposit names	Annual capacity[e]
Aluminum thousand metric tons	Sumgait smelter	Sumqayit	100 to 150
Alumina	Gyandzha refinery	Ganca	100,000
Alunite ore	Zaglik alunite mining directorate	Zaglik, Dashcasan Region	600,000
Arsenic	Bitibulagh enargite deposit	Gedabay	NA
Do.	Daridagh red orpiment-realgar deposit	Julpha	NA
Do.	NA	Dzhul'finskiy Region	NA
Barite	Azad, Bashgishlag, Chaycand, Chovdar, Gusgchu, Tonashen, and Zaylik deposits	Khanlarskiy Region	NA
Bauxite	Permian deposit	Nakhichevan Region	NA
Cement	Plants: Karadagly Tauz	Locations: Karadagly Tauz Region	1,000,000 [3]
Chromite	Epack, Goydara, Kazimbinasy, Khatavang	Calbajar and Lachin Regions	NA
Clays:			
Bentonite	Dash-Salakhlinskoye deposit	do.	1,000,000
Refractory	Chardakhla deposit	Chardakhla	NA
Construction materials:			320,000
Building sawn stone-block	Aidagh, Dash Salahly, Dilagarda, Dovlatyarly, Gozdak, Mardacan, Naftalan, Shahbulag, and Zayam deposits	NA	
Facing stone	Dashcasan, Gulably, Gulbacht, and Shahtahty deposits	NA	
Copper	Karadagskiy complex	Shamkhorskiy Region	30,000
Dolomite	Negram and Kobustan deposits	do.	NA
Gemstones, precious and semiprecious	Agate, chalcedony, and heliotrop deposits	Santon	NA
Do.	Amethyst, garnet, and granite deposits	Gedebey Rayonu	NA
Gypsum	Deposits: Agdjakend deposit Araz deposit Jukhary Aghjacand anhydrite deposit	Locations: Kazakhskiy Region Nakhichevan Region Goranboy Region	40,600
Iodine and bromine	Baku, Karadagly, and Neftechala plants	Process oil well brines at plants in Baku, Karadagly, and Neftechala	NA
Iron ore, marketable	Dashkasan mining directorate	Dashkasan Region	1,400,000
Lead-zinc ore	Gumushlu deposit	Ordubadskiy and Norashenskiy Regions	NA
Limestone	Dashkesan deposit	Dashkasan Region	NA
Natural gas, processing	Karadagly plant	Near Baku	NA
Quartz sands	Miocene-Pliocene deposits	Gobustan, Absheron Peninsula, Guba Region	10,000
Petroleum and natural gas:[4]			
Crude petroleum and gas condensate	State Oil Company of Azerbaijan Republic (SOCAR)	Production from 37 onshore deposits, which includes deposits on the Ashperon Peninsula and in the Izhnekurin Valley	3,000,000 [3]
Do.	do.	Production from 17 offshore fields and almost 50% of crude petroleum produced from the Guneshli field	19,000,000 [3]
Natural gas million cubic meters	Azneft, a subsidiary of State Oil Company of Azerbaijan Republic (SOCAR)	Almost all production from offshore fields with more than 50% of natural gas produced from the Bakharly field	6,000 [3]
Do.	NA	Guneshli, Nakhchyvan, and Shah-Deniz offshore fields	NA

See footnotes at end of table.

TABLE 12—Continued
AZERBAIJAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity		Major operating companies, main facilities, or deposits	Locations or deposit names	Annual capacity[e]
Petroleum, refined	24-gallon barrels	Azernefteyag (formerly Baku) refinery	Baku	83,950,000 [4]
Do.	do.	Azernefteyagandzhah (formerly Novo-Baku refinery)	do.	77,380,000 [4]
Rock salt		Hehram and Pusyan deposits	Nakhichevan Region	2,500,000
Steel:				
Crude		OAO Azerboru	Sumqayit	800,000
Rolled		do.	do.	700,000
Pipe, tubes		do.	do.	540,000

[e]Estimated; estimated data are rounded to no more than three significant digits. NA Not available.
[1]Table includes data available through December 2006.
[2]Many location names have changed since the breakup of the Soviet Union. Many enterprises, however, are still named or commonly referred to based on the former location name, which accounts for discrepancies in the names of enterprises and that of locations.
[3]Capacity estimates are totals for all enterprises that produce that commodity.
[4]Capacity for crude petroleum distillation.

TABLE 13
AZERBAIJAN: STRUCTURE OF EXPORTS AND IMPORTS OF MINERAL PRODUCTS

(Percentage of the value of total trade)

	2004		2005	
Commodity	Exports	Imports	Exports	Imports
Aluminum and articles thereof	1.35	0.31	0.03	1.44
Cement, earths, lime, salt, stone, sulfur	0.03	1.44	0.04	1.70
Fertilizers	0.00	0.28	0.00	0.34
Iron and steel	1.17	2.50	0.87	2.93
Mineral fuels, mineral oil, products of their distillation	82.20	11.43	76.60	11.87
Ores, slag, ash	0.00	1.56	0.00	1.65

Source: Databases of Statistical Information, External Economic Activities, 2006, State Statistical Committee of Azerbaijan Republic, accessed at URL http://www.azstat.org/statinfo/external_economic_activities/en/xten_10.shtml.

TABLE 14
AZERBAIJAN: MAJOR MINERAL COMMODITY EXPORTS IN 2004

(Metric tons)

Commodity	Quantity	To CIS[1]	To rest of world
Alumina	231,800	214,400	17,400
Boiler fuel	338,200	11,400	326,800
Coke oil	23,262	--	23,262
Crude petroleum	9,022,400	100	9,022,300
Diesel fuel	1,364,900	253,800	1,111,100
Gasoline	388,600	226,700	161,900
Kerosene	323,100	127,000	196,100

-- Zero.
[1]Commonwealth of Independent States.

Source: The Foreign Trade of Azerbaijan 2000-04, State Statistical Committee of Azerbaijan Republic, Baku, Azerbaijan, 2005, p. 266-267.

TABLE 15
AZERBAIJAN: MAJOR MINERAL COMMODITY IMPORTS
AND EXPORTING COUNTRIES IN 2004

(Metric tons unless otherwise specified)

Commodity and country		Quantity
Asbestos:		
Kazakhstan		3,570
Russia		7,022
Total		10,592
Barite:		
Iran		13,085
Kazakhstan		27,788
Russia		260
Turkey		3,692
Total		44,825
Bauxite:		
Guinea		407
India		478
Total		885
Boiler fuel:		
Turkmenistan		146,180
United Kingdom		2
Total		146,182
Cement:		
Clinker:		
Georgia		75,732
Russia		471,240
Turkey		1,300
Total		548,272
Hydraulic:		
China		620
Georgia		39,330
Iran		23,420
Russia		97,381
Turkey		7,289
Ukraine		58,313
United Kingdom		300
Other		110
Total		226,763
Diesel fuel, Turkmenistan		40,092
Ferroalloys:		
Kazakhstan		1,704
Russia		576
Ukraine		3,263
Other		143
Total		5,686
Natural gas:	million cubic meters	
Kazakhstan	do.	2,646
Russia	do.	578
Turkmenistan	do.	619
Uzbekistan	do.	956
Total	do.	4,799

Source: The Foreign Trade of Azerbaijan 2000-04, State Statistical Committee of Azerbaijan Republic, Baku, Azerbaijan, 2005, p. 268-288.

TABLE 16
AZERBAIJAN: MAJOR EXPORTS AND IMPORTS OF MINERAL COMMODITIES IN 2005

Commodity and country[1]	Value (dollars)	Percentage of total value[2]
EXPORTS		
Mineral fuels, mineral oils and products of their distillation	3,337,035,109	100.00
Of which:		
Italy	1,289,058,611	38.63
France	402,367,074	12.06
Turkey	202,794,947	6.08
Israel	194,667,235	5.83
Georgia	184,198,959	5.52
Croatia	176,273,311	5.28
Inorganic chemicals, precious metal compounds, isotopes	101,270,961	100.00
Of which:		
Tajikistan	77,160,825	76.19
Iran	7,575,433	7.48
United States	6,314,749	6.24
IMPORTS		
Mineral fuels, mineral oils and products of their distillation	499,672,514	100.00
Of which:		
Turkmenistan	236,127,623	47.26
Uzbekistan	90,789,174	18.17
Russia	65,300,739	13.07
Kazakhstan	64,376,465	12.88
Articles of iron or steel	308,060,958	100.00
Of which:		
United Kingdom	60,375,078	19.60
Ukraine	41,844,692	13.58
Russia	34,375,731	11.16
Japan	29,483,193	9.57
Germany	20,602,724	6.69
Malaysia	16,504,865	5.36

[1]Commodity groups are in order by value.
[2]Percentages listed by country for each commodity may not add to 100%.

Source: United Nations Statistics Division, Commodity Trade Statistics Database (COMTRADE), accessed via URL http://unstats.un.org/unsd/comtrade.

TABLE 17
BELARUS: VALUE OF INDUSTRIAL PRODUCTION IN 2005, BY SECTOR[1]

(Percentage of total)

Sector	Percentage
Chemical and petrochemical	11.3
Construction materials	4.2
Electrical energy	6.2
Ferrous metallurgy	3.7
Food processing	16.2
Forestry, wood processing, paper	4.8
Fuel industry	21.7
Light industry	4.7
Nonferrous metallurgy	0.1

[1]Evaluated in current prices.

Source: Belarus' i Rossiya 2006, Ministerstvo Statistiki i analiza Respubliki Belarus' and Federal'naya sluzhba gosudarstvennoy statistiki, Statisticheskiy sbornik, Moscow, 2006.

TABLE 18
BELARUS: UTILIZATION OF MINERAL PRODUCTION CAPACITY

(Percentage)

Commodity	2001	2002	2003	2004	2005
Ammonia, synthetic	98	100	100	100	100
Cement	100	100	100	100	100
Mineral fertilizers	76	90	97	99	99
Oil refining	68	55	53	53	58
Steel:					
Crude	89	91	93	96	96
Rolled	100	100	97	100	100
Sulfuric acid	61	60	63	76	81

Source: Belarus' i Rossiya 2006, Ministerstvo Statistiki i analiza Respubliki Belarus' and Federal'naya sluzhba gosudarstvennoy statistiki, Statisticheskiy sbornik, Moscow, 2006.

TABLE 19
BELARUS: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity		2001	2002	2003	2004	2005
METALS						
Steel:						
Crude	thousand metric tons	1,611	1,607	1,694	1,920	2,076
Rolled	do.	1,400	1,400	1,425	1,580	1,700
Pipes		42,400	76,700	96,200	109,700 r	108,300
INDUSTRIAL MINERALS						
Cement	thousand metric tons	1,803	2,171	2,472	2,731	3,131
Diamond, synthetic[e]	thousand carats	25,000	25,000	25,000	25,000	25,000
Nitrogen, N content of ammonia		725,000	799,000	726,000	770,000 r	780,000
Potash, K_2O equivalent[e]	thousand metric tons	3,700 2	3,800	4,230	4,600 r	4,844
Salt[3]		1,052,000 r	1,367,000 r	1,543,000 r	1,883,000 r	1,839,000
Sulfur[e]		20,000	25,000	30,000	30,000	30,000
Sulfuric acid[e]		-- r	-- r	-- r	-- r	--
MINERAL FUELS AND RELATED MATERIALS						
Natural gas	million cubic meters	255	246	254	245 r	228
Peat:						
Horticultural use[e]		200,000	200,000 2	100,000	100,000	100,000
Fuel use		1,997,000	2,201,000	1,802,000	2,008,000 r	2,308,000
Total		2,197,000	2,401,000	1,902,000	2,108,000 r	2,408,000
Petroleum:						
Crude	thousand metric tons	1,852	1,846	1,820	1,804	1,785
Refined	do.	13,346	15,247	15,774	18,451	19,802

[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 2006.
[2]Reported figure.
[3]Includes byproduct salt from potash production.

TABLE 20
BELARUS: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1]

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Cement	Krichevskiy and Volkovysk plants	Mahilyowskaya and Wawkavysk Voblasts'	2,200,000
Diamond	Gomel Production Association "Kristall"	Homyel'skaya Voblasts'	NA
Nitrogen, N content of ammonia	Grodno "Azot" Association	Hrodna Region	1,000,000
Peat, fuel use	Production at 37 enterprises that produce mainly briquets	All regions of country	5,000,000 [2]
Petroleum:			
Crude	Belarusneft Association	Southeastern part of country	2,000,000
Refined	Mazyr refinery	Mazyr	16,000,000 [3]
Do.	Naftan refinery	Navapolatsk	8,450,000 [3]
Potash, K_2O equivalent	Belaruskali Production Association	Salihorsk area	5,000,000
Steel:			
Crude	Belarusian Steelworks	Zhlobin	1,400,000
Pipe	Mogilev Metallurgical Works jsc	Mahilyowskaya Voblasts'	80,000

[e]Estimated; estimated data are rounded to no more than three significant digits. NA Not available.
[1]Table includes data available through December 2006.
[2]Total peat for fuel use production.
[3]Crude throughput.

TABLE 21
BELARUS: MAJOR EXPORTS AND IMPORTS OF MINERAL COMMODITIES IN 2005

Commodity and country[1]	Value (dollars)	Percentage of total value[2]
EXPORTS		
Mineral fuels, mineral oils and products of their distillation:	5,557,092,400	100.00
Of which:		
Netherlands	2,327,368,600	41.88
United Kingdom	1,071,373,500	19.28
Poland	520,795,100	9.37
Germany	309,366,700	5.57
Fertilizers:	1,117,962,700	100.00
Of which:		
China	263,257,700	23.55
Brazil	165,583,800	14.81
United States	120,651,400	10.79
Poland	79,551,700	7.12
Iron and steel:	638,008,800	100.00
Of which:		
Russia	222,416,700	34.86
Italy	41,449,300	6.50
Poland	33,533,300	5.26
IMPORTS		
Mineral fuels, mineral oils and products of their distillation:	5,524,082,800	100.00
Of which Russia	5,482,829,700	99.25
Iron and steel:	1,097,927,400	100.00
Of which:		
Russia	821,724,500	74.84
Ukraine	191,421,600	17.43

[1]Commodity groups are in order by value.
[2]Percentages listed by country for each commodity may not add to 100%.

Source: United Nations Statistics Division, Commodity Trade Statistics Database (COMTRADE), accessed via URL http://unstats.un.org/unsd/comtrade.

TABLE 22
GEORGIA: DISTRIBUTION OF MINING AND QUARRYING ENTERPRISES BASED ON THE TYPE OF MINING AND QUARRYING

(Number of enterprises)

Type of mining and quarrying	2001	2002	2003	2004	2005
Coal mining	3	6	5	4	6
Extraction of crude oil and natural gas	2	2	2	2	2
Mining of metal ores	22	21	23	33	40
Other mining and quarrying	62	62	69	78	100

Source: State Department of Statistics in Georgia, 2006, accessed January 18, 2007, at URL http://www.statistics.ge/index.php?plang=1.

TABLE 23
GEORGIA: DISTRIBUTION OF LABOR FORCE AMONG MINING AND QUARRYING ENTERPRISES

(Thousand persons)

Enterprises	2001	2002	2003	2004	2005
Coal mining	0.7	0.7	0.5	0.5	0.5
Extraction of crude oil and natural gas	0.8	0.8	0.8	0.9	1.0
Mining of metal ores	3.8	3.9	4.0	4.6	5.7
Other mining and quarrying	1.2	1.3	1.2	1.3	1.4

Source: State Department of Statistics in Georgia, 2006, accessed January 18, 2007, at URL http://www.statistics.ge/index.php?plang=1.

TABLE 24
GEORGIA: DISTRIBUTION OF THE VALUE OF INDUSTRIAL PRODUCTION CONTRIBUTED BY TYPE OF MINING ACTIVITY

(Percentage of value of total industrial production)

Type of mining activity	2001	2002	2003	2004	2005
Coal mining	(1)	(1)	(1)	(1)	(1)
Extraction of crude oil and natural gas	2.5	4.2	5.5	5.4	5.3
Mining of metal ores	2.9	3.8	4.9	4.9	4.3
Other mining and quarrying	0.6	0.4	0.6	0.5	0.8

[1]Less than 0.05%.

Source: State Department of Statistics in Georgia, 2006, accessed January 18, 2007, at URL http://www.statistics.ge/index.php?plang=1.

TABLE 25
GEORGIA: DISTRIBUTION OF THE VALUE OF CAPITAL STOCK MINING AND QUARRYING ENTERPRISES BASED ON THE TYPE OF MINING AND QUARRYING

(Percentage)

Type of mining and quarrying	2001	2002	2003	2004	2005
Coal mining	0.4	0.3	0.3	0.3	0.2
Extraction of crude oil and natural gas	1.3	1.2	1.0	0.9	1.0
Mining of metal ores	1.7	1.8	1.8	1.8	1.8
Other mining and quarrying	0.4	0.4	0.4	0.4	0.4

Source: State Department of Statistics in Georgia, 2006, accessed January 18, 2007, at URL http://www.statistics.ge/index.php?plang=1.

TABLE 26
GEORGIA: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity	2001	2002	2003	2004	2005
METALS					
Copper, mine output, Cu content of concentrate[e]	8,000	10,000	12,000	12,000	12,000
Gold[e] kilograms	2,000	2,000	2,000	2,000	2,000
Iron and steel:					
Ferroalloys, electric furnace:					
Ferromanganese	7,800 [r]	4,200 [r]	12,400 [r]	12,800 [r]	13,000
Silicomanganese[e]	32,800 [r]	30,400 [r]	50,900 [r]	91,900 [r]	92,000
Total[e]	40,600 [r]	34,600 [r]	63,300 [r]	104,700 [r, 2]	105,000
Lead, mine output, Pb content[e]	200	400	400	400	400
Manganese ore, marketable:					
Gross weight	98,400	103,400	173,500	218,700	251,800
Mn content[e]	28,500	30,000	50,500	63,600	73,000
Silver kilograms	33,000	33,000 [e]	33,000	33,000	33,000
Zinc, mine output, Zn content of concentrate[e]	350	400	400	400	400
INDUSTRIAL MINERALS					
Barite[e]	15,000	15,000	15,000	15,000	15,000
Cement	335,200	346,800	344,800 [r]	424,600 [r]	450,000 [e]
Clays, bentonite[e]	7,000	7,000	9,700	1,800	2,000
Nitrogen, N content of ammonia	47,600 [r]	91,500 [r]	102,300 [r]	107,800 [r]	130,000 [e]
Perlite	NA	NA	NA	45,000 [e]	45,000 [e]
Salt[e]	30,000	30,000	30,000	30,000	30,000
Zeolites	NA	NA	NA	NA	NA
MINERAL FUELS AND RELATED MATERIALS					
Coal, bituminous	5,000	6,100 [r]	8,000	8,000	8,000
Natural gas million cubic meters	40,200	16,700	17,800	6,100 [r]	14,800
Petroleum:					
Crude	98,800	73,900	139,700	97,600	66,700
Refined	11,800	16,700 [r]	18,600	37,500	40,000

[e]Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. [r]Revised. NA Not available.
[1]Table includes data available through November 2006.
[2]Reported figure.

