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The Mineral Industry of Uzbekistan

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Uzbekistan has substantial natural resources, which include more than 1,800 known mineral deposits. Uzbekistan was ranked first in the world among kaolin producers, having produced almost 19% of the world's output; fourth in the world among rhenium producers (11% of world production), and eighth in the world among gold producers (3.5% of world production). In addition, Uzbekistan was one of the leading world producers of molybdenum, nitrogen, crude oil and natural gas, sulfur, and uranium. Other valuable minerals produced included copper, gypsum, silver, tungsten, and zinc. Many other mineral commodities (such as iron ore and lithium) had been identified but were not being mined. In the past several years, however, the country had made significant efforts to increase its mineral production, including through expansion of copper and gold production facilities, construction of new potash and tungsten plants, and development of shale oil and gas condensate deposits (Kommersant.uz, 2011; U.S. Energy Information Administration, 2014; Apodaca, 2015a, b; George, 2015; Polyak, 2015a, b; Virta, 2015).

Uzbekistan is a dry, landlocked country with limited infrastructure. Exports of hydrocarbons, primarily natural gas, have provided the main source of hard currency earnings for the past decade. In recent years, reduced output of petroleum and natural gas had started to decrease the country's exports revenue and, therefore, to threaten the country's ability to import necessary goods. At the same time, economic growth steadily increased domestic demand for hydrocarbons and reduced Uzbekistan's export potential. In 2013, Uzbekistan began importing petroleum from Turkmenistan and abruptly stopped natural gas shipments to Tajikistan. Despite recent efforts to ramp up domestic coal production, this measure alone is unlikely to significantly improve the country's energy balance (U.S. Energy Information Administration, 2014).

Minerals in the National Economy

In 2013, Uzbekistan's real gross domestic product (GDP) increased by 8.0%; the nominal GDP was 118,987 billion soums ($57.15 billion[1]). The value of exports was reported to be $15.09 billion, which was an increase of 4.3% compared with that of 2012. The main mineral export commodities were ferrous and nonferrous metals, gold, mineral fertilizers, and oil and gas. The country's main export partners were China (which received 21.2% of Uzbekistan's exports, by value), Kazakhstan (15.9%), Turkey (15.8%), Russia (14.7%), Bangladesh (9.5%), and Kyrgyzstan (4.0%). The value of imports increased to $13.8 billion, or by 4.8% compared with that of 2012. The main mineral import commodities were chemicals and ferrous and nonferrous metals. The major import partners were Russia (which supplied 20.7% of Uzbekistan's imports, by value), China (16.6%), the Republic of Korea (16.4%), Kazakhstan (12.5%), Germany (4.6%), Turkey (4.2%), and Ukraine (4.0%) (State Committee of the Republic of Uzbekistan on Statistics, 2014; U.S. Central Intelligence Agency, 2014).

In 2013, the share of industrial production in the GDP was 54.1%. The main industries (as a percentage of the value produced by all industries) were machine building and metal processing (18.8%), food processing (15.7%), fuels (15.0%), textile manufacturing (13.2%), nonferrous mining and metallurgy (9.0%), electric power production (7.1%), construction material manufacturing (6.5%), and chemical and petrochemical products (5.4%). Foreign investment and loans guaranteed by the Government increased by 9.8% compared with those in 2012 to 1,217.2 billion soums ($585 million), and foreign direct investment (FDI) and loans increased by 4.5% compared with those in 2012 to 4,315.5 billion soums ($2,073 million) (State Committee of the Republic of Uzbekistan on Statistics, 2014; U.S. Central Intelligence Agency, 2014).

Production

In 2013, coal production increased by 9%; that of kaolin, by 7%; and phosphate rock, by 6%. On the other hand, tungsten production decreased by 25%; uranium, by 20%; natural gas, by 12%, and crude oil, by 8%. These and other production data are in table 1.

Structure of the Mineral Industry

The majority of companies working in the mineral industry of the country were domestic. Many of them remained Government owned, and the rate of privatization was slow. Table 2 is a list of major mineral industry facilities.

Commodity Review

Metals

Copper.—The only producer of copper in Uzbekistan was the Almalyk mining and metallurgical complex (Almalyk GMK), which was located in Toshkent Province (Toshkent Viloyati). Two large porphyry copper deposits, the Kalmakyr and the Sary-Cheku deposits, were the complex's sources of copper. An additional copper deposit, Dal'neye, was on reserve. Kalmakyr and Sary-Cheku had initial total resources of 17 million metric tons (Mt) of copper, about 20% of which was depleted. The mineral deposits of Toshkent Viloyati are highly complex and contain more than 170 minerals. In addition to copper, the Almalyk GMK mined and processed lead-zinc-barite ores from the Uch-Kulach deposit, which was located in Jizzax Viloyati, and the Khandiza polymetallic deposit, which was located in Qashqadaryo Viloyati. The Almalyk GMK's facilities

[1]Where necessary, values have been converted from Uzbekistani soums (UZS) to U.S. dollars (US$) at an average annual exchange rate of UZS2,082=US$1.00 for 2013.

included eight mines, five mining and beneficiation plants, two metallurgical plants, a sulfuric acid plant, a mechanical plant, and a lime plant (Almalyk Mining-Metallurgical Complex, 2014).

In 2013, Almalyk GMK produced 98,000 metric tons (t) of refined copper and, in 2014, planned to increase production to 100,000 t. It was also undertaking several investment projects involving expansion, modernization, and construction of new production units. The total cost of the ongoing investment projects was estimated to be $670 million (Metallosnabzhenie i sbyt, 2014).

Almalyk GMK continued various activities directed at improvement and expansion of existing production. In particular, it planned to invest $45 million between 2014 and 2016 to expand the Kalmakyr Mine and to develop other identified mineral resources. In 2013, Almalyk GMK started construction of a new section of the mine and planned to use the heap-leach method to extract copper. When the expansion is completed in 2017, Almalyk GMK planned to extract and process an additional 4 million metric tons per year (Mt/yr) of ore and to increase copper production by between 2% and 3%. As of 2013, the capacity of the Kalmakyr Mine was 31.5 Mt/yr of ore. Almalyk GMK planned to expand Kalmakyr using its own funds (Mineral.ru, 2013i; 2014b).

One of the elements of mine expansion was construction of a new ore crushing and transportation complex. The complex would cost $89 million and would require 2 years to be built. The expansion would increase the current capacity of the complex to 35.8 Mt and would be financed by a $45 million loan from the Fund for the Reconstruction and Development of Uzbekistan (FRRU), a loan from the AKIB Ipotekabank, and from Almalyk GMK's own funds. As another part of its expansion strategy, Almalyk GMK intended to start producing its own mining equipment. In September, the Government confirmed that it would build a $28.8 million plant with the capacity to produce 130 units of mining equipment per year. The equipment would include ore mills, mechanical and hydraulic crushers, and pumps (Easttime.ru, 2013; Mineral.ru, 2013i; MinerJob.ru, 2013e, f).

At the end of 2013, Almalyk GMK started production of copper pipes. The estimated cost of the investment in pipe production was about $35 million; the new plant was located in the Angren industrial zone, and expected capacity was about 8,000 metric tons per year (t