TABLE 27
GEORGIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Arsenic:	Deposits:	Locations:	2,000 [3]
As content of ore	Lukhumi deposit	Ambrolauri Region	
	Tsani deposit	Lentekhi Region	
Metal and compounds	Racha mining and chemical plant	Racha	NA
Do.	Tsana mining and chemical plant	Ts'ana	NA
Barite	Chordskoye deposit	Onis Raioni (Onskiy Rayon)	70,000
Do.	NA	Madneuli deposit	NA
Barite-zinc	NA	Kvaisi deposit	NA
Bentonite	Gumbrskoye and Askanskoye deposits	Gumbra and Askana Regions	200,000 [3]
Cement	Rust'avi cement plant	Rust'avi	1,500,000
Coal	Akhaltsikhe, Tkibuli-Shaorskoye, and Tkvarchelskoye deposits	Akhalts'ikhis Raioni, Tqibuli, and Tqvrach'eli Regions	300,000 [3]
Copper, Cu content of ore	Madneuli complex	Bolnisi Region	12,000
Diatomite	Kisatibskoye deposit	K'isat'ibi Region	150,000
Ferroalloys:			
Ferromanganese	Zestafoni plant	Zestap'onis Raioni	100,000
Silicomanganese	do.	do.	250,000
Manganese sinter	do.	do.	250,000
Gold	Georgian-Austrian joint venture (Quartzite)	Madneuli deposit	3
Iron ore	Hrazdan deposit	Sulagyan Mountains	NA
Do.	Tkibuli-Shaorskoye deposit	Tqibuli Region	NA
Lead-zinc:			
Pb content of ore	Kvaisi deposit	Kvaisi	1,200
Zn content of ore	do.	do.	3,000
Manganese, marketable ore	Chiaturmarganets complex	Chiat'ura-Sach'kheris Raioni field	200,000
Petroleum:			
Crude	About 60 wells that account for 98% of output	Mirzaani, Sup'sa, and Zemo T'elet'i Regions	200,000 [3]
Refined	Batumi refinery	Bat'umi	NA
Do.	Sartichala refinery	Sartichala	NA
Steel, crude	Rust'avi steel mill	Rust'avi	1,400,000
Zinc, mine output, Zn content	Kapan mining directorate	Kapan	NA

[e]Estimated; estimated data are rounded to no more than three significant digits. NA Not available.

[1]Table includes data available through December 2006.

[2]Many location names have changed since the breakup of the Soviet Union. Many enterprises, however, are still named or commonly referred to based on the former location name, which accounts for discrepancies in the names of enterprises and that of locations.

[3]Capacity estimate is the total for all enterprises that produce that commodity.

TABLE 28
GEORGIA: MAJOR MINERAL COMMODITY EXPORTS AND IMPORTS

Commodity and country[1]	2003 Value (thousand dollars)	2003 Quantity (metric tons)	2004 Value (thousand dollars)	2004 Quantity (metric tons)
EXPORTS				
Ferrous waste and scrap, remelting scrap ingots of iron and steel:	60,061	974,574	95,948	786,560
Of which:				
India	576	5,055	4,401	38,079
Seychelles	--	--	2,074	11,521
Singapore	722	14,059	2,348	22,005
Turkey	55,277	924,574	82,134	679,254
United States	277	4,821	1,369	13,892
Other countries	3,209	26,065	3,622	21,809
Ferroalloys:	26,100	62,146	42,510	104,796
Of which:				
Italy	760	2,000	2,280	6,000
Netherlands	3,640	9,580	4,028	10,600
Russia	5,716	9,664	12,299	29,046
Turkey	463	1,221	4,590	11,845
United States	9,310	24,500	14,883	35,850
Other countries	6,211	15,181	4,430	11,455
Copper ores and concentrates:	23,439	72,170	31,825	61,870
Of which:				
Bulgaria	--	--	11,872	22,202
Germany	--	--	4,589	9,694
Romania	--	--	716	1,344
Spain	--	--	3,837	7,631
Switzerland	3,439	72,170	10,809	20,999
Other countries	20,000	(2)	2	(2)
Mineral of chemical fertilizers, nitrogenous:	18,445	185,318	28,756	242,493
Of which:				
Armenia	3,538	36,738	4,701	44,762
France	3,386	33,095	6,132	52,149
Greece	2,907	23,953	3,712	28,938
Spain	3,604	39,075	3,822	30,580
Turkey	691	5,681	5,262	42,700
Other countries	4,319	46,776	5,127	43,364
IMPORTS				
Petroleum and petroleum oils:	104,851	407,033	186,450	524,267
Of which:				
Azerbaijan	77,659	315,113	131,733	388,087
Bulgaria	2,210	7,411	11,596	29,674
Greece	4,087	12,772	4,743	11,205
Romania	10,072	32,120	11,173	26,142
Turkmenistan	6,415	25,073	22,145	57,639
Other countries	4,408	14,544	5,060	11,520
Other tubes and pipes, having circular cross-sections, of iron and steel:	93,723	143,182	80,048	106,225
Of which:				
Armenia	--	--	101	624
Azerbaijan	--	--	208	6
Germany	--	--	160	115
Italy	648	564	115	84
United Kingdom	92,805	141,835	79,324	105,242
Other countries	270	783	140	154

See footnotes at end of table.

TABLE 28—Continued
GEORGIA: MAJOR MINERAL COMMODITY EXPORTS AND IMPORTS

Commodity and country[1]	2003 Value (thousand dollars)	2003 Quantity (metric tons)	2004 Value (thousand dollars)	2004 Quantity (metric tons)
IMPORTS—Continued				
Petroleum gases and other gaseous hydrocarbons:	66,011	757,619	80,080	915,785
Of which:				
Russia	60,554	726,620	73,934	887,170
Kazakhstan	3,942	18,976	4,065	14,353
Azerbaijan	1,332	10,156	2,044	14,248
Turkey	39	72	36	14
United Arab Emirates	--	--	1	(2)
Other countries	144	1,795	--	--

-- Zero.

[1]Commodity groups are in order by value.

[2]Less than ½ unit.

Source: External Trade of Georgia 2004, Statistical Collection, Tbilisi, 2004, p. 278.

TABLE 29
GEORGIA: MAJOR EXPORTS AND IMPORTS OF MINERAL COMMODITIES IN 2005

Commodity and country[1]	Value (dollars)	Percentage of total value[2]
EXPORTS		
Iron and steel:	167,709,847	100.0
Of which:		
Turkey	77,257,848	46.07
Russia	18,520,861	11.04
Seychelles	12,592,615	7.51
United States	11,421,128	6.81
Pearls, precious stones, metals, coins, and so forth:	39,413,600	100.0
Of which:		
Canada	32,679,505	82.91
United Kingdom	5,417,439	13.75
IMPORTS		
Mineral fuels, mineral oils and products of their distillation:	495,870,000	100.00
Of which:		
Azerbaijan	194,784,232	39.28
Russia	114,393,056	23.07
Turkmenistan	55,013,899	11.09
Romania	38,051,240	7.67
Bulgaria	33,599,287	6.78

[1]Commodity groups are in order by value.

[2]Export and import country percentages may not add to 100%.

Source: United Nations Statistics Division, Commodity Trade Statistics Database (COMTRADE), accessed via URL http://unstats.un.org/unsd/comtrade.

TABLE 30
KAZAKHSTAN: INDUSTRIAL PRODUCTION, BY SECTOR

(Percentage of total)

Sector	2000	2001	2002	2003	2004
Manufacturing:					
Of which:					
Chemical industry	1.0	1.2	1.3	1.4	1.1
Food processing	13.3	13.9	10.7	10.6	9.5
Machine manufacturing	2.5	3.4	3.1	3.3	3.3
Metallurgy and metal working	20.9	18.7	17.7	17.0	16.8
Of which, metallurgy	20.3	17.9	17.0	16.2	16.1
Nonmetallic mineral products	0.8	1.2	1.3	1.6	1.9
Petroleum refinery products, nuclear fuel					
Of which, petroleum refinery products	3.3	3.9	3.6	4.2	3.4
Production of coke	3.9	4.3	3.9	4.4	3.6
Rubber and plastics	0.2	0.3	0.4	0.5	0.5
Textiles	2.0	2.0	1.7	1.3	1.0
Other	1.8	1.9	3.0	2.9	2.7
Mining:					
Of which:					
Coal mining	1.5	1.7	1.4	1.4	1.1
Crude petroleum and condensate gas	38.0	36.1	39.5	39.6	43.1
Metal ore mining	3.0	3.3	3.5	3.4	4.2
Natural gas extraction	0.5	0.6	0.4	0.4	0.6
Other mining	1.5	2.6	3.1	3.4	3.6
Production and distribution of electricity, gas, and water	9.0	8.8	8.8	8.7	7.1

Source: International Monetray Fund, 2005, International Monetary Fund Country Report no. 05/239, Republic of Kazakhstan: Statistical Appendix, July, p. 4.

TABLE 31
KAZAKHSTAN: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity		2001	2002	2003	2004	2005
METALS						
Aluminum:						
Alumina	thousand metric tons	1,231	1,386	1,419	1,468	1,505
Bauxite		3,685,100	4,376,600	4,737,100	4,705,600	4,800,000 e
Arsenic trioxide[e]		1,500	1,500	1,500	1,500	1,500
Bismuth:[e]						
Mine output, Bi content		252	161	150	150	140
Metal, refined		130	130	130	130	120
Cadmium, metal		1,250 e	1,300	1,351	1,900 r	2,000 e
Chromite		2,045,700	2,369,400	2,927,500	3,287,000 r	3,579,000
Cobalt, mine output, Co content[e]		300	300	300	300	300
Copper:						
Mine output, Cu content[e]		470,100 [2]	474,000 r	485,000	461,000 r, 2	402,000
Metal:						
Smelter, undifferentiated		433,600	446,200	431,930	445,200 r	425,000 e
Refined, primary		425,700	453,000	432,511 r	445,268 r	418,833
Gallium[e]		25	20 r	25	5	7
Gold:						
Mine output, Au content	kilograms	25,010	22,402	30,000 e	30,000 e	18,062
Metal, refined	do.	15,226	10,959	9,906 r	9,576	9,788
Iron and steel:						
Iron ore, marketable:						
Gross weight		14,140,000	17,675,000 r	19,300,000 r	20,300,000	16,469,900
Fe content		8,000,000	10,000,000 r	10,933,000	11,499,000	9,300,000 e
Metal:						
Pig iron		3,906,500	4,089,100	4,140,000 e	4,300,000 r	3,581,090
Ferroalloys:						
Ferrochromium		761,900	835,800	993,000	1,081,000	1,156,168
Ferrochromiumsilicon		79,800	108,028	98,130	104,800	97,870
Ferromanganese		5,349	2,278	1,931	2,000 e	2,100
Ferrosilicon		145,800	126,968 r	127,300	103,580 r	104,185
Silicomanganese		141,200	164,000	178,920	155,300	170,214
Other[e]		9,000	9,000	9,000	9,000	9,000
Total		1,143,049	1,246,074 r	1,408,281	1,455,680 r	1,539,537
Steel:						
Crude		4,691,000	4,868,000	5,066,600	5,371,700	4,452,000
Finished, rolled		3,700,000	3,800,000	3,837,800	4,039,700	3,195,000
Lead:						
Concentrate, Pb content		37,700	46,000 r	37,500	33,000	44,000
Refined, primary and secondary		158,700	1,622,000 r	133,200	157,000 e	131,316
Magnesium, metal, primary[e]		16,000	18,000	14,000	18,000	20,000
Manganese ore, crude ore:						
Gross weight		1,386,500	1,835,000 r	2,369,000 r	2,318,000	2,207,700
Mn content[e]		350,000	460,000 r	580,000	570,000 r	540,000
Molybdenum, concentrate, Mo content[e]		225	230	230	230	230
Nickel, Ni content of laterite ore		--	--	--	--	193
Rhenium[e]	kilograms	2,500 r	2,600 r	2,600 r	5,000 r	8,000
Silicon		NA	NA	83,000	88,000	95,000
Silver, mine output, Ag content	kilograms	981,900	855,612 r	804,874 r	707,443 r	832,000 e
Titanium sponge		14,000	14,900	12,500	16,500	19,000
Vanadium, ores, concentrates, slag, Va content[e]		1,000	1,000	1,000	1,000	1,000
Zinc:						
Mine output, Zn content		344,300	392,000 r	394,000 r	361,000 r	400,000 e
Smelter, primary and secondary		277,100	286,454 r	294,566 r	316,731 r	356,907

See footnotes at end of table.

TABLE 31—Continued
KAZAKHSTAN: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity		2001	2002	2003	2004	2005
INDUSTRIAL MINERALS						
Asbestos, all grades		271,300	291,100	354,500	346,500	355,000 e
Barite		72,000	79,000 r	219,200	310,700	120,000 e
Boron[e]	thousand metric tons	30	30	30	30	30
Cement		2,029,200	2,129,400	2,569,700 r	3,662,000	3,974,800
Clays, kaolin[e]		70,000	70,000	70,000	70,000	70,000
Gypsum		NA	710,700	711,000 e	800,000	820,000
Phophate rock:						
Gross weight		97,000	136,500	168,600	229,800	230,000 e
P_2O_5 content		28,000	39,600	48,900	66,700	52,000 e
Sulfur, byproduct:[e]						
Metallurgy		310,000	260,000	325,000	325,000	325,000
Natural gas and petroleum		1,400,000	1,600,000	1,600,000	1,650,000	1,700,000
Total		1,710,000	1,860,000	1,930,000	1,980,000	2,030,000
MINERAL FUELS AND RELATED MATERIALS						
Coal:		79,000,000	73,731,000	84,906,500	86,875,100	86,385,000
Natural gas	cubic meters	11,600,000	13,100,000	14,700,000	14,400,000	14,494,000
Petroleum:						
Crude:						
In gravimetric units		39,700,000	42,066,700	45,376,300	50,671,500	55,305,000
In volumetric units[e]	42-gallon barrels	292,000,000	309,000,000	334,000,000	373,000,000	406,500,000
Refinery products		NA	NA	8,750,000 e	9,390,000	11,170,000
Uranium:						
U content		2,050	2,800	3,300 r	3,719 r	4,357
U_3O_8 content		2,418	3,302	3,892 r	4,386 r	5,138

[e]Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. [r]Revised. NA Not available. -- Zero.
[1]Table includes data available through November 2006.
[2]Reported figure.

TABLE 32
KAZAKHSTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Alumina	Pavlodar aluminum plant	Pavlodar	1,250,000
Arsenic trioxide	Chimkent polymetallic enterprise and other nonferrous metallurgical enterprises	Shymkent	3,500
Asbestos	Facilities:		1,000,000 [3]
	Dzhetygara complex	Qostanay	
	Chilisay complex	Aqtobe phosphorite basin	
Barite	Facilities:		300,000 [3]
	Karagaylinskiy and Zhayrem mining and beneficiation complexes	Karagayly, Zhayrem deposit	
	Tujuk Mine	Almaty	
	Achisay polymetallic complex	Kentau Region	
Bauxite	Turgay and Krasno-oktyabrsky bauxite mining complexes	Central Kazakhstan	5,000,000
Beryllium, metal	Ul'ba metallurgical plant	Oskemen	NA
Bismuth, metal	Facilities:		70 [3]
	Ust-Kamenogorsk lead-zinc metallurgical plant	Oskemen	
	Leninogorsk lead smelter	Leninogorsk	
Do.	Chimkent refinery	Shymkent	20
Cadmium	do.	do.	10
Do.	Leninogorsk mining-beneficiation complex	Leninogorsk	1,200
Chromite, mine output, Cr_2O_3 content (50%)	Donskoy GOK mining-beneficiation complex	Near Khromtau, Kempirsai Region	5,000,000
Coal	Karaganda Basin	Central and north-central parts of the country	50,000,000
Do.	Ekibastuz Basin	do.	85,000,000
Do.	Maykuben Basin	do.	10,000,000
Do.	Turgay Basin	do.	1,000,000
Copper:	Kazakhmys PLC mines:		
Mining, recoverable, Cu content	Balkhash complex:		
Do.	Kounrad Mine	South Central Kazakhstan	11,800
Do.	Sayak Mine	do.	23,500
Do.	Shatyrkul Mine	do.	12,700
Do.	East Region:		
Do.	Artemyevskoe Mine	East Kazakhstan	7,820
Do.	Belousovskoe Mine	do.	2,700
Do.	Irtyshskoe Mine	do.	5,750
Do.	Nikolaevskoe Mine	do.	25,700
Do.	Orlovskoe Mine	do.	86,200
Do.	Yubileyno-Snegirikhinskoe Mine	do.	14,200
Do.	Karaganda Region:		
Do.	Abyz Mine	North Central Kazakhstan	5,710
Do.	Nurkazgan Mine	do.	1,190
Do.	Zhezkazgan complex:		
Do.	Annensky Mine	do.	6,630
Do.	East Mine	do.	65,800
Do.	North Mine	do.	32,500
Do.	South Mine	do.	71,600
Do.	Stepnoy Mine	do.	31,700
Do.	West Mine	do.	23,300
Do.	Kazzinc JSC:		
Do.	Ridder:		
Do.	Ridder-Sokolny Mine	East Kazakhstan	NA
Do.	Shubinsky Mine	do.	2,750
Do.	Tishinsky Mine	do.	15,000
Do.	Zyrianovsk: Maleevsky Mine	do.	62,100

See footnotes at end of table.

TABLE 32—Continued
KAZAKHSTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Copper—Continued:	Kazakhmys PLC mines or plants:		
Processing, recoverable, Cu content	Balkhash complex: Balkhash concentrator	South Central Kazakhstan	39,500
Do.	East Region:		
Do.	Belousovskoe Mine	East Kazakhstan	2,100
Do.	Irtyshskoe Mine	do.	3,890
Do.	Nikolaevskoe Mine	do.	21,200
Do.	Orlovskoe Mine	do.	77,800
Do.	Karaganda Region: Abyz Mine	North Central Kazakhstan	4,000
Do.	Zhezkazgan complex:		
Do.	Stepnoy Mine	do.	58,200
Do.	Zhezkazgan concentrator:		
Do.	Number 1	do.	88,800
Do.	Number 2	do.	111,000
Do.	Kazzinc JSC:		
Do.	Ridder: Ridder concentrator	East Kazakhstan	NA
Do.	Zyrianovsk: Zyrianovsk concentrator	do.	1,200
Metal	Kazakhmys PLC mines or plants:		
Do.	Balkhash complex:		
Do.	Balkhash smelter	South Central Kazakhstan	250,000
Do.	Balkhash refinery	do.	250,000
Do.	Zhezkazgan complex:		
Do.	Zhezkazgan smelter	North Central Kazakhstan	215,000
Do.	Zhezkazgan refinery	do.	250,000
Do.	Kazzinc JSC: Ust-Kamenogorsk: Lead smelter	Oskemen	8,400
Ferroalloys:			
Ferrochrome:			
High-carbon 60%	Aktyubinsk plant	Aqtobe	200,000
Medium-carbon 60%	do.	do.	200,000
Do.	Aksu plant	Aksu	200,000
Ferrosilicon	do.	do.	700,000
Ferrosilicochrome	do.	do.	700,000
Ferrochrome, high-carbon	do.	do.	500,000
Silicomanganese	do.	do.	90,000
Gallium	Pavlodar aluminum plant	Pavlodar	NA
Gold	Byproduct of polymetallic ores and native gold mining	NA	30
Iron and steel:			
Pig iron	Ispat-Karmet Steelworks	Karaganda	5,000,000
Steel, crude	do.	do.	6,300,000
Iron ore, marketable	Lisakovskiy and Sokolovsko-Sarbay mining and metallurgical complexes	Qostanay	25,000,000
Lead:	Kazzinc JSC:		
Mining, recoverable Pb content of ore	Ridder:		
Do.	Shubinsky Mine	East Kazakhstan	461
Do.	Tishinsky Mine	do.	15,000
Do.	Zyrianovsk:	do.	
Do.	Grekhovsky Mine		240,000
Do.	Maleevsky Mine	do.	35,100
Processing, recoverable Pb content of ore	Kazzinc JSC: Ridder: Ridder concentrator	do.	NA
Metal	Chimkent refinery	Shymkent	NA
Do.	Kazzinc JSC: Ust-Kamenogorsk: Lead smelter	Oskemen	168,000
Magnesium, metal	Ust-Kamenogorsk titanium-magnesium plant	do.	20,000
Manganese, crude ore	Facilities:		2,550,000 [3]
	Atasurda	Atasu	
	Kazakmarganets	Zhezdy	
	Sary-Arkapolimetal	Zhayrang Region	

See footnotes at end of table.

TABLE 32—Continued
KAZAKHSTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Molybdenum:	Facilities:		6,000 [3]
Mining, recoverable content of ore	Balkhash complex	Kounrad Mine	
	Karaobinskoye deposit	Karaoba Region	
	Sayak deposit	Sayaq (Sayak) Region	
Metal	Akchatau molybdenum metal plant	Zhezkazgan Region	NA
Natural gas million cubic meters	Facilities:		16,000 [3]
	Aktyubinskmunaigaz	Aqtobe	
	Embamunaigaz	Emba District	
	Huricane Kumkol Munai	Aral Sea Region	
	Karachaganak field	Northwestern Kazakhstan	
	Mangistaumunaigaz	Mangghhyshlaq Peninsula	
	Tengizchevroil joint venture	Tengiz deposit	
		Zhanazhol deposit	
		Urikhtau deposit	
	Agip Kazakhstan North Caspian Operating Company (AGip KCO)	Kashagana offshore field	
	Uzenmunaigaz	Uzen deposit	
Petroleum:	Facilities:		32,000,000 [3]
Crude	Aktyubinskmunaigaz	Aqtobe	
	Embamunaigaz	Emba District	
	Huricane Kumkol Munai	Aral Sea Region	
	Karachaganak Integrated Organization (KIO)	Karachaganak field	
	Mangistaumunaigaz	Mangghhyshlaq Peninsula	
	Uzenmunaigaz	Uzen deposit	
Do.	Alibekmola, Ayrankul, Chinarevskoye, Kozhasay, North Buzachi, Sazankurak, Saztyube, and Urikhtau deposits	NA	NA
Do. 24-gallon barrels/day	Tengizchevroil joint venture	Tengiz deposit	750,000
Do. do.	Agip Kazakhstan North Caspian Operating Company (AGip KCO)	Kashagana offshore field	100,000
Refined, crude oil throughput do.	Atyrau Pavlodar, Shymkent refineries	Atyrau, Pavlodar, Shymkent, respectively	427,000 [3]
Phosphate rock	Chilisay mining directorate	Aqtobe phosphorite basin	10,000,000 [3]
	Karatau production association	Shymkent and Zhambyl Regions	
Rare metals (columbium, indium, selenium, tellurium)	Aktau complex	Aktau	NA
Do.	Belogorsky rare metals plant	Belogorskiy	NA
Do.	Shymkent polymetallic plant	Shymkent	NA
Do.	Ust-Kamenogorsk lead-zinc plant	Oskemen	NA
Do.	Akchatau mining-beneficiation complex	Zhezkazgan Region	NA
Rhenium	Balkhash copper mining-metallurgical complex	do.	NA
Silver, refined	Facilities:		1,000 [3]
	Chimkent metallurgical plants	Shymkent	
	Leninogorsk	Leninogorsk	
	Ust-Kamenogorsk	Zhezkazgan Region	
Tantalum	Yermak ferroalloy plant	Aksu	NA
Tin	Akchatau mining-beneficiation complex	Akzhaik deposit, Zhezkazgan Region	700
Titanium, metal	Ust-Kamenogorsk titanium-magnesium plant	Oskemen	35,000
Uranium, U content	Facilities:		3,700 [3]
	Prikaspiskiy ore enrichment center	Aqtau	
	Shevchenko	do.	
	Stepnogorsk	Stepnogorsk	
	Taboshara	Taboshara	
	Tselinny chemical complex	Stepnogorsk	

See footnotes at end of table.

TABLE 32—Continued
KAZAKHSTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Zinc:	Kazakhmys PLC mines:		
Mining, recoverable, Zn content	East Region:		
Do.	Artemyevskoe Mine	East Kazakhstan	30,200
Do.	Belousovskoe Mine	do.	8,420
Do.	Irtyshskoe Mine	do.	14,700
Do.	Nikolaevskoe Mine	do.	48,700
Do.	Orlovskoe Mine	East Kazakhstan	78,200
Do.	Yubileyno-Snegirikhinskoe Mine	do.	16,500
Do.	Karaganda Region: Abyz Mine	North Central Kazakhstan	20,800
Do.	Kazzinc JSC:		
Do.	Ridder:		
Do.	Ridder-Sokolny Mine	East Kazakhstan	NA
Do.	Shubinsky Mine	do.	2,510
Do.	Tishinsky Mine	do.	79,500
Do.	Shaimerden deposit	North Kazakhstan	1,090,000
Do.	Zyrianovsk:		
Do.	Grekhovsky Mine	East Kazakhstan	240,000
Do.	Maleevsky Mine	do.	203,000
Processing, recoverable, Zn content	Kazakhmys PLC mines:		
Do.	East Region:		
Do.	Artemyevskoe Mine	do.	8,580
Do.	Belousovskoe Mine	do.	5,760
Do.	Irtyshskoe Mine	do.	7,610
Do.	Nikolaevskoe Mine	do.	24,200
Do.	Orlovskoe Mine	do.	55,000
Do.	Yubileyno-Snegirikhinskoe Mine	do.	6,190
Do.	Kazzinc JSC:		
Do.	Ridder: Ridder concentrator	do.	NA
Do.	Shaimerden deposit	North Kazakhstan	72,000
Metal	Kazzinc JSC:		
Do.	Ridder: Ridder zinc refinery	East Kazakhstan	126,000
Do.	Ust-Kamenogorsk: Zinc refinery	North Kazakhstan	216,000

[e]Estimated; estimated data are rounded to no more than three significant digits. NA Not available.

[1]Table includes data available through December 2006.

[2]Many location names have changed since the breakup of the Soviet Union. Many enterprises, however, are still named or commonly referred to based on the former location name, which accounts for discrepancies in the names of enterprises and that of locations.

[3]Capacity estimates are totals for all enterprises that produce that commodity.

TABLE 33
KAZAKHSTAN: MAJOR EXPORTS AND IMPORTS OF MINERAL COMMODITIES IN 2005

Commodity[1]	Value (dollars)	Percentage of total value[2]
EXPORTS		
Mineral fuels, mineral oils and products of their distillation:	19,525,360,340	100.00
Of which:		
Switzerland	5,244,294,000	26.86
Italy	3,305,148,691	16.93
France	2,645,480,000	13.55
Iron and steel:	2,244,466,076	100.00
Of which:		
China	498,392,107	22.21
Netherlands	425,926,461	18.98
Russia	305,482,140	13.61
Iran	264,237,864	11.77
Korea, Republic of	125,957,557	5.61
Japan	115,326,770	5.14
Copper and articles thereof:	1,507,500,359	100.00
Of which:		
Italy	804,449,499	53.36
China	569,473,438	37.78
Germany	79,173,634	5.25
Ores, slag and ash:	925,584,480	100.00
Of which:		
Russia	717,465,119	77.51
China	185,728,767	20.07
IMPORTS		
Mineral fuels, mineral oils and products of their distillation:	2,062,331,016	100.00
Of which:		
Russia	1,725,855,627	83.68
Uzbekistan	142,763,108	6.92
Articles of iron or steel:	1,565,881,428	100.00
Of which:		
Russia	523,037,933	33.40
Ukraine	199,742,137	12.76
China	199,334,210	12.73
Japan	112,673,083	7.20
Italy	81,767,851	5.22

[1]Commodity groups are in order by value.
[2]Export and import country percentages may not add to 100%.

Source: United Nations Statistics Division, Commodity Trade Statistics Database (COMTRADE), accessed via URL http://unstats.un.org/unsd/comtrade.

TABLE 34
KAZAKHSTAN: MAJOR MINERAL RESOURCES[1]

(Thousand metric tons unless otherwise specified)

Reserves[2]		Quantity	World ranking
Chromite		350,000	1
Copper		40,000	4
Gold		1.9	9
Iron ore		17,000,000	7
Lead		4,800	1
Natural gas	million cubic meters	1,830	15
Oil		2,700,000	7
Uranium		900	2
Zinc		34,000	1

[1]Reserve data reported from Kazakhstan does not necessarily conform to reserve data reported by the U.S. Geological Survey or other sources owing to differences in the systems for reporting reserves.
[2]Reported as known reserves.

Source: Dzhakizhev, Moukhtar, 2004, World Nuclear Association Annual Symposium, September 8-10, London, World Nuclear Association 2004, Uranium production in Kazakhstan as a potential source for covering the world uranium shortage.

TABLE 35
KYRGYZSTAN: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity		2001	2002	2003	2004	2005
METALS						
Antimony:						
Mine output, Sb content[e]		150	150	40	20	10
Metal and compounds		1,050	1,504	1,500	1,000	500
Gold[e]	kilograms	24,000	17,000	22,476 [2]	22,000	16,700
Mercury:						
Mine output, Hg content[e]		300	425	370	488	200
Metal		579	537	500	500	250
Molybdenum, mine output, Hg content[e]		250	250	250	250	250
Tin, mine output, Sn content[e]		300	300	--	--	--
INDUSTRIAL MINERALS						
Cement		468,900	532,800	757,000	800,000 [e]	975,100
Fluorspar, concentrate[e]		1,175 [2]	2,750	3,973 [2]	4,000	4,000
Kaolin		NA	237,100	381,100	400,000 [e]	400,000 [e]
Lime, dead-burned		9,400	9,300	8,700	11,200	9,500
Rare earths:						
Concentrate, gross weight		7,700	700	NA	NA	NA
Rare earth oxide equivalent:						
Compounds		NA	NA	NA	NA	NA
Metals		3,800 [e]	100 [e]	NA	NA	NA
Other[e]		2,000	2,000	2,000	NA	NA
Salt		NA	770	1,100	1,100 [e]	1,100 [e]
MINERAL FUELS AND RELATED MATERIALS						
Coal		477,300	497,500	411,300	454,900	318,000
Natural gas	million cubic meters	33	29	27	29	25
Petroleum, crude	thousand metric tons	75,500	75,500	68,500	73,800	74,400

[e]Estimated; estimated data are rounded to no more than three significant digits. [r]Revised. NA Not available. -- Zero.
[1]Table includes data available through November 2006.
[2]Reported figure.

TABLE 36
KYRGYZSTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Antimony:			
Sb content of ore	Kadamzhai and Khaidarkan complexes	Kadamzhaiskiy Rayon, Khaidarkan Region	2,400 [3]
Ore	Kadamzhai beneficiation plant	Kadamzhai deposit	200,000
Do.	Terek-Sayskiy beneficiation plant	Terek-Sayskiy deposit	60,000
Metal and compounds	Kadamzhai metallurgical facility	Kadamzhaiskiy Rayon	28,000
Cement	Kantskiy cement plant	Kant	1,500,000
Coal	Seven underground mines, five open pits includes deposits: Almalyk, Dzhergalan, Kara-Kiche-Kok-Yangak, Kyzyl-Kiya, Sulyukta, and Tashkumyr	Southwestern, central, and northeastern parts of the country	2,200,000 [3]
Fluorspar, concentrate	Khaidarkan mining-metallurgical complex	Khaidarkan deposit	5,000
Gold:			
Au content of ore	Makmalzoloto	Makmal deposit	3
Do.	Kumtor Gold Company	Kumtor deposit	22
Do. kilograms	Solton-Sary Mine	Naryn	500
Do.	Taldybulak Levoberezhny deposit	NA	NA
Do.	Talas Gold	Jerooy, Talas Region	NA
Au content of ore, open pit	Kyrgyzaltyn-Noroks Mining Company JV	Dzher-Uy deposit	650,000
Au content of ore, underground	do.	do.	350,000
Refined	Kara-Balta refinery	Chuskaya Oblast'	22
Mercury:			
Hg content of ore	Khaidarkan mining-metallurgical complex	Khaidarkan, Chauvi, Chonkoy, and Novoye deposits	700 [3]
Metal	do.	do.	1,000
Molybdenum, for nonmetallurgical uses	Molibden Joint Stock Company	Chuskaya Oblast'	NA
Do.	Kara Balta mining-metallurgical complex	NA	NA
Natural gas million cubic meters	Kyrgyzazmunayzat	Approximately 300 wells; Changyr-Tash, Chigirchik Pereval, Izbaskentskoye, Kara-Agach, Mayluu-Suu, Susahoye, and Togap-Beshkenskoye deposits (major)	100 [3]
Petroleum	do.	do.	150,000
Do.	Kyrgyz Petroleum Company	Dzhalal-Abad Region	NA
Rare earths:			
Concentrates, gross weight	Aktyuzskiy mining directorate	Kutessai II and Aktyuz-Boordu deposits	14,000
Compounds and metals, rare-earth oxide equivalent	Kyrgyz chemical and metallurgical plant	Orlovka	8,000
Silver	Kumyshtag deposit	Talasskaya Oblast'	NA
Do.	Karagoyskoye deposit	Oshskaya Oblast'	NA
Tin	Uchkoshkon deposit	Sary-Dzhas field	NA
Do.	Tyanshanolovo mining-beneficiation complex	do.	NA
Do.	Enil'chek JSC mining enterprise	Atdzhaylau deposit	150
Do.	do.	Trudovoye deposit	350
Tungsten	do.	do.	95,600
Do.	do.	Atdzhaylau deposit	90
Do.	do.	Trudovoye deposit	120
Uranium, processed	Kara-Balta mining-metallurgical complex	Chuskaya Oblast'	1,200

[e]Estimated; estimated data are rounded to no more than three significant digits. NA Not available.

[1]Table includes data available through December 2006.

[2]Many location names have changed since the breakup of the Soviet Union. Many enterprises, however, are still named or commonly referred to based on the former location name, which accounts for discrepancies in the names of enterprises and that of locations.

[3]Capacity estimates are totals for all enterprises that produce that commodity.

TABLE 37
KYRGYZSTAN: MAJOR EXPORTS AND IMPORTS OF MINERAL COMMODITIES IN 2005

Country and commodity[1]	Value (dollars)	Percentage of total value[2]
EXPORTS		
Natural or cultured pearls, precious or semiprecious stones:	236,199,060	100.0
Of which:		
United Arab Emirates	168,287,076	71.25
Swtizerland	65,204,895	27.61
Mineral fuels, mineral oils and products of their distillation:	78,792,835	100.00
Of which:		
Canada	18,519,970	23.50
Russia	15,474,342	19.64
Kazakhstan	12,924,696	16.40
Afghanistan	9,237,713	11.72
Turkey	5,342,453	6.78
United Arab Emirates	4,268,154	5.42
Antimony, of which China	48,000	100.00
Mercury:	3,263,388 [3]	100.00
Of which:		
China	2,835,709 [3]	86.89
Netherlands	427,679 [3]	13.11
IMPORTS		
Mineral fuels, mineral oils, and products of their distillation:	320,186,556	100.00
Of which:		
Russia	188,212,833	58.78
Kazakhstan	75,486,014	23.58
Uzbekistan	35,796,362	11.18

[1]Commodity groups are in order by value.
[2]Export and import country percentages may not add to 100 percent.
[3]Data are for exports in 2004 only; 2005 data were unavailable.

Source: United Nations Statistics Division, Commodity Trade Statistics Database (COMTRADE), accessed via URL http://unstats.un.org/unsd/comtrade.

TABLE 38
MOLDOVA: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity	2001	2002	2003	2004	2005
Metals, crude steel	966,000	514,000	886,000 r	1,012,600 r	1,000,000 e
INDUSTRIAL MINERALS					
Cement	158,100 r	279,000 r	255,400	439,700	500,000 e
Gypsum	55,200 r	91,300 r	116,100	102,500 r	110,000
Lime	3,300 r	3,300 r	2,880	1,911	1,900
Sand and gravel[e]	306,600 [2]	300,000 [2]	300,000	300,000	300,000
Mineral fuels and related materials, peat[e]	475,000	475,000	475,000	475,000	475,000

[e]Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. [r]Revised.
[1]Table includes data available through November 2006.
[2]Reported figure.

TABLE 39
MOLDOVA: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity		Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Oil and natural gas:				
Oil		Redeco Moldova oil and gas company	Valeni oilfield	100,000
Natural gas	thousand cubic meters	do.	Victorovca gasfield	5,000
Steel, crude		Moldova Steel Works minimill	Ribnita, Transnistria Region	1,100,000

[e]Estimated; estimated data are rounded to no more than three significant digits.
[1]Table includes data available through December 2006.
[2]Many location names have changed since the breakup of the Soviet Union. Many enterprises, however, are still named or commonly referred to based on the former location name, which accounts for discrepancies in the names of enterprises and that of locations.

TABLE 40
MOLDOVA: MAJOR EXPORTS OF MINERAL COMMODITIES IN 2005

Country and commodity[1]	Value (dollars)	Percentage of total value[2]
Mineral fuels, mineral oils and products of their distillation:	1,649,374	100.00
Of which:		
Canada	1,396,034	84.64
Russia	203,916	12.36
Iron and steel:		
Steel, primary forms, of Romania	44,498	100.00
Semimanufactures, flat-rolled products:	61,219	100.00
Of which:		
Romania	31,964	52.21
United Kingdom	29,255	47.79

[1]Commodity groups are in order by value.
[2]Export country percentages may not add to 100 percent.

Source: United Nations Statistics Division, Commodity Trade Statistics Database (COMTRADE), accessed at URL http://unstats.un.org/unsd/comtrade.

TABLE 41
RUSSIA: STRUCTURE OF INVESTMENT IN 2005

Sector	Value (billion dollars)[1]	Percentage of total investment
Agriculture	3.4	3.2
Construction	3.2	2.9
Education	1.9	1.8
Fishing	0.1	0.1
Government	2.0	1.8
Health care and social services	2.5	2.3
Hotels and restaurants	0.3	0.3
Manufacturing:	18.9	17.6
Of which:		
Coke	0.2	0.2
Nonmetallic mineral products	1.6	1.5
Refinery products	1.7	1.6
Metallurgy and metal goods:	5.0	4.7
Of which:		
Machinery and equipment	0.6	0.5
Metal goods	0.3	0.3
Metallurgy	4.7	4.4
Transportation equip ment	1.1	1.0
Other production	0.7	0.7
Mineral extraction:	16.4	15.2
Of which:		
Fuel	14.5	13.5
Nonfuel	1.9	1.7
Of which, nonmetallic ore	1.1	1.0
Production and distribution of electricity, gas, and hot water	8.4	7.8
Transport and communication	30.9	28.8
Other person needs, including culture and recreation	1.4	1.3
Total	107.5	100.0
Of which, foreign investment	5.2	4.8

[1]One U.S. dollar equals 25 rubles.

TABLE 42
RUSSIA: NEW CAPACITY PUT INTO OPERATION IN THE MINERAL SECTOR AS A RESULT OF NEW CONSTRUCTION, RENOVATION, OR REEQUIPPING

(Thousand metric tons unless otherwise specified)

Commodity and/or mineral sector		2004	2005
Cement		40	35
Coal mining		19,502	2,500
Coal preparation		700	10,500
Gas wells		225	24
Gold-bearing ore		805	50
Iron ore concentrate		63	1,050
Iron ore mining		600	1,250
Oil wells	units	3,000	2,163
Pipelines:			
Crude oil	kilometers	1,350	186.6
Gas, mainline and branch	do.	1,487.6	1,976.7
Oil product, mainline and regional	do.	32.2	28
Salt mining		NA	1,310
Sulfuric acid		260	603

NA Not available.

TABLE 43
RUSSIA: CONCENTRATION OF RUSSIAN MINERAL ENTERPRISES IN 2004

Commodity	Number of major enterprises	Share of major enterprises in total production, percent
Barite	3	100
Bauxite	1	70
Boron	1	100
Chromite	2	76
Coal	90	81
Copper	9	100
Diamond	2	100
Fluorspar	1	84
Gold:		
Alluvial	18	31
Vein	6	72
Graphite	2	100
Iron ore	5	73
Kaolin	9	100
Lead	2	73
Magnesium carbonate	1	92
Manganese ore	1	79
Molybdenum	1	73
Natural gas	1	90
Nickel	1	more than 90
Oil	9	81
Phosphate	3	100
Platinum-group metals	1	more than 90
Potash	2	100
Salt	5	88
Tin	1	90
Tungsten	2	65
Uranium	1	97
Vanadium	1	95
Zinc	5	84

Source: Trutnev, Yury, 2005, Nadezhnaya osnava dlya razvitiya strang [A hopeful basis for the country's development]: Metally Evrazii, No. 2, p. 9.

TABLE 44
RUSSIA: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity	2001	2002	2003	2004	2005
METALS					
Aluminum:					
Ore and concentrate:					
Alumina thousand metric tons	3,046	3,131	3,230	3,269 r	3,259
Bauxite	4,955,000	4,586,000	5,442,000	6,000,000 r, e	6,400,000 e
Nepheline concentrate, 25% to 30%	960,000	1,022,000	1,014,000	1,000,000 e	1,000,000 e
Metal, smelter, primary	3,300,000 e	3,347,413	3,478,057	3,591,747 r	3,647,072
Antimony, mine output, recoverable Sb content e	4,500	1,000 r	2,000 r	3,000 r	3,000
Arsenic, white e	1,500	1,500	1,500	1,500	1,500
Bismuth: e					
Mine output, Bi content	50	50	50	50	50
Metal, refined	10	10	10	10	10
Cadmium, metal, smelter e	950	950	950	950	1,000
Chromium, chrome ore, marketable	69,926	74,300	116,455	320,200	772,000
Cobalt: e					
Mine output, recoverable Co content	4,600	4,600	4,800	4,700	5,000
Metal, refined	5,000	5,100	5,500	5,400	5,800
Copper:					
Ore, recoverable Cu content e	600,000	695,000	675,000	675,000	700,000
Metal:					
Blister, smelter: e					
Primary	650,000	660,000	670,000	662,000	686,000
Secondary	245,000	200,000	170,000	257,000	272,000
Total	895,000	860,000	840,000	919,000 2	958,000
Refined:					
Primary	650,000	670,000 e	670,000 e	662,000	664,000
Secondary	244,500	200,000 e	170,000 e	257,000	269,000
Total	894,500	870,000 e	840,000 e	919,000	933,000
Gold:					
Mine output, Au content kilograms	152,500	168,411	170,068	163,148 r	169,297
Secondary recovery do.	1,814 r	2,493 r	6,835	4,844 r	4,884
Iron and steel:					
Iron ore:					
Gross weight	82,500,000	84,236,400	91,759,800	96,980,000	96,764,400
Fe content, 55% to 63% e	48,000,000	49,000,000 2	53,000,000	56,200,000	56,100,000
Metal:					
Pig iron	44,980,000	46,060,000	48,368,000	50,426,700 r	48,419,000
Direct-reduced iron	2,510,000	2,910,000	2,900,000	3,140,000 r, e	3,340,000 e
Ferroalloys: e					
Blast furnace:					
Ferromanganese	55,000	105,000	101,000	108,000	108,000
Ferrophosphorus	3,500	3,500	3,500	3,500	3,500
Spiegeleisen	7,000	7,000	7,000	7,000	7,000
Electric furnace:					
Ferrochromium	210,600 2	210,000 2	357,000 2	453,700 2	578,000 2
Ferrochromiumsilicon	4,000	4,000	4,000	4,000	4,000
Ferronickel	30,000 2	45,000	51,000	53,000	53,000
Ferrosilicon	707,100 2	701,000	760,000	720,000	742,000 2
Ferrovanadium	18,800	15,100	8,000	13,090 2	12,880 2
Silicomanganese	124,000	127,000	83,000	143,000	145,000
Silicon metal	70,000	70,000	85,000	85,000	45,000
Other	16,200	14,900	22,000	22,000	22,000
Total	1,250,000	1,300,000	1,480,000	1,610,000	1,720,000
Steel:					
Crude	59,029,700	59,776,600	62,707,600	65,645,600 r	66,186,200
Finished, rolled	47,100,000	48,700,000	51,050,000	53,800,000	54,600,000
Pipe	5,409,900	5,115,200	6,102,000	5,990,000	6,673,000

See footnotes at end of table.

TABLE 44—Continued
RUSSIA: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity		2001	2002	2003	2004	2005
METALS—Continued						
Lead:[e]						
Mine output, recoverable Pb content		12,300	19,000	24,000	23,000 [r]	36,000
Metal, refined, primary and secondary		67,500	60,350 [2]	66,000	70,000 [r]	66,000
Magnesium:[e]						
Magnesite		1,000,000	1,000,000	1,200,000	1,200,000	1,200,000
Metal, including secondary		40,000 [r]	40,000 [r]	43,000 [r]	45,000 [r]	45,000
Manganese ore:[e]						
Gross weight		115,000	115,000	115,000	115,000	115,000
Mn content		23,000	23,000	23,000	23,000	23,000
Mercury[e]		50	50	50	50	50
Molybdenum[e]		2,600	2,900	2,900	2,900	2,900
Nickel:[e]						
Mine output, recoverable Ni content		320,000	310,000 [r]	300,000 [r]	315,000	315,000
Matte, for export		--	7,783	3,866	599	600
Nickel products:						
Ferronickel, Ni content		8,000	12,000	13,500	14,000	13,000
Metal		252,000 [r]	239,000 [r]	260,000 [r]	261,000 [r]	266,000
Oxide sinter		12,000	6,000	5,000	5,000	5,000
Chemicals		2,000	2,000	2,500	3,000	3,000
Total		274,000 [r]	259,000 [r]	281,000 [r]	283,000 [r]	287,000
Platinum-group metals:[e]						
Platinum	kilograms	27,000	27,000	28,000	28,000	30,000
Palladium	do.	96,000	96,000	97,000	97,000	97,400
Other	do.	14,500	14,500	15,000	15,000	15,500
Total	do.	138,000	138,000	140,000	140,000	143,000
Rhenium[e]	do.	1,200	1,400	1,400	1,400	1,400
Silicon[e]		NA	NA	570,000 [r]	550,000	525,000
Silver[e]						
Mine output, Ag content	kilograms	380,000	400,000 [r]	700,000 [r]	1,276,900 [r, 2]	1,350,000 [2]
Secondary recovery[e]	do.	250	250	250	265	265
Tin:[e]						
Mine output, recoverable Sn content		2,000	1,300	2,000	2,500	3,000
Metal, smelter:						
Primary		4,569 [2]	4,615 [2]	4,100 [r]	4,570 [r]	4,700
Secondary		500	500	500	500	600
Total		5,070	5,120	4,600 [r]	5,070 [r]	5,300
Titanium sponge[e]		22,000	22,000	23,000 [r]	23,000 [r]	25,000
Tungsten, concentrate, W content[e]		5,100 [r]	5,300 [r]	5,450 [r]	5,500 [r]	600
Vanadium, metal[e]		7,500 [r]	8,000	5,800	10,900 [r]	15,100
Zinc:[e]						
Mine output, recoverable Zn content		124,000	130,000 [2]	159,000	179,000	180,000
Metal, smelter, primary and secondary		237,000	244,000	253,000	240,000	220,000
Zirconium, baddeleyite concentrate, averaging 98% ZrO_2[e]		6,500	6,500	6,500	6,500	6,500
INDUSTRIAL MINERALS						
Asbestos, grades I-VI[e]		750,000	775,000	878,000 [2]	923,000 [2]	925,000
Barite[e]		64,000 [r]	59,000 [r]	78,000 [r]	63,000 [r]	63,000
Boron[e]	thousand metric tons	1,000	1,000	1,000	500	400
Cement, hydraulic		35,300,000	37,700,000	41,000,000	45,700,000 [r]	48,700,000
Clays, kaolin concentrate[e]		45,000	45,000 [2]	45,000	45,000	45,000
Diamonds:[e]						
Gem	carats	17,500,000	17,400,000	20,000,000	21,400,000	23,000,000
Industrial	do.	11,700,000	11,600,000	13,000,000	14,200,000	15,000,000
Synthetic	do.	80,000,000	80,000,000	80,000,000	80,000,000	80,000,000
Total	do.	109,000,000	109,000,000	113,000,000	116,000,000	118,000,000
Feldspar[e]		45,000	45,000	45,000	45,000	45,000

See footnotes at end of table.

TABLE 44—Continued
RUSSIA: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity		2001	2002	2003	2004	2005
INDUSTRIAL MINERALS—Continued						
Fluorspar, concentrate, 55% to 96.4% CaF_2		200,000	169,000	170,000	226,400 r	245,500
Gypsum[e]		1,500,000	1,600,000	1,750,000	2,077,000 [2]	2,200,000
Iodine[e]		300,000	300,000	300,000	300,000	300,000
Lime, industrial and construction[e]		8,000,000	8,000,000	8,000,000	8,200,000 [2]	8,200,000
Lithium minerals, unspecified[e]		2,000	2,000	2,000	2,200	2,200
Mica[e]		100,000	100,000	100,000	100,000	100,000
Nitrogen, N content of ammonia		8,690,000	8,600,000 e	9,100,000 e	9,800,000	10,000,000 e
Phosphate rock:[e]						
Gross weight		10,500,000	10,700,000	11,000,000	11,000,000	11,000,000
P_2O_5 content:						
Apatite concentrate, 37% to 39.6%		3,936,000 [2]	4,038,000 [2]	4,121,000 [2]	4,120,000	4,200,000
Sedimentary rock, 19% to 30%		300,000	300,000	300,000	300,000	300,000
Total		4,240,000	4,340,000	4,420,000	4,420,000	4,500,000
Potash, marketable, K_2O equivalent[e]		4,300,000	4,400,000	4,740,000	5,000,000	5,000,000
Salt, all types[e]		2,800,000 [2]	2,800,000	2,800,000	2,800,000	2,800,000
Soda ash[e]		2,370,000	2,400,000	2,400,000	2,600,000	2,600,000
Sulfur:[e]						
Native		50,000	50,000	50,000	50,000	50,000
Pyrites		320,000	350,000	350,000	300,000	300,000
Byproduct:						
Metallurgy		460,000	500,000	520,000	570,000	600,000
Natural gas		5,300,000	5,600,000	5,800,000	6,000,000	6,000,000
Total		6,130,000	6,500,000	6,720,000	6,920,000	6,950,000
Sulfuric acid		8,200,000 r	8,500,000 r	8,800,000 r	9,200,000 r	9,300,000
Talc[e]		100,000	100,000	100,000	100,000	100,000
Vermiculite[e]		25,000	25,000	25,000	25,000	25,000
MINERAL FUELS AND RELATED MATERIALS						
Coal:						
Anthracite		9,700,000 r	9,000,000 r	7,900,000 r	7,800,000 r	8,000,000
Bituminous		260,300,000 r	247,000,000 r	269,100,000 r	203,200,000 r	195,000,000
Lignite		83,000,000	74,200,000	79,400,000 r	70,400,000 r	95,000,000
Total		353,000,000 r	330,200,000 r	356,400,000 r	281,400,000 r	298,000,000
Coke, 6% moisture content		29,900,000	30,900,000	32,700,000	33,801,000	31,600,000
Natural gas, marketed	million cubic meters	581,000	595,000	616,450	633,950	635,964
Natural gas plant liquids	42-gallon barrels	86,505,000	89,790,000	142,350,000 r	166,400,000	166,805,000
Oil shale		2,624,000	1,100,000 r	1,240,000	1,230,000	1,200,000
Peat, horticultural use and fuel use		2,800,000 r	2,200,000 r	1,000,000 r	1,500,000 r	1,500,000
Petroleum:						
Crude in:						
Gravimetric units		348,000,000	379,000,000	412,377,000	458,808,000	469,600,000
Volumetric units[e]	thousand 42-gallon barrels	2,560,000	2,790,000	3,000,000	3,300,000	3,500,000
Refinery products[3]		178,362,300	184,960,000	190,030,000	195,000,000	207,000,000
Uranium:						
U content[e]		2,500	2,900	3,150	3,200 r	3,430
U_3O_8 content		2,948	3,420	3,715	3,774 r	4,045

[e]Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. [r]Revised. NA Not available. -- Zero.
[1]Table includes data available through November 2006.
[2]Reported figure.
[3]Not distributed by type and therefore not suitable for conversion to volumetric units. Data include all energy and nonenergy products but exclude losses.

TABLE 45
RUSSIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Alumina	Achinsk	Achinsk in East Siberia	900,000
Do.	Bogoslovsk	Krasnotur'insk	1,050,000
Do.	Boksitogorsk	European north	200,000
Do.	Pikalyovo	Pikalyovo	300,000
Do.	Uralsk	Kamensk-Uralskiy	536,000
Aluminum, primary smelters	Bogoslovsk	Krasnotur'insk	175,000
Do.	Bratsk	Bratsk	950,000
Do.	Irkutsk	Irkutskaya Oblast'	300,000
Do.	Kandalaksha	Kola Pennisula	75,000
Do.	Krasnoyarsk	Krasnoyarskiy Kray	875,000
Do.	Nadvoitsy	Nadvoitsy in Karelia	75,000
Do.	Novokuznetsk	Novokuznetsk	300,000
Do.	Sayansk	Sayanogorsk	425,000
Do.	Uralsk	Kamensk-Uralskiy	80,000
Do.	Volgograd	Volgogradskaya Oblast'	175,000
Do.	Volkhov	Volkhov, east of St. Petersburg	20,000
Antimony:			
Sb content of concentrate	Sarylakh deposit	Ust'-Nera Region	6,000 [3]
Do.	Sentachan deposit	Northeastern Sakha (Yakutiya) Republic	NA
Compounds and metals	Ryazsvetmet plant	Ryazanskaya Oblast'	NA
Apatite, concentrate	Khibiny apatite association	Kola Peninsula	15,000,000
Do.	Kovdor iron ore mining association	do.	700,000
Asbestos	Kiyembay	Orenburgskaya Oblast'	500,000
Do.	Tuvaasbest	Tuva Autonomous Region	250,000
Do.	Uralaasbest	Central Ural Mountains	1,100,000
Bauxite	North-Urals mining company	Severoural'sk Region	NA
Do.	South-Urals mining company	South Ural Mountains	NA
Do.	Severnaya Onega Mine	Northwest Region	800,000
Do.	Komi Aluminum	Sredne-Timan	3,000,000
Boron, boric acid	Bor Association	Maritime Territory	140,000
Do.	Amur River complex	Far East	8,000
Do.	Alga River chemical complex	do.	12,000
Chromite	Saranov complex	Saranovskiy	200,000
Coal	Donets (east) Basin	Rostovskaya Oblast'	30,000,000
Do.	Kansk Achinsk Basin	East Siberia	50,000,000
Do. thousand metric tons	Kuzntesk Basin (Kuzbass)	West Siberia	160,000
Do.	Moscow Basin	Moscow Region	15,000,000
Do.	Neryungri Basin	Sakha (Yakutiya) Republic	15,000,000
Do.	Pechora Basin	Komi Republic	30,000,000
Do.	South Yakutia Basin	Sakha (Yakutiya) Republic	17,000,000
Cobalt:	MMC Noril'sk Nickel	Noril'sk, Kola Peninsula	4,000
Do.	Rezh and Yuzhuralnikel enterprises	South Ural Mountains	2,100
Do.	Ufaleynikel company	Chelyabinsk region, Ural Mountains	1,900
Do.	Tuva cobalt	Khovu-Aksy, Tuva Autonomous Region	NA
Copper:			
Ore	MMC Noril'sk Nickel	Noril'sk region, Kola Peninsula	14,000,000
Do.	Molodezhnyy, Sibay, and Uchali open pits	Urals	NA
Do.	Mednogorsk complex	Aleksandrinskoye deposit	NA
Do.	Gai complex	Letneye deposit	NA
Do.	Rezh nickel plant	Safyanovoskoye deposit	NA
Do.	Udokan deposit	Chita Oblast	10,000,000
Cu content of concentrate	Buribai enterprise	Buribay Region	5,000
Do.	Gai complex	Gai region	40,000

See footnotes at end of table.

TABLE 45—Continued
RUSSIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity		Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Copper--Continued:				
Cu content of concentrate--Continued		Kirovgrad complex	Kirovgrad Region	12,000
Do.		Krasnoural'skiy complex	Krasnoural'skiy Region	12,000
Do.		Norilsk complex	Noril'sk region, Kola Peninsula	400,000
Do.		Sredneuralsk complex	Ekatrinenburg Region	12,000
Do.		Uchali complex	Uchalinskiy Rayon	40,000
Do.		Urap complex	Stavropol'skiy Kray	7,000
Metal		Kirovgrad (smelting)	Kirovgrad	150,000
Do.		Krasnoural'skiy (smelting)	Krasnoural'sk	60,000
Do.		Kyshtym (refining)	Kyshtym	70,000
Do.		Mednogorsk (smelting)	Mednogorsk	40,000
Do.		Noril'sk (smelting and refining)	Nori'lsk region	500,000
Do.		Psysh (refining)	Psysh	350,000
Do.		Severonikel (smelting)	Monchegorsk	20,000
Do.		Sredneuralsk (smelting)	Revda	140,000
Diamond, gem and industrial	thousand carats	Almazy Rossii-Sakha Association (Alrosa) enterprises:	Sakha (Yukutiya) Republic mines:	
		Udachnyy mining and beneficiation complex	Zarnitsa and Udachnyy	NA
Do.	do.	Mirny mining and beneficiation complex	Mir and International	NA
Do.	do.	Aikhal mining and beneficiation complex	Aikhal and Komsomol'skiy	NA
Do.	do.	Anabaraskiy mining and beneficiation complex	Alluvial mines	NA
Do.	do.	Nyurbinskiy mining and beneficiation complex	Nyurbinskiy and Botuobinskiy	NA
Do.	do.	Lomonosov	Arkhangel'skaya Oblast'	NA
Feldspar		Kheto-Lanbino and Lupikko deposits	Karelia	NA
Ferroalloys		Kosaya Gora iron works	Kosaya,Gora	200,000
Do.		Kuznetsk ferroalloys plant	Novokuznetsk	400,000
Do.		Lipetsk iron and steel works	Lipetskaya Oblast'	NA
Do.		Serov ferroalloy plant	Serov	NA
Do.		Chelyabinsk electrometallurgical plant	Chelyabinskaya Oblast'	450,000
Do.		Chusovoy iron and steel plant	Chusovoy	NA
Do.		Klyuchevsk ferroalloy plant	Dvurechensk	160,000
Ferronickel		Ufaleynikel company	Chelyabinsk Region, Urals	5,000
Ferrovanadium		Vanadii-Tulachermet	Tula, North Caucasus	NA
Fluorspar		Abagaytuy deposit	Transbaikal	NA
Do.		Usugli Mine	do.	NA
Do.		Kyakhtinsky deposit	do.	NA
Do.		Kalanguy mining complex	Chita Region, Transbaikal	NA
Do.		Yaroslavsky mining-beneficiation complex	Pogranichnoye and Vosnesenskoye deposits, Russian Far East's Maritime (Primor'ye) Region	NA
Gold	kilograms	Mining companies:	Mining regions:	
		Amur a/s ZAO	Khabarovsk Kray	5,500
Do.	do.	Buryatzoloto OAO	Buryat Republic	5,000
Do.	do.	Chukotka a/s	Chukotsk Autonomous Oblast'	1,700
Do.	do.	GRK Aldanzoloto OOO	Sakha (Yukutiya) Republic	4,000
Do.	do.	LT-Resurs, ZAO	Irkutsk Oblast'	2,700
Do.	do.	Neryungri-Metallik, OOO	Sakha (Yukutiya) Republic	1,500
Do.	do.	Nirungan, OOO	do.	1,100
Do.	do.	Omchak OAO	Magadan Oblast'	3,000
Do.	do.	Omolonskaya ZRK, OAO	Magadan Oblast'	5,000
Do.	do.	Omsukchanskaya GGK, ZAO	do.	3,000
Do.	do.	Oyna, a/s	Tyva Republic	1,500
Do.	do.	Pokrovskiy Mine OAO	Amur Oblast'	6,000
Do.	do.	Polimetal, MNPO, OAO	Magadan and Sverdlovsk Oblast's, Khabarovsk Kray	7,500
Do.	do.	Polyarnaya, a/s	Chukotsk Autonomous Oblast'	1,000

See footnotes at end of table.

TABLE 45—Continued
RUSSIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity		Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
		Mining companies:	Mining regions:	
Gold—Continued	kilograms	Polyus ZAO	Krasnoyarsk Kray	35,000
Do.	do.	Priisk Drazhnyy, OOO	do.	1,200
Do.	do.	Priisk Solov'yevskiy, OAO	Amur Oblast'	1,500
Do.	do.	Ros-DV, OOO	Khabarovsk Kray	1,100
Do.	do.	Russdragmet OOO	Khabarovsk Kray, Chita Oblast'	6,000
Do.	do.	Seligdar, a/s	Sakha (Yukutiya) Republic	2,000
Do.	do.	Sovrudnik, OOO	Krasnoyarsk Kray	2,000
Do.	do.	Susumanzoloto, OAO	Magadan Oblast'	3,000
Do.	do.	Uralelktomed', OAO	Sverdlovsk Oblast'	1,400
Do.	do.	Vitim. a/s	Irkutsk Oblast'	2,900
Do.	do.	Votok, a/s	Khabarovsk Kray	1,100
Do.	do.	Yuzhuralzoloto	Chelyabinsk Oblast'	4,200
Do.	do.	Zapadnaya, a/s	Krasnoyarsk Kray	1,900
Do.	do.	Zolotaya, ZDK, ZAO	Khakasiya Republic	1,200
Iron ore		Kursk Magnetic Anomaly (KMA) region, which contains the following enterprises:		50,000,000 [3]
		Lebedi and Stoilo	Gubkin	
		Mikhailovka	Zheleznogorsk	
Do.		Northwest region, which contains the following enterprises:		22,000,000 [3]
		Kostomuksha	Kostomuksha	
		Kovdor	Kola Peninsula	
		Olenegorsk	Olenegorsk	
Do.		Siberia region, which contains the following enterprises:		18,000,000 [3]
		East:		
		Korshunovo	Zheleznogorsk	
		Rudnogorsk	Rudnogorsk	
		West:		
		Abakan	Abaza	
		Sheregesh	Sheregesh	
		Tashtagol	Tashtagol	
		Teya	Vershina Tei	
Do.		Ural Mountains region, which contains the following enterprises:		22,000,000 [3]
		Akkermanovka	Novotroitsk	
		Bakal	Bakal	
		Goroblagodat	Kushva	
		Kachkanar	Kachkanar	
		Magnitogorsk	Magnitogorsk	
		Peshchanka	Rudnichnyy	
Lead-zinc, recoverable content of ore:				
Lead, recoverable Pb content of ore		Altay mining-benefication complex	Altay Mountains region, South Siberia	2,000
Do.		Dalpolymetal mining-benefication complex	Maritime Territory	20,000
Do.		Nerchinsk polymetallic complex	Chitinskaya Oblast'	7,000
Do.		Sadon lead-zinc complex	Severnaya Osetiya-Alaniya Republic	5,000
Do.		Salair mining-benefication complex	Kemerovo Oblast'	2,000
Zinc, recoverable Zn content of ore		Altay mining-benefication complex	Altay Mountains region, South Siberia	1,000
Do.		Dalpolymetal mining-beneficiation complex	Maritime Territory	25,000
Do.		Nerchinsk polymetallic complex	Chitinskaya Oblast'	12,500
Do.		Sadon lead-zinc complex	Severnaya Osetiya-Alaniya Republic	14,000
Do.		Salair mining-benefication complex	Kemerovo Oblast'	10,500

See footnotes at end of table.

TABLE 45—Continued
RUSSIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity		Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Lead, metal		Dalpolymetal lead smelter	Rudnaya in the Maritime District	20,000
Do.		Elektrozinc lead smelter	Vladikavkaz in North Caucasus	30,000
Magnesite		Satka deposit	Chelyabinsk Oblast'	3,800,000
Magnesium, metal (for sale)		Avisma plant	Berezniki	35,000
Do.		Solikamsk plant	Solikamsk	30,000
Mica		Aldan	Sakha (Yakutiya) Republic	NA
Do.		Karel	Karelia	NA
Do.		Kovdor	Kola Peninsula	NA
Do.		Mam	Irkutsk complex	NA
Molybdenum		Dzhida tungsten-molybdenum mine	West Transbaikal	NA
Do.		Sorsk molybdenum mining enterprise	Sorsk Region	NA
Do.		Tyrnyauz tungsten-molybdenum mine	North Caucasus	NA
Do.		Shakhtaminskoye molybdenum mining enterprise	Chitinskaya Oblast'	NA
Natural gas	million cubic meters	Komi Republic	Komi Republic	8,000
Do.	do.	Noril'sk area	Noril'sk area	5,500
Do.	do.	North Caucasus	North Caucasus	6,000
Do.	do.	Sakhalin	Far East	2,000
Do.	do.	Tomsk Oblast	West Siberia	500
Do.	do.	Tyumen Oblast including:	do.	575,000 [3]
Do.	do.	Medvezhye field	do.	(75,000)
Do.	do.	Urengoi field	do.	(300,000)
Do.	do.	Vyrngapur field	do.	(17,000)
Do.	do.	Yamburg field	do.	(170,000)
Do.	do.	Bovanenko field	Yamal Peninsula	NA
Do.	do.	Pestsovoyy field	Ob-Taz Gulf area	NA
Do.	do.	Zapolyarnyy field	do.	NA
Do.	do.	Schtokmanov field	Barents Sea	NA
Do.	do.	Urals	Ural'skiye Gory	45,000
Do.	do.	Volga	Volga Region	6,000
Do.	do.	Yakut-Sakha	Sakha (Yakutiya) Republic	1,500
Nepheline syenite		Apatite complex	Kola Penisula	1,500,000
Do.		Kiya-Shaltyr Mine	Goryachegorsk Region, east Siberia	NA
Nickel:				
Ni in ore		MMC Noril'sk Nickel	Noril'sk Region, Kola Peninsula	300,000
Do.		Yuzhuralnikel company	South Urals	3,000
Do.		Ufaleynikel company	Chelyabinsk Region, Urals	17,000
Metal:				
Smelting		MMC Norilsk Nickel	Noril'sk region	160,000
Do.		do.	Pechenga	50,000
Do.		do.	Monchegorsk	50,000
Refining		MMC Norilsk Nickel	Noril'sk region	100,000
Do.		do.	Monchegorsk	140,000
Ni products and Ni in FeNi		Rezh, Ufaleynikel, and Yuzhuralnikel enterprises	South Urals	65,000
Oil shale		Leningradslanets Association	Slantsy Region	5,000,000
Petroleum		East Siberia, Tomsk Oblast	Tomskaya Oblast'	11,000,000
Do.		European Russia:		
Do.		Astrakhan	North Caspian Sea basin	700,000
Do.		Bashkortostan	Ural'skiye Gory	28,000,000
Do.		Checheno-Ingush Republic	Southern Caucasus	4,500,000
Do.		Dagestan	North Caucasus	700,000
Do.		Kaliningrad Oblast	Baltic coast	1,800,000
Do.		Komi Republic	Northwest	15,000,000
Do.		Krasnodar Kray	North Caucasus	2,000,000
Do.		Orenburg Oblast	Ural'skiye Gory	13,000,000
Do.		Perm Oblast	do.	12,000,000
Do.		Samara	Volga Region	16,000,000

See footnotes at end of table.

TABLE 45—Continued
RUSSIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Petroleum—Continued	European Russia:		
Do.	Saratov Oblast	Volga Region	1,500,000
Do.	Stavropol Kray	North Caucasus	2,000,000
Do.	Tatarstan	Volga Region	40,000,000
Do.	Udmurt Republic	Ural'skiye Gory	9,000,000
Do. thousand metric tons	Fields:	Tyumenskaya Oblast', West Siberia	300,000 [4]
Do. do.	Kogolym	do.	(34,000)
Do. do.	Krasnoleninskiy	do.	(12,000)
Do. do.	Langepas	do.	(30,000)
Do. do.	Megion	do.	(18,000)
Do. do.	Nizhnevartovsk	do.	(70,000)
Do. do.	Noyabrsk	do.	(37,000)
Do. do.	Purneftegaz	do.	(12,000)
Do. do.	Surgat	do.	(48,000)
Do. do.	Uray	do.	(8,000)
Do. do.	Varegan	do.	(10,000)
Do.	Sakhalin Island	Sakhalin Island	2,500,000
Phosphate rock	Kingisepp complex	Leningradskaya Oblast'	NA
Do.	Lopatino and Yegorevsk deposits	Moscow Oblast'	NA
Do.	Polpinskoye deposit	Bryanskaya Oblast'	NA
Do.	Verkhnekamsk deposit	Ural'skiye Gory	NA
Phosphate rock, apatite concentrate	OJSC Apatit	Kola Peninsula	12,000,000
Do.	Kovdor iron mining complex	do.	700,000
Platinum-group metals:			
Ore, PGM content	MMC Noril'sk Nickel	Noril'sk region	150
Do.	AO Koryakgeoldobycha, Amur Prospectors	Placer deposits (mostly platinum), Urals; Siberia; Russian Far East	10 [3]
Metals	Krasnoyarsk Nonferrous Metals Plant (Krastsvetmet)	Krasnoyarskiy Kray	NA
Do.	Ekaterinburgskiy plant (EZOTsM)	Ekaterinburg	NA
Do.	Priobsk plant	Priobsk	NA
Potash, K_2O equivalent	Uralkaliy	Verkhnekamsk deposit	3,000,000
Do.	Silvinit	Solikamsk-Berezniki regions, Ural'skiye Gory	2,000,000
Silver	Dukat Mine	Magadanskaya Oblast'	1,000
Soda ash	Achinsk plant	East Siberia	595
Do.	Berezniki plant	Ural'skiye Gory	1,080
Do.	Pikalevo plant	Leningradskaya Oblast'	200
Do.	Sterlitamak plant	Sterlitamak	2,135
Do.	Volkhov plant	Leningradskaya Oblast'	20
Steel, crude	Amurstal	Komsomol'sk-na-Amure	1,600,000
Do.	Asha	Asha	450,000
Do.	Beloretsk	Bashkirskoye	380,000
Do.	Chusovoy	Chusovoy	570,000
Do.	Elektrostal	Moscow	314,000
Do.	Gorky	Nizhniy Novgorod	78,000
Do.	Gur'yevsk	Gur'yevsk	160,000
Do.	Karaganda	Karaganda	6,300,000
Do.	Kuznetsk	Novokuznetsk	4,700,000
Do.	Lys'va	Lys'va	350,000
Do.	Magnitogorsk	Magnitogorsk	16,200,000
Do.	Mechel (Chelyabinsk)	Chelyabinskaya Oblast'	7,000,000
Do.	Nizhniy Tagil	Nizhniy Tagil	8,000,000
Do.	Nizhniy Sergi	Nizhniye Sergi	300,000
Do.	Nosta (Orsk-Kahlilovo)	Novotroitsk in Orenburgskaya Oblast'	4,600,000
Do.	Novolipetsk	Lipetskaya Oblast'	9,900,000

See footnotes at end of table.

TABLE 45—Continued
RUSSIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Steel, crude—Continued	Novosibirsk	Novosibirskaya Oblast'	1,100,000
Do.	Omutninsk	Omutninsk	210,000
Do.	Oskol Electric Steel	Staryy Oskol	2,500,000
Do.	Petrovsk-Zabaykal'skiy	Petrovsk-Zabaykal'skiy	426,000
Do.	Revda	Revda	281,000
Do.	Salda	Sverdlovskaya Oblast'	1,900
Do.	Serov A.K.	Serov	1,000,000
Do.	Serp i Molot	Moscow	70,000
Do.	Severskiy	Polevskoy in Sverdlovskaya Oblast'	825,000
Do.	Severstal (Cherepovets)	Cherepovets	14,000,000
Do.	Sibelektrostal	Krasnoyarskiy Kray	110,000
Do.	Sulin	Sulin	280,000
Do.	Taganrog	Taganrog	925,000
Do.	Tulachermet Scientific and Industrial Association	Tula	18,400
Do.	Verkh-Isetskiy	Ekatrinenburg	132,000
Do.	Volgograd	Volgogradskaya Oblast'	2,000,000
Do.	Vyksa	Vyksa	540,000
Do.	West Siberian	Novokuznetsk	6,900,000
Do.	Zlatoust	Zlatoust in Chelyabinskaya Oblast'	1,200,000
Talc	Onotsk deposit	Irkutskaya Oblast'	NA
Do.	Kirgiteysk deposit	Krasnoyarskiy Kray	NA
Do.	Miass deposit	Chelyabinskaya Oblast'	NA
Do.	Shabrovsk deposit	Sverdlovskaya Oblast'	NA
Tin:			
Ore	Novosibirsk mining-beneficiation complexes: Khinganskoye olovo (Jewish Autonomous District)	Khabarovskiy Kray	NA
Do.	Dalolovo	Solnechnyy deposit, Primor'ye	NA
Do.	Deputatskiy (Sakhaolovo)	Sakha (Yakutiya) Republic	NA
Do.	Vostokolovo	Russian Far East	NA
Do.	Iultin mining-beneficiation complex	Magadanskaya Oblast'	NA
Do.	Khrustalnyy mining-beneficiation complex	Maritime Territory	NA
Do.	Pevek mining-beneficiation complex	Magadanskaya Oblast'	NA
Metal	Novosibirsk smelter	Novosibirskaya Oblast'	NA
Do.	Podol'sk smelter	Podol'sk	NA
Do.	Ryazan smelter	Ryazanskaya Oblast'	NA
Titanium:			
Sponge	Avisma Titanium-Magnesium complex	Berezniki	40,000
Metal	Moscow plant	Moscow	NA
Do.	Podol'sk plant	Podol'sk	NA
Do.	Verknyaya Salda Metallurgical Production Association (VSMPO)	Sverdlovskaya Oblast', Ural Mountains	NA
Tungsten:			
W content of concentrates	Antonovogorsk	East Transbaikal	NA
Do.	Balkan	Northeast of Magnitogorsk, Ural'skiye Gory	NA
Do.	Belukha	East Transbaikal	NA
Do.	Bom-Grokhom	West Transbaikal	NA
Do.	Dzhida	do.	NA
Do.	Iultin	Magadanskaya Oblast'	NA
Do.	Lermontov	Russian Far East	NA
Do.	Solnechnyy	Southern Khabarovskiy Kray	NA
Do.	Tyrnyauz tungsten-molybdenum mining and processing complex	Kabardino-Balkariya, North Caucasus	NA
Do.	Primorsky	Russian Far East	NA
Do.	Aginskoye deposit	Sakha (Yakutiya) Republic	NA
Do.	Kti-Teberdaskoye deposit	North Caucasus	NA

See footnotes at end of table.

TABLE 45—Continued
RUSSIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Tungsten, metal, tungsten anhydride	Gidrometallurg plant	Nal'chik, North Caucasus	NA
Uranium, U content	Priargunsky mining and chemical enterprise	Krasnokamensk	3,500
Vanadium:			
Ore	Kachkanar iron mining complex	Ural'skiye Gory	NA
Metal	Chusovoy and Nizhniy Tagil plants	do.	17,000
Pentoxide	Vanadii-Tulachermet	Tula, North Caucasus	NA
Zinc:			
Zn content of ore	Bashkir copper-zinc complex	Sibai, southern Ural Mountains	5,000
Do.	Buribai copper-zinc mining complex	Buribai, southern Ural Mountains	1,500
Do.	Gai copper-zinc mining-beneficiation complex	Gai, southern Ural Mountains	25,000
Do.	Kirovgrad copper enterprise	Kirovgrad, central Ural Mountains	1,200
Do.	Sredneuralsk copper complex	Revda, central Ural Mountains	5,000
Do.	Uchali copper-zinc mining-beneficiation complex	Uchalinskiy Rayon, southern Ural Mountains	90,000
Metal	Chelyabinsk electrolytic zinc plant	Chelyabinskaya Oblast'	200,000
Do.	Elektrozink plant	Vladikavkaz, North Caucasus	100,000

[e]Estimated; estimated data are rounded to no more than three significant digits. NA Not available.
[1]Table includes data and information available through December 2006.
[2]Many location names have changed since the breakup of the Soviet Union. Many enterprises, however, are still named or commonly referred to based on the former location name, which accounts for discrepancies in the names of enterprises and that of locations.
[3]Capacity estimates are totals for all enterprises that produce that commodity.

TABLE 46
RUSSIA: DOLLAR VALUE OF EXPORTS, BY SECTOR

(Billion dollars)[1]

Sector	1995	2000	2001	2002	2003	2004	2005
Chemical industry products and rubber	6.3	6.0	5.9	5.8	7.0	9.1	11.4
Food and agricultural products (except textiles)	1.0	0.9	1.0	1.6	1.8	1.4	2.3
Leather goods, furs, forestry and paper products	3.9	4.1	4.0	4.4	4.9	6.1	7.2
Machinery, equipment, transport means	5.3	6.7	7.5	7.2	8.0	8.4	7.6
Metals, precious stones and articles thereof	19.5	21.0	17.2	18.3	21.4	33.1	37.0
Mineral products	25.8	48.7	48.3	51.8	67.8	92.0	140.8
Textiles and shoes	0.8	0.5	0.5	0.5	0.5	0.5	0.4
Other	0.8	1.2	0.9	1.2	1.6	1.4	1.8
Total	63.7	89.3	85.4	91.0	113.2	152.2	208.8

[1]One U.S. dollar equals 25 rubles.

Source: Rossiya v Tsifrakh 2006 [Russia in figures 2006], Russian Federal Statistical Service, Moscow.

TABLE 47
RUSSIA: PERCENTAGE VALUE OF EXPORTS, BY SECTOR

(Percentage of total)

Sector	1995	2000	2001	2002	2003	2004	2005
Chemical industry products and rubber	9.9	6.7	6.9	6.4	6.2	6.0	5.5
Food and agricultural products (except textiles)	1.5	1.0	1.2	1.8	1.5	1.9	1.1
Forestry and paper products	6.1	4.5	4.6	4.8	4.3	4.0	3.4
Leather goods, furs	0.5	0.3	0.2	0.2	0.2	0.2	0.1
Machinery, equipment, transport means	8.3	7.5	8.7	7.0	7.1	5.5	3.6
Metals, precious stones and articles thereof	30.7	23.5	20.2	20.0	18.0	21.8	17.7
Mineral products	40.4	54.5	56.5	56.0	60.0	60.4	67.5
Textiles and shoes	1.3	0.6	0.6	0.6	0.5	0.3	0.2
Other	1.3	1.4	1.1	1.4	1.3	0.9	0.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Rossiya v Tsifrakh 2006 [Russia in figures 2006], Russian Federal Statistical Service, Moscow.

TABLE 48
RUSSIA: MAJOR EXPORTS OF MINERAL COMMODITIES IN 2005

Commodity and country[1]	Value (dollars)	Percentage of total value[2]
Mineral fuels, mineral oils and products of their distillation:	118,241,498,233	100.00
Of which:		
Netherlands	19,632,215,567	16.60
Italy	12,557,053,984	10.62
Germany	9,843,798,905	8.33
Poland	6,433,288,970	5.44
Iron and steel:	17,875,173,785	100.00
Of which:		
Turkey	2,013,346,640	11.26
China	1,519,124,264	8.50
United States	1,324,699,277	7.41
Italy	1,293,186,409	7.23
Iran	1,238,829,986	6.93
Unspecified Asia	1,086,428,092	6.08
Aluminum and articles thereof:	5,735,996,821	100.00
Of which:		
Portugal	1,301,420,479	22.69
Japan	1,264,951,431	22.05
United States	1,001,626,626	17.46
Netherlands	528,277,323	9.21
Germany	303,658,667	5.29

[1]Commodity groups are in order by value.
[2]Export country percentages may not add to 100 percent.

Source: United Nations Statistics Division, Commodity Trade Statistics Database (COMTRADE), accessed via URL http://unstats.un.org/unsd/comtrade.

TABLE 49
RUSSIA: QUANTITY OF MAJOR MINERAL COMMODITY EXPORTS

(Million metric tons unless otherwise specified)

Commodity		1995	2000	2001	2002	2003	2004	2005
Aluminum, metal[1]		2.3	3.2	3.1	2.8	3.1	3.4	3.8
Coal, bituminous:								
Outside the CIS		21.2	38.0	36.0	39.1	51.1	62.6	71.5
Inside the CIS		8.3	6.1	5.5	4.4	9.6	9.4	8.3
Total		29.5	44.1	41.5	43.5	60.7	72.0	79.8
Copper, refined[1]	thousand metric tons	467.0	646.0	595.0	515.0	407.0	337.0	308.0
Ferrous metals	billion dollars	6.8	6.1	5.2	6.1	7.8	15.1	16.4
Iron ore and concentrates:								
Outside the CIS		11.4	9.1	7.6	8.1	9.1	13.8	15.6
Inside the CIS		2.5	10.1	9.4	5.0	7.5	3.2	2.6
Total		13.9	19.2	17.0	13.1	16.6	17.0	18.2
Mineral fertilizers:								
Outside the CIS		6.20	19.9	21.0	20.4	21.8	24.0	25.5
Inside the CIS		0.07	0.4	0.7	1.0	9.0	9.0	8.0
Total		6.27	20.3	21.7	21.4	30.8	33.0	33.5
Natural gas:								
Outside the CIS	billion cubic meters	123.0	134.0	132.0	134.0	142.0	145.0	160.0
Inside the CIS	do.	57.3	60.0	49.2	51.3	47.3	55.1	47.5
Total	do.	180.3	194.0	181.2	185.3	189.3	200.1	207.5
Nickel, metal[1]		153.0	197.0	189.0	381.0	238.0	251.0	261.0
Oil, crude:								
Outside the CIS		100.0	128.0	138.0	157.0	186.0	228.8	214.0
Inside the CIS		15.6	16.9	23.8	33.0	37.0	40.1	38.0
Total		115.6	144.9	161.8	190.0	223.0	268.9	252.0
Oil products, refined:								
Outside the CIS		43.5	59.2	61.0	72.9	74.2	78.5	93.1
Inside the CIS		3.0	3.5	2.5	2.6	3.5	4.1	3.9
Total		46.5	62.7	63.5	75.5	77.7	82.6	97.0
Pig iron:								
Outside the CIS		2.80	3.6	3.4	3.9	4.4	5.1	4.9
Inside the CIS		0.03	0.1	0.2	0.3	0.4	0.4	0.4
Total		2.83	3.7	3.6	4.2	4.8	5.5	5.3

[1]No exports reported outside the Commonwealth of independent States (CIS).

Source: Rossiya v Tsifrakh 2006 (Russia in figures 2006), Russian Federal Statistical Service, Moscow.

TABLE 50
RUSSIA: YEAR IN WHICH ECONOMIC RESERVES WILL BE DEPLETED

Commodity	Year of depletion
Barite	2021
Bauxite	Beyond 2025
Boron	Beyond 2025
Chromite	2010
Coal	Beyond 2025
Copper	2016
Diamond	2013
Fluorspar	2025
Gold:	
Alluvial	2011
Vein	2015
Graphite	2018
Iron ore	Beyond 2025
Kaolin	2020
Lead	2007
Magnesium carbonate	2016
Manganese ore	2008
Molybdenum	2016
Natural gas	Beyond 2025
Nickel	2016
Oil	2015
Phosphate	Beyond 2025
Platinum-group metals	2018
Potash	Beyond 2025
Salt	Beyond 2025
Tin	2015
Tungsten	2016
Vanadium	Beyond 2025

Source: Trutnev, Yury, 2005, Nadezhnaya osnava dlya razvitiya strang [A hopeful basis for the country's development]: Metally Evrazii, No. 2, p. 5.

TABLE 51
RUSSIA: PRODUCTION AT LEADING RUSSIAN GOLD MINING COMPANIES

(Kilograms)

Company	Region	2004	2005
Amur a/s. ZAO	Khabarovsk Kray	6,614	4,780
Chukotka, a/s	Chukotsk Autonomous Oblast'	1,339	1,662
GRK Aldanzoloto OOO	Sakha (Yukutiya) Republic	4,978	3,025
LT-Resurs, ZAO	Irkutsk Oblast'	1,694	2,516
Neryungri-Metallik, OOO	Sakha (Yukutiya) Republic	1,468	1,230
Nirungan, OOO	do.	1,089	1,002
Omchak OAO	Magadan Oblast'	2,808	2,455
Omolonskaya ZRK, OAO	do.	3,940	4,696
Omsukchanskaya GGK, ZAO	do.	2,612	2,804
Oyna, a/s	Tyva Republic	1,199	1,305
Pokrovskiy Mine OAO	Amur Oblast'	4,701	5,740
Polimetal, MNPO, OAO	Magadan and Sverdlovsk Oblast's, Khabarovsk Kray	6,817	7,290
Polyarnaya, a/s	Chukotsk Autonomous Oblast'	1,020	994
Polyus ZAO	Krasnoyarsk Kray	34,040	33,500
Priisk Drazhnyy, OOO	do.	1,182	1,114
Priisk Solov'yevskiy, OAO	Amur Oblast'	1,371	1,463
Ros-DV, OOO	Khabarovsk Kray	1,004	1,049
Russdragmet OOO	Khabarovsk Kray, Chita Oblast'	6,143	5,041
Seligdar, a/s	Sakha (Yukutiya) Republic	1,973	1,698
Sovrudnik, OOO	Krasnoyarsk Kray	2,046	1,804
Susumanzoloto, OAO	Magadan Oblast'	2,409	2,801
Uralelktomed', OAO	Sverdlovsk Oblast'	962	1,273
Vitim. a/s	Irkutsk Oblast'	2,606	2,738
Votok, a/s	Khabarovsk Kray	925	1,016
Yuzhuralzoloto	Chelyabinsk Oblast'	4,129	3,649
Zapadnaya, a/s	Krasnoyarsk Kray	1,663	1,744
Zolotaya zvezda, ZDK, ZAO	Khakasiya Republic	885	1,048

Sources: Brayko, V.N., 2006, Rossiyskaya promyshlennost' po dobyche dragotsennykh metallov, itogi 2005 g. i perspektivy [The Russian industry for mining precious metals, 2005 results and perspectives]: Mineral'nye resursy Rossii, ekonomika I upravleniye [Mineral resources of Russia, economy and management]: no. 3, p. 61.

TABLE 52
RUSSIA: PRODUCTION AT LEADING FOREIGN-OWNED GOLD MINING COMPANIES OPERATING IN RUSSIA AND THEIR RUSSIAN SUBSIDIARIES

(Kilograms)

Company and subsidiaries	2004	2005
Bema Gold Corp. (Canada):	2,612	2,804
Omsukchanskaya GGK, ZAO	2,612	2,804
High River Gold Mines (Canada):	4,898	4,874
Buryatzoloto OAO	4,898	4,874
Highland Gold Mining Ltd. (United Kingdom):	6,143	5,041
Russdragmet OOO	6,143	5,041
Kinross Gold Corp. (Canada):	3,949	4,696
Omolonskaya ZRK, OAO	3,949	4,696
Peter Hambro Mining Plc (United Kingdom):	7,509	8,195
Omchak OAO	4,701	5,740
Pokrovskiy Mine OAO	2,808	2,455

Sources: Brayko, V.N., 2006, Rossiyskaya promyshlennost' po dobyche dragotsennykh metallov, itogi 2005 g. i perspektivy [The Russian industry for mining precious metals, 2005 results and perspectives]: Mineral'nye resursy Rossii, ekonomika I upravleniye [Mineral resources of Russia, economy and management]: no. 3, p. 62.

TABLE 53
RUSSIA: PRODUCTION AT MAJOR IRON ORE MINING COMPLEXES

(Thousand metric tons)

Complex	2004	2005
Abakan	837.4	847.6
Kachkanar	8,963.7	8,648.9
Korshunovo	3,875.6	4,521.5
Kovdar	5,271.1	5,793.5
Lebedi	20,073.5	20,563.5
Mikhailovka	19,230.0	16,902.0
Olenogorsk	3,619.8	4,023.8
Sheregesh	1,663.9	1,563.9
Stoilo	12,565.0	11,891.0
Tashtagol	1,413.9	1,467.5
Teya	1,560.1	1,463.7

Source: Interfax Metals and Mining Weekly, 2006, CIS production of iron ore, concentrate, pellets, and agglomerate: Interfax Metals and Mining weekly, issue 15, no. 4, January 20-26, p. 42-43.

TABLE 54
RUSSIA: PRODUCTION OF FERROUS METALS AT MAJOR METALLURGICAL PLANTS

(Thousand metric tons)

	Pig iron		Crude steel		Rolled steel	
Plant	2004	2005	2004	2005	2004	2005
Chusovoy	1,281.3	765.3	545.6	518.3	427.7	410.9
Magnitogorsk	9,645.4	9,656.5	9,122.8	8,468.9	10,273.7	9,885.8
Mechel	3,784.8	3,348.5	3,616.8	3,618	3,314.1	3,256.3
Nizhniy Tagil	4,782	4,941.4	4,960.6	4,597.8	4,445	5,024.6
Kuznetsk	2,218.4	1,937.8	2,463.9	2,549.4	2,166	1,930
Novolipetsk	8,994.1	7,885.6	5,603.5	5,683	8,576.3	7,978.7
Oskol	--	--	2,463.9	2,549.4	2,134.1	2,344.2
Serov	367.7	369.8	631.5	659.5	510.6	522
Severstal	7,921.9	7,921.9	11,281.6	11,393.8	9,139.4	9,613.8
West Siberian	4,558	4,572.9	5,491.3	5,574.5	4,545.6	4,686.1

-- Zero.

TABLE 55
TAJIKISTAN: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity[2]		2001	2002	2003	2004	2005
METALS						
Aluminum, primary		289,000	307,589	319,360	358,082	379,630
Antimony, Sb content of concentrate[e]		2,500	3,000	1,800	2,000	2,000
Bismuth, mine[e]		5	--	--	--	--
Gold[e]	kilograms	2,700	2,700	2,700	3,000	3,000
Lead, Pb content of concentrate[e]		800	800	800	800	800
Mercury, Hg content of concentrate[e]		40	20	30	30	30
Silver, Ag content of concentrate	kilograms	5,000	5,000	5,000	5,000 [e]	5,000 [e]
INDUSTRIAL MINERALS						
Cement		70,000 [r]	100,000 [r]	166,300 [r]	193,600	253,100
Fluorspar[e]		9,000	9,000	9,000	9,000	9,000
Gypsum		NA [r]	NA [r]	50,100 [r]	57,200 [r]	8,300 [r]
Nitrogen, N content of ammonia		NA [r]	15,300 [r]	21,500 [r]	44,900 [r]	45,000 [e]
MINERAL FUELS AND RELATED MATERIALS						
Coal		24,200 [r]	35,500 [r]	46,500	88,300 [r]	94,900
Natural gas	thousand cubic meters	52,000 [r]	33,000 [r]	32,800	35,600	29,300
Petroleum, crude		16,100 [r]	16,100 [r]	17,700	18,900 [r]	21,600

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

[1]Table includes data available through November 2006.

[2]In addition to the commodities listed, Tajikistan produces a number of other mineral commodities for which information is inadequate to derive estimates.

TABLE 56
TAJIKISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Aluminum	Tajik aluminum plant (TadAZ)	Tursunzade	517,000
Antimony, ore	Anzob mining-beneficiation complex	Dzhizhikrutskoye Sb-Hg deposit	700,000
Antimony, metal	Isfara hydrometallurgical plant	Isfara	500
Arsenic	Mosrif deposit	NA	NA
Bismuth	Leninabad mining-beneficiation complex	Yuzhno-Yangikanskiy deposit	25
Do.	Isfara hydrometallurgical plant	Isfara	500
Bismuth, copper, fluorspar, gold, silver, zinc (ore processing)	Adrasman mining-beneficiation complex	Kanimansurskoye deposit	650,000 [3]
Boron	Ak-Arkhar deposit	Badakhshan Region	NA
Coal	Isfara hydrometallurgical plant	Isfara	300,000
Do.	Shurab brown coal deposit	Shurab Region	NA
Do.	Fan-Yagnob hard coal deposits	Pyandzh Region	50,000
Copper-lead-zinc	Leninabad mining-beneficiation complex	Yuzhno-Yangikanskiy deposit	2,500
Dolomite	Yavan electrochemical complex	Pashkharvoskoye deposit	NA
Fluorspar, concentrate	Takob mining-beneficiation complex	Takob and Krasnye Kholmy deposits	60,000 [3]
Gold, in ore kilograms	Tajikzoloto mining-beneficiation complex, Pamir Artel	Darvazy and Rankul placer deposits, placers in central and southern parts of country	5,000 [3]
Do. do.	Zerafshan Gold Company	Dzhilau and Taror deposits, Sughd Oblast'	2,500 [3]
Do. do.	Darvaz joint venture	Yak-Suyskoye deposit, Khatlonskaya Oblast'	2,000
Do. do.	Aprelevka joint venture	Aprelevka deposit	200
Gold, ore processing do.	Vostokredmet refinery	Chkalovsk	NA
Do. do.	Kansayskaya factory	Aprelevka, Burgunda, Kyzyl-Chek, and Shkol'noye deposits	165,000 [3]
Lead-zinc	Kansayskoye mining complex	Kara-Mazar Region	NA
Do.	Altyn-Topkan mining directorate	Altyn-Topkan deposit (mining ceased in 1997)	NA
Do.	do.	Pay Bulak deposit (mining ceased in 1997)	NA
Do.	Adrasman mining-beneficiation complex	NA	NA
Do.	Takaeliyskiy metallurgical complex	NA	NA
Limestone	Dushanbe cement complex	Kharangonskoye deposit	NA
Loam	do.	Varzobskoye Ushchel'ye deposit	NA
Marble	Dashtak deposit	Darvaz region	NA
Do.	Jilikul deposit	Pendzhikent region	NA
Do.	Dal'yan Bolo deposit	Shakhristanskiy region	NA
Mercury	Anzob mining-beneficiation complex	Dzhizhikrutskoye deposit	150
Natural gas and petroleum:			
Natural gas thousand cubic meters	Sixteen oil-gas deposits under exploration, which includes Ayritanskoye, Madaniyatskoye, and Ravatskoye	Fergana depression	200,000 [3]
Petroleum	Beshtentyakskoye, Kichik-Belskoye, Shaambary, and Uzunkhorskoye deposits	Southern Tajik depression	200,000 [3]
Salt	Yavan electrochemical complex	Tut-Bulakskoye deposit	NA
Do.	Voseyskiy plant	Khodzha-Muminskoye deposit	NA
Do.	Ashtskiy plant	Kamyshkurganskoye deposit	NA
Do.	Khoja-Sartez, Samanchi, and Tanabchi deposits	NA	NA
Silver	Adrasman mining-beneficiation complex	Bolshoy Kanimansur deposit	15,000
Strontium	Chaltash, Chikultan, and Daudyr deposits	Khatlon Region	180,000
Tin-tungsten	Tafkon deposit	NA	NA
Tungsten ore	Maykhura deposit	95 kilometers of Dushanbe, central Tajikistan	150,000

See footnotes at end of table.

TABLE 56—Continued
TAJIKISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

[e]Estimated; estimated data are rounded to no more than three significant digits. NA Not available.
[1]Table includes data and information available through December 2006.
[2]Many location names have changed since the breakup of the Soviet Union. Many enterprises, however, are still named or commonly referred to based on the former location name, which accounts for discrepancies in the names of enterprises and that of locations.
[3]Capacity estimates are totals for all enterprises that produce that commodity.

TABLE 57
TURKMENISTAN: PRODUCTION OF MINERAL COMMODITIES[1, 2]

(Metric tons unless otherwise specified)

Commodity	2001	2002	2003	2004	2005
INDUSTRIAL MINERALS					
Bentonite[e]	50,000	50,000	50,000	50,000	50,000
Bentonite powder[e]	250	250	250	250	250
Bischofite[e]	100	100	100	100	100
Bromine[e] kilograms	150,000	150,000	150,000	150,000	150,000
Cement[e]	450,000	450,000	450,000	450,000	450,000
Epsomite	NA	NA	NA	NA	NA
Ferrous bromide, 51% Br[e]	85	85	85	85	85
Gypsum[e]	100,000	100,000	100,000	100,000	100,000
Iodine[e]	200,000	200,000	200,000	250,000	270,000
Lime[e]	16,000	16,000	16,000	16,000	16,000
Nitrogen, N content of ammonia[e]	75,000	85,000	85,000	85,000	85,000
Salt[e]	215,000	215,000	215,000	215,000	215,000
Sodium sulfate[e]	60,000	60,000	60,000	60,000	60,000
Sulfur[e]	9,000	9,000	9,000	9,000	9,000
MINERAL FUELS AND RELATED MATERIALS					
Natural gas million cubic meters	46,300	45,000	59,100	58,570	55,800
Petroleum, crude	7,697,000 [r]	8,919,000 [r]	9,306,000 [r]	10,051,000	9,700,000

[e]Estimated; estimated data are rounded to no more than three significant digits. [r]Revised.
[1]Table includes data available through November 2006.
[2]Tajikistan produces a number of other mineral commodities not listed in the table for which information is inadequate to derive estimates.

TABLE 58
TURKMENISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity
Ammonia thousand metric tons	Maryzoat Association	Mary Region	400,000
Argillite cubic meters	Keramzit plant	Yagmanskoye deposit	200,000
Barite-witherite	Arpaklenskiy mining enterprise	Arpaklen deposit	10,000
Do.	Kumytash deposit and other deposits	NA	NA
Bischofite, epsomite, Galauber's salt, sea salt	Karabogazsulfate Association	Kara-Bogaz-Gol Lagoon, off the Caspian Sea	NA
Bromine	Cheleken plant	Cheleken Region	4,740
Do.	Nebitdag plant	Vyshka, Stantsiya	2,370
Cement, from:			
Bench gravel and loam	Bezmeinskiy cement plant	Bezmeinskoye deposit	1,400,000 [e]
Limestone and clay	Kugitangskoye deposit	NA	NA
Limestone and marl	Gingol'skoye deposit	NA	NA
Clays:			
Bentonite	Oglanly Mine	Oglanly Region	100,000
Kaolin	Ashkhabad glass plant	Kyzylkainskoye deposit	80,000 [e]
Do.	Tuarkyrskoye deposit	250 kilometers southeast of Turkmenbashi	NA
Coal, oxidized	do.	do.	NA
Dolomite	Ashkhabad glass plant	Kelyatinskoye deposit	6,000 [e]
Gypsum	IA Turkmenmineral	Mukry, Tagorin deposits	300,000
Do.	Wastes from Gaurdak sulfur deposit	Gaurdak, Gora	400,000
Do.	Krasnovodsk Aylagy (anhydride) deposit	9 kilometers east of Turkmenbashi	160,000
Iodine	Cheleken plant	Cheleken Region	355
Do.	Nebitdag plant	Vyshka, Stantsiya	255 [e]
Limestone	Deposits:		
Do.	Gaurdak	4 kilometers northeast of Gaurdak	NA
Do.	Kara-Dzhumalakskoye	60 kilometers from Gaurdak	NA
Limestone, for facing materials	Charshanginskoye, Gaurdakskoye, Geok-Tepinskoye, Kaylyu, Krasnovodsk Aylagy (tuff and granite), and Tyuzmergenskoye deposits	NA	NA
Do. cubic meters	Tagarinskoye deposit	8 kilometers from Gaurdak	1,000 [e]
Limestone, for filing stone do.	Aeroport deposit	21 kilometers northeast of Turkmenbashi	2,000
Do. do.	Bekdashskoye deposit	200 kilometers north of Turkmenbashi	5,000
Do. do.	Dostluksoye deposit	230 kilometers southeast of Turkmenbashi	2,000
Do. do.	Mukrinskoye deposit	60 kilometers southwest of Gaurdak	25,000
Natural gas million cubic meters	Achakskoye, Dauletabad, Donmez, Gygyrlinskoye, North and South Naipskiye, West Shatlykskiye, and Yashlar deposits	Onshore in eastern and southwestern parts of country and offshore in Caspian Sea; Amu-Dar'ya and Murgab Basins; Dashoguzskiy, Lebapskiy, Maryyskiy deposits	90,000 [e, 3]
Petroleum:			
Crude	Barsa-Gelmesskoye, Burunskoye, Cheleken, Gograndagskoye, Kamyshldzhinskoye, Korturtepinskoye, Kum Dag, Kuydzhikskoye, and Okaremskoye deposits	Onshore in southwestern part of country and offshore in the Caspian Sea	5,500,000 [e, 3]
Refined 42-gallon barrels/day	Chardzhouskiy Rayon refinery	Seydi, Chardzhouskiy Rayon	120,500
Do. do.	Turkmenbashi refinery	Turkmenbashi	116,500
Natural pigment	Bakhchesu/Cheshme/Gadyn deposit	28 kilometers southwest of Serdar	NA
Ozokerite	Cheleken mining enterprise	NA	NA

See footnotes at end of table.

TABLE 58—Continued
TURKMENISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity		Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity
Potash (sylvinite, carnallite)		Karlyuk deposit (experimental mine closed 1998)	25 kilometers from Gaurdak	NA
Do.		Karabil'skoye deposit	17 kilometers south of Gaurdak	NA
Quartz sand		Annauskoye, Babadurmazskoye, and Bakhardenskoye deposits	NA	NA
Rock salt		Gaurdak deposit	8 kilometers from Gaurdak	15,000 [e]
Do.		Khodzhaguymaskoye deposit	4 kilometers west of Gaurdak	NA
		Kugitangskoye deposit	75 kilometers from Gaurdak	2,000 [e]
		Uzun-Kudukskoye deposit	20 kilometers from Gaurdak	2,000 [e]
Salt		Kuulinskoye deposit	40 kilometers north of Turkmenbsahi	650,000 [e]
Sand and gravel	cubic meters	Dushaksoye deposit	NA	1,150,000
Do.	do.	Kala-I-Morskoye deposit	NA	925,000
Do.	do.	Kernayskoye deposit	NA	36,000
Do.	do.	Kubatayskoye deposit	NA	740,000
Do.	do.	Ufrinskoye deposit	NA	900,000
Sodium sulfate		Karabogazsulfate Association	Bekdash, Kara-Bogaz Lagoon (off Caspian Sea)	400,000
Strontium (celesite)		Arikskoye deposit (mining ceased 1992)	Near Gaurdak	NA
Do.		Shakhtaminskoye deposit	do.	NA
Sulfur		IA Turkmenmineral	Gora deposit	340,000
Do.		Gaurdak plant	Gaurdak deposit (mining ceased 1997)	500,000 [e]
Do.		Darvaza, Segli-Kar, and Kara-Kum sulfur plants	Kara-kum deposit (mining ceased 1962)	NA
Do.		Kugitangskoye deposit	75 kilometers from Gaurdak	NA

[e]Estimated; estimated data are rounded to no more than three significant digits. NA Not available.

[1]Table includes data and information available through December 2006.

[2]Many location names have changed since the breakup of the Soviet Union. Many enterprises, however, are still named or commonly referred to based on the former location name, which accounts for discrepancies in the names of enterprises and that of locations.

[3]Capacity estimates are totals for all enterprises that produce that commodity.

TABLE 59
UKRAINE: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity	2001	2002	2003	2004	2005
METALS					
Alumina	1,343,000	1,351,000	1,434,050	1,562,170	1,632,000
Aluminum:					
Primary	106,000	112,459	113,640	113,151	114,224
Secondary	130,000	130,000	130,000	130,000	130,000
Total	236,000	242,459	243,640	243,151	244,224
Cadmium, metal[e]	25	25	25	25	25
Germanium[e]	--	10	20	20	20
Iron and steel:	NA	NA	NA	NA	NA
Iron ore, marketable:					
Gross weight	54,650,000	58,900,000	62,497,600	65,540,000	68,569,600
Fe content	30,000,000	32,300,000 [2]	34,300,000	36,000,000	37,700,000
Metal:					
Pig iron	26,400,000	27,560,000	29,570,000	31,060,000	30,747,000
Ferroalloys:					
Blast furnace:[e]					
Ferromanganese	85,000	85,000	85,000	79,000 [r]	30,000
Spiegeleisen	5,000	5,000	5,000	5,000	5,000
Electric furnace:					
Ferromanganese	231,000	250,617	250,000 [e]	375,990	330,000
Ferronickel[e]	41,000	41,000	-- [r]	78,000	78,000
Ferrosilicon	231,000	250,617	250,000 [e]	248,060	248,000
Silicomanganese	702,389	732,592	740,000 [e]	1,060,000	1,000,000
Other[e]	25,000	25,000	25,000	25,000	25,000
Total	1,320,389	1,389,826	1,355,000 [r]	1,871,050 [r]	1,720,000
Steel:					
Crude	33,110,000	34,538,000	36,900,000	38,738,000	38,636,000
Finished, rolled	25,300,000	26,400,000	29,160,000	30,160,000	22,180,000
Pipe	1,600,000	1,522,700	2,054,000	2,034,000	2,293,000
Lead, refined, secondary[e]	12,000	12,000	7,000	7,000	6,000
Magnesium, primary[e]	3	3	3	3	2,000
Manganese ore, marketable:					
Gross weight	2,700,100	2,469,600	2,590,900	2,362,000	2,260,000 [e]
Mn content[e]	930,000	840,000	880,000	810,000 [r]	770,000
Mercury	--	NA	--	--	--
Nickel:					
Mine output, Ni content of laterite ore[e]	1,500	2,000	2,000	2,000	2,000
Ni content of ferronickel[e]	2,500	6,000	--	12,000	14,000
Silicon[e]	NA	NA	163,000	180,000	180,000
Titanium:					
Ilmenite concentrate:					
Gross weight	484,500	512,400	420,500	370,000	370,000
TiO_2 content, 61%[e]	296,000	313,000	257,000	226,000	226,000
Rutile concentrate, 95% TiO[e]	60,000	70,000	60,000	60,000	60,000
Metal, sponge[e]	6,100 [e]	6,200 [e]	6,934	7,497	8,397
Zirconium concentrates[e]	33,600	34,300	35,000	35,000 [r]	35,000
INDUSTRIAL MINERALS					
Bromine[e] thousand kilograms	3,000	3,000	3,000	3,000	3,000
Cement	5,786,000 [r]	7,157,000 [r]	8,923,000 [r]	10,635,000	12,183,000
Clays:[e]					
Bentonite	300,000	300,000	300,000	300,000	300,000
Kaolin	225,000	225,000 [2]	225,000	225,000	225,000
Diamond, synthetic[e] carats	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000
Graphite[e]	7,500	7,500	7,500	7,500	7,500
Gypsum thousand metric tons	151	207	264	300 [e]	350 [e]
Nitrogen, N content of ammonia	3,700,000 [2]	3,700,000 [2]	3,900,000	3,900,000	4,300,000

See footnotes at end of table.

TABLE 59—Continued
UKRAINE: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity		2001	2002	2003	2004	2005
INDUSTRIAL MINERALS—Continued						
Potash, K_2O equivalent[e]		75,000	60,000	60,000	50,000	65,000
Salt, rock[e]		2,244,000 [r]	2,358,000 [r]	2,757,000 [r]	3,339,000 [r]	3,400,000
Soda ash[e]		650,000	678,000	650,000	650,000	700,000
Sulfur, native[e]		126,000	124,000	142,000	136,000 [r]	135,000
MINERAL FUELS AND RELATED MATERIALS						
Coal:						
Anthracite	thousand metric tons	17,700	15,000	14,427	18,295	17,000
Bituminous	do.	63,000	66,400	63,866	62,100	58,000
Lignite	do.	1,000	1,000	950	3,000	3,000
Total[7]	do.	81,700	82,400	79,243	83,395	78,000
Coke		19,500,000	18,596,000	20,600,000	18,858,000	21,999,000
Natural gas	cubic meters	18,200,000	18,400,000	19,460,000	19,000,000	19,300,000
Peat, horticultural use and fuel use[e]		1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Petroleum:						
Crude and gas condensate:						
As reported	gravimetric tons	3,700,000	3,720,000	3,975,000	4,179,000	4,269,000
Converted[e]	42-gallon barrels	27,200,000	27,304,800	29,200,000	30,700,000	31,400,000
Refinery products		16,100,000	20,200,000	21,900,000	NA	NA
Uranium:						
U content[e]		750	800	800 [r]	800 [r]	800
U_3O_8 content		884	943	943 [r]	943 [r]	943

[e]Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. [r]Revised. NA Not available. -- Zero.
[1]Table includes data available through November 2006.
[2]Reported figure.

TABLE 60
UKRAINE: FERROUS METALS PRODUCTION AT STEEL MILLS IN 2004 AND 2005

(Thousand metric tons)

	Pig iron		Steel		Rolled steel	
Plant	2004	2005	2004	2005	2004	2005
Alchevs'k	2,894	2,923	4,453	4,379	3,562	3,603
Azovstal	5,180	5,239	6,897	6,950	5,699	5,537
Donets'k	--	--	--	--	153	146
Dnepropetrovsk	1,150	1,496	1,021	1,247	949	1,090
Dneprospetstal	--	--	502	506	301	308
Dneprovskiy	3,041	2,878	3,250	3,229	2,859	2,910
ISTIL	--	--	759	812	1,058	756
Kirov	815	825	1,938	1,029	844	916
Kyrvy Rih	6,341	6,159	7,130	6,955	6,131	6,044
Yenakievskiy	2,184	1,948	2,463	2,254	2,203	2,180
Zaporozh'ye	3,355	3,541	4,453	4,379	3,562	3,603

-- Zero.

Source: Kisil', V.V., Konovalov, Yu.V., and Khukov, V.R., 2006, Metallurgicheskiy kompleks Donetskoy oblasti (itogi raboty v 2005 g., perspekitivy raxvitiya) [The metallurgical complex of Donetsk oblast (results of work in 2005, perspectives of development)]: Chernaya Metallurgiya [Ferrous Metallurgy], no. 5, p. 5-9].

TABLE 61
UKRAINE: MANGANESE ORE OUTPUT AT MINING AND BENEFICIATION COMPLEXES IN 2005

(Thousand metric tons)

Enterprise	Production	2005 as percentage of 2004
Marganets	907	91.0
Ordzhonikidze	1,310	97.7

Source: Interfax Mining and Metals Report, 2006, Ukraine reduces manganese output: Interfax Mining and Metals Report, no. 1-2, January 1-12, p. 42.

TABLE 62
UKRAINE: COMMERCIAL IRON ORE PRODUCTION BY MINING AND BENEFICIATION COMPLEXES IN 2005

(Thousand metric tons)

Enterprise	Production	2005 as percentage of 2004
Inguletskiy	13,533	98.3
Kamysh-Brunskiy	--	--
Krivbassruda	6,458	100.0
Novokrivorozhskiy	7,030	101.5
Poltavskiy	8,314	105.1
Severnyy	10,679	121.2
Sukhaya Balka	3,240	105.5
Tsentralnyy	5,325	110.6
Yuzhnyy	8,135	98.7
Zaporozh'ye	4,210	107.7

-- Zero.

Source: Interfax Mining and Metals report, 2006, CIS production of iron ore, concentrate, pellets, and agglomerate: Interfax Mining and Metals Report, no. 4, January 20-26, p. 42-43.

TABLE 63
UKRAINE: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Alumina	Mykolayiv refinery	Mykolayivs'ka Oblast'	1,200,000
Do.	Zaporozh'ye (Dneprovsk) refinery	Zaporiz'ka Oblast'	245,000
Aluminum, primary	Zaporozh'ye (Dneprovsk) smelter	do.	120,000
Coal:			
Hard thousand metric tons	Donets coal basin with about 225 mines produces more than 90% of Ukraine's coal	Dnipropetrovs'ka, Donets'ka, and Luhans'ka Oblasts'	130,000 [3]
Do.	Lviv-Volynskiy Basin produces remainder from 18 mines	Western Ukraine	6,000,000 [3]
Brown	Dneprovskoye Basin	Central Ukraine	7,000,000
Ferroalloys:			
Ferrochrome	Zaporozh'ye plant	Zaporiz'ka Oblast'	NA
Ferromanganese	do.	do.	NA
Do.	Nikopol' ferroalloys plant	Nikopol'	250,000
Ferromanganese, blast furnace	Kostyantynivka metallurgical plant	Donets Basin	NA
Do.	Kramatorsk metallurgical plant (production ended in 1999)	NA	NA
Manganese metal	Zaporozh'ye plant	Zaporiz'ka Oblast'	NA
Ferrosilicon	Nikopol' ferroalloys plant	Nikopol'	200,000
Do.	Stakhanov plant	Luhans'ka Oblast'	NA
Silicomanganese	do.	do.	1,200,000
Do.	Zaporozh'ye plant	Zaporiz'ka Oblast'	160,000
Do.	Nikopol' ferroalloys plant	Nikopol'	NA
Graphite	Zavalyevskiy graphite complex	Zavalyevskiy deposit	40,000
Iron ore:			
Underground mining	Krivbassruda production association with 16 mines	Kryvyy Rih Basin	15,000,000 [3]
Do.	Eksplutatsionnaya Mine of the Zaporozh'ye Iron Ore Integrated Works cjsc	do.	3,500,000
Open pit mining	Inguletskiy, Kamysh-Burunskiy, Novokrivorozhskiy, Poltaviskiy, Severnyy, Sukhaya Balka, Tsentralnyy, and Yuzhniy mining-beneficiation complexes	do.	90,000,000 [3]
Kaolin	Prosyanovskoye mining-beneficiation complex	Dnipropetrovs'ka Oblast'	NA
Lead, secondary	Ukrtsink plant	Kostyantynivka	70,000
Magnesium	Zaporozh'ye plant	Zaporiz'ka Oblast'	10,000
Do.	Magnii concern	Kalush	18,000
Manganese:			
Ore, marketable	Marganets and Ordzhonikdze mining-beneficiation complexes	Nikopol' basin	6,000,000 [3]
	Tavricheskiy complex (under development)	Bol'shoy Tokmak basin	
Metal	Zaporozh'ye plant	Zaporiz'ka Oblast'	40,000
Sinter	Nikopol' ferroalloys plant	Nikopol	3,000,000
Mercury	Nikitovskiy mining-metallurgical complex	Donets'ka Oblast'	120
Nickel, Ni content in FeNi	Pobuzhskiy mining-beneficiation complex, comprising three open pit mines and smelter	Pobugskoye Basin	7,000 [3]
Potash, K_2O equivalent	Khlorvinil production association, Stebnik potash plant	Pricarpathian Region	300,000
Steel, crude	Donets'k acquisitions and (co-)owners:		
	Industrial Union of Donbas (IUD):		
Do.	Alchevs'k steel mill	Alchevs'k	4,500,000
Do.	Azovstal' steel mill	Mariupol'	4,000,000
Do.	Donets'k steel mill	Donets'ka Oblast'	1,300,000
Do.	Dnepropetrovsk pipe plant	Dnepropetrovsk Oblast'	NA
Do.	Khartsyzsk pipe plant	Donets'ka Oblast'	NA
Do.	Danko: Yenakiyeveskiy steel mill	NA	1,200,000

See footnotes at end of table.

TABLE 63—Continued
UKRAINE: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Steel, crude	Donets'k acquisitions and (co-)owners:		
	Privat Bank:		
Do.	Dnepropetrovsk pipe plant	Dnepropetrovsk Oblast'	1,230,000
Do.	Zaporozh'ye rolling mill	Zaporiz'ka Oblast'	2,300,000
Do.	Dneprovskiy steel mill	Dniprodzerzhyns'k	3,850,000
Do.	do.	Dnipropetrovs'ka Oblast'	1,900,000
Do.	Kostyantynivka steel mill	Donets Basin	NA
Do.	Dneprospetstal	Zaporiz'ka Oblast'	1,400,000
Do.	Il'yich plant	Mariupol'	7,300,000
Do.	ISTIL mini-mill	Donetsk	1,000
Do.	Kirov plant	Makeyevka	4,000,000
Do.	Kryvy Rih plant	Kryvyy Rih	10,650,000
	Interpipe group:		
Do.	Nizhnedneprovsk pipe plant	NA	NA
Do.	Nikopol' pipe plant	NA	NA
Sulfur	Sera production association	Rozdol mining complex mines: Rozdol, Soroks, and Zdhidalchev deposits Yarvorov complex mines: Nemirov-Yazov deposits in Livivs'ka and Kyyivs'ka Oblasts'	1,500,000 [3]
Titanium:	Facilities:		600,000 [3]
Ilemenite concentrate	Irshansk mining-beneficiation complex	Irsha Valley	
	Vol'nogorsk state mining-metallurgical complex	Dnipropetrovs'k Region	
	Verkhnedneprovsk mining-metallurgical complex	Verkhnedneprovsk Region	
Rutile	do.	do.	60,000
Do.	Vol'nogorsk state mining-metallurgical complex	Dnipropetrovs'k Region	NA
Sponge	Zaporozh'ye titanium-magnesium plant	Zaporiz'ka Oblast'	20,000
Uranium	Zheltye Vody complex	Northern part of Kryvyy Rih Basin	NA
Zinc, secondary	Ukrtsink plant	Kostyantynivka	25,000
Zirconium:			
Ore, zircon	Verkhnedneprovsk mining-metallurgical complex	Verkhnedneprovsk Region	100,000
Do.	Vol'nogorsk state mining-metallurgical complex	Dnipropetrovs'k Region	NA
Metal and compounds	Pridneprovsk chemical plant	Dnipropetrovs'ka Oblast'	NA
Do.	Kharkiv physical-technical institute	Kharkivs'ka Oblast'	NA

[e]Estimated; estimated data are rounded to no more than three significant digits. NA Not available.

[1]Table includes data and information available through December 2006.

[2]Many location names have changed since the breakup of the Soviet Union. Many enterprises, however, are still named or commonly referred to based on the former location name, which accounts for discrepancies in the names of enterprises and that of locations.

[3]Capacity estimates are totals for all enterprises that produce that commodity.

TABLE 64
UKRAINE: FOREIGN TRADE IN MINERAL COMMODITIES IN 2005

Commodity	Exports			Imports		
	Value, (thousand dollars)	Percentage of 2004	As percentage of the total volume	Value, (thousand dollars)	Percentage of 2004	As percentage of the total volume
Base metals and preparations thereof:	14,047,248.78	107.66	40.97	2,468,818.31	140.84	6.83
Aluminum and preparations thereof	317,516.10	63.30	0.93	223,062.66	126.07	0.62
Copper and preparations thereof	168,684.44	84.98	0.49	145,353.17	1.5 times more	0.40
Ferrous metals	11,485,924.77	106.69	33.50	1,151,201.02	141.30	3.19
Preparations from ferrous metals	1,851,996.85	127.92	5.40	529,334.46	1.5 times more	1.46
Lead and preparations thereof	11,624.56	104.74	0.03	11,026.50	5.2 times more	0.03
Nickel and preparations thereof	3,882.08	146.21	0.01	73,505.74	103.44	0.20
Tin and preparations thereof	2,232.01	92.3 times more	0.01	6,939.66	80.95	0.02
Zinc and preparations thereof	124.61	92.34	(1)	44,634.55	115.26	0.12
Other base metals	112,976.18	2.2 times more	0.33	58,933.59	1.7 times more	0.16
Mineral products:	4,707,983.04	108.87	13.73	11,567,831.37	106.66	32.01
Fertilizers	971,430.16	129.35	2.83	117,556.42	1.6 times more	0.33
Mineral fuel, petroleum and petroleum distillation products	3,344,918.97	98.75	9.76	10,661,921.21	104.93	29.50
Of which:						
Coal	259,992.53	104.01	0.76	714,323.92	79.35	1.98
Crude oil	25,297.46	26.08	0.07	4,600,512.73	95.11	12.73
Natural gas	385,240.21	98.43	1.12	3,946,004.31	109.87	10.92
Ores, slags, ashes	1,045,425.53	1.5 times more	3.05	680,049.16	134.85	1.88
Salt, sulfur, plastering materials, cement	317,638.54	123.18	0.93	225,861.00	125.32	0.62
Precious stones, metals, and preparations thereof	99,440.50	(1)	0.29	224,340.88	(1)	0.62
Products from stone, gypsum, cement, asbestos, glass:	218,679.66	77.85	0.64	516,192.60	131.96	1.43
Products from stone, gypsum	73,421.46	129.48	0.21	135,914.75	124.73	0.38
Ceramic products	80,054.72	106.55	0.23	220,627.81	135.22	0.61
Grand total	34,286,748.26	104.96	100.00	36,141,094.96	124.64	100.00

[1]Less than 0.01 percent.

Source: State Committee of Ukraine, accessed February 26, 2007, accessed at URL http://www.ukrstat.gov.ua.

TABLE 65
UKRAINE: MAJOR EXPORTS AND IMPORTS OF MINERAL COMMODITIES IN 2005

Commodity and country[1]	Value (dollars)	Percentage of total value[2]
EXPORTS		
Iron and steel:	11,451,281,052	100.00
Of which:		
Russia	1,307,266,995	11.42
Turkey	1,149,803,688	10.04
Italy	824,150,089	7.20
Egypt	593,634,235	5.18
Mineral fuels, mineral oils and products of their distillation:	3,342,973,012	100.00
Of which:		
Italy	517,857,240	15.49
Switzerland	300,237,406	8.98
Germany	247,598,208	7.41
Articles of iron or steel:	1,848,336,249	100.00
Of which:		
Russia	687,821,930	37.21
Kazakhstan	133,689,655	7.23
IMPORTS		
Mineral fuels, mineral oils and products of their distillation:	10,661,441,123	100.00
Of which:		
Russia	7,298,077,737	68.45
Turkmenistan	2,672,313,242	25.07

[1]Commodity groups are in order by value.
[2]Export and import country percentages may not add to 100 percent.

Source: United Nations Statistics division, Commodity trade Statistical Database (COMTRADE) accessed via URL http://www.unstats.un.org/unsd/comtrade.

TABLE 66
UZBEKISTAN: DISTRIBUTION OF MINING ENTERPRISES
BASED ON TYPE

(Number of enterprises)

Sector	2002	2003	2004
Coal mining	11	8	5
Metallurgy:			
Ferrous	33	31	35
Nonferrous	58	57	52
Oil:			
Extraction	6	6	4
Processing	6	6	9

Source: Promyshlennost' Respubliki Uzbekistana 2004 [Industry of the Republic of Uzbekistan 2004], Tashkent, 2005, p. 13.

TABLE 67
UZBEKISTAN: DISTRIBUTION OF LABOR FORCE AMONG
MINING ENTERPRISES

(Thousand persons)

Sector	2002	2003	2004
Total industrial labor force	679.8	646.8	624.8
Of which:			
Coal mining	4.6	4.7	7.6
Metallurgy:			
Ferrous	8.0	8.0	8.2
Nonferrous	57.8	59.9	61.0
Oil:			
Extraction	2.0	1.9	1.6
Processing	7.3	8.4	8.8

TABLE 68
UZBEKISTAN: STATE VERSUS PRIVATE OWNERSHIP IN THE MINERAL
PRODUCING SECTORS

(Percentage)

	Total number of enterprises		Total value of production		Total number of workers	
Sector	2003	2004	2003	2004	2003	2004
Construction materials:						
State	8.2	7.1	8.0	7.9	8.5	8.1
Private	91.8	92.9	92.0	92.1	91.5	91.9
Ferrous metallurgy:						
State	3.2	2.9	2.0	1.9	2.8	3.3
Private	96.8	97.1	98.0	98.1	97.2	96.7
Fuel:						
State	9.1	2.3	50.0	3.3	47.1	24.2
Private	90.9	97.7	50.0	96.7	52.9	75.8
Nonferrous metallurgy:						
State	8.8	5.8	56.3	50.2	58.3	58.6
Private	91.2	94.2	43.7	49.8	41.7	41.4

TABLE 69
UZBEKISTAN: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity		2001	2002	2003	2004	2005
METALS						
Aluminum, secondary		3,000	3,000	3,000	3,000	3,000
Copper:[e]						
Mine output, Cu content		78,000	80,000	80,000	95,000	100,000
Metal:						
Blister, refinery:						
Primary		80,000	75,000	75,000	105,000 [r]	115,000
Secondary		10,000	--	--	--	--
Total		90,000	75,000	75,000	105,000 [r]	115,000
Smelter:						
Primary		80,000	75,000	75,000	105,000 [r]	115,000
Secondary		10,000	--	--	--	--
Total		90,000	75,000	75,000	105,000 [r]	115,000
Gold[e]	kilograms	87,000	90,000 [2]	90,000 [r]	93,000	90,000
Molybdenum, mine output, Mo content[e]		500	500	500	500	500
Rhenium[e]	kilograms	NA	NA	NA	NA	NA
Silver, mine output[e]	do.	80,000	80,000	80,000	80,000	83,000
Steel:						
Crude		460,000	450,000 [e]	472,000 [e]	607,300 [r]	607,253
Rolled		430,000	420,000 [e]	446,521	562,200 [r]	562,000
Zinc, metal, smelter, primary[e]		35,000	30,000	30,000	30,000	30,000
INDUSTRIAL MINERALS						
Cement		3,926,700 [r]	4,062,200 [r]	4,804,800 [r]	5,067,800 [r]	5,068,000
Clays, kaolin[e]		5,500,000	5,500,000	5,500,000	5,500,000	5,500,000
Feldspar[e]		4,300	4,300	4,300	4,300	4,300
Graphite[e]		60	60	60	60	60
Iodine[e]	kilograms	2,000	2,000	2,000	2,000	2,000
Nitrogen, N content of ammonia[e]		670,000	740,000	815,000 [e]	875,300 [r]	850,000 [e]
Phosphate rock:[e]						
Gross weight		200,000	425,000	430,000	430,000	430,000
P_2O_5 content		47,400	101,000	102,000	102,000	102,000
Sulfur:						
Byproduct:[e]						
Metallurgy		160,000	170,000	170,000	170,000	170,000
Natural gas and petroleum		300,000	350,000	350,000	350,000	350,000
Total		460,000	520,000	520,000	520,000	520,000
Sulfuric acid		NA	841,800	802,400	834,300	740,500
MINERAL FUELS AND RELATED MATERIALS						
Coal		2,800,000	2,735,000	1,909,000	2,700,000	2,700,000
Natural gas	million cubic meters	56,350	57,670	57,481	59,864 [r]	59,686
Petroleum and gas condensate		7,176,000	7,198,000	7,134,000	6,580,000 [r]	54,490,000
Petroleum refinery products		NA	5,500,000	5,807,000	NA	NA
Uranium:						
U content		1,962	1,860	1,589 [r]	2,016	2,300
U_3O_8 content		2,314	2,193	1,874	2,377	2,712

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

[1]Table includes data available through November 2006.

[2]Reported figure.

TABLE 70
UZBEKISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity		Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Bismuth		Ustarassay deposit (depleted)	Chotqol and Kuraminskiy Khrebet Regions	NA
Cesium, lithium, rubidium		Shava-Say deposit	NA	NA
Clays:				
Bentonite		Arab-Dasht and Khaudag deposits	NA	NA
Kaolin		Angren deposit	Angren Region	8,000,000
Coal		Central Asian Coal Association (mining): Angren brown coal deposit	do.	6,000,000
Do.		Baysunskoye and Shargunskoye deposits	Surkhandarya Region	1,000,000 [3]
Copper:				
Mine output, Cu content		Almalyk mining-metallurgical complex	Dalneye, Kalmakkyrgan, and Sary-Cheku deposits	100,000 [3]
Metal		Almalyk refinery	Olmaliq	130,000
Diamond		Karashok and Kok-Say deposits	Nawoiy District	NA
Feldspar		Karichasayskoye and other deposits	Deposits in Samarqand and Toshkent Wiloyati Regions; Karakalpakstan (Kara-Kalpakskaya ASSR)	120,000 [3]
Fertilizers		Ammophos production association	Olmaliq	NA
Do.		Azot production association	Farghona	NA
Do.		Elektrokhimprom production association	Chirchiq	NA
Do.		Kokand superphosphate plant	Qo'qon	NA
Do.		Naviazot production association	Nawoiy Wiloyati	NA
Do.		Samarkand chemicals plant	Samarqand	NA
Fluorspar		Agata-Chibargata, Aurakhmat, Kengutan, Kyzylbaur, Naugarzan, Nugisken deposits	East of Toshkent Wiloyati	150,000
Do.		Syrpatash deposit	Namanganskaya Oblast'	NA
Gold	kilograms	Adzhi-Bugutty, Amantaytau, Balpantau, Bulutkan, Donguz-Tau, Muruntau, and Taurbay deposits	Kyzylkum Region	85,000 [3]
Do.		Navoi Integrated Mining and Metals complex	Muruntau deposit	50
Do.		Kochbulak and Kyzyl-Al'ma-Say deposits	Tashkentskaya Oblast'	NA
Do.		Almalyk mining and metallurgical complex	Dalneye, Kalmakkyrgan, and Sary-Cheku deposits	NA
Graphite		Tadzhi-Kazgan deposit	Navoiyskaya Oblast'	NA
Iron ore		Syurenata deposit	Tashkentskaya Oblast'	NA
Lead, mine output, Pb content		Almalyk mining-metallurgical complex; Altyn-Topkan and Uchkulach deposits	Uchkulach deposit in Toshkent Wiloyati; Altyn-Topkan deposit in Kurama mountain range in Tajikistan (in March 1999, Altyn-Topkan transferred to control of Tajikistan)	40,000 [3]
Manganese		Dautashskoye deposit	Kashkadar'inskaya Oblast'	40,000
Molybdenum:				
Mine output, Mo content		Almalyk mining-metallurgical complex; Kalmakyr and Sarycheku deposits	Toshkent Wiloyati	900 [3]
Metal		Uzbek refinery and hard metals plant	Chirchiq	NA
Natural gas liquids	million cubic meters	Mubarek gas processing plant	Muborak	28,000
Do.		Shurtan gas-chemical complex	Shurtan-Say deposit, Kashkad'ya Region	137,000
Natural gas	million cubic meters	Gazli, Kandym, Khauzak, Kokdumalak, Pamuk, and Shurtan-Say deposits (major)	Amu-Dar'ya Basin; Mubarek area	70,000 [3]
Do.		Itera/Lukoil (Russia), Uzbekneftegaz JSC	Kan-Dam field	NA
Natural gas condensate		Trinity Energy (United Kingdom)	Ustyurt Plato Region	NA

See footnotes at end of table.

TABLE 70—Continued
UZBEKISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2005[1, 2]

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Petroleum:			
Crude	Kokdumalak and Mingbulak deposits (major)	NA	9,000,000 [3]
Refinery products	Fergana oil refinery	Farghona Region	8,800,000
Do.	Bukhara oil refinery	Bukhoro	2,500,000
Phosphate	Kyzyl Kum complex	Dzheroy-Sardarin Moroccan type; Karaktay, Severnyy and Dzhetymtau deposits	NA
Polyethylene	Shurtan gas-chemical complex	Shurtan-Say deposit, Kashkad'ya Region	125,000
Potash	Tyubegatan deposit	Southern Uzbekistan	NA
Silver	Kosmanachi, Okzhetpes, and Vysokovoltnoye deposits	Namanganskaya Oblast'	NA
Steel, crude	Bekabad steel mill	Bekabad	1,100,000
Sulfur	Mubarek gas processing plant complex	Muborak	2,000,000
Tungsten:	Deposits:		1,200 [3]
Mine output, W content	Koytash deposit	Northeastern Uzbekistan	
	Ingichka, Lyangar deposits	Zirabulak Mountains	
	Ugat deposit	Northern Uzbekistan	
Mine output, WO_3 content (0.49%)	Sautbay wolframite deposit	Kyzylkum Region	NA
Metal	Uzbek refractory and hard metals plant	Chirchiq	NA
Uranium, U content	Naviazot mining-metallurgical complex	Navoiy Region	3,000
Vermiculite square meters	Tebin-Bulak deposit	NA	25,000

[e]Estimated; estimated data are rounded to no more than three significant digits. NA Not available.

[1]Table includes data and information available through December 2006.

[2]Many location names have changed since the breakup of the Soviet Union. Many enterprises, however, are still named or commonly referred to based on the former location name, which accounts for discrepancies in the names of enterprises and that of locations.

[3]Capacity estimates are totals for all enterprises that produce that commodity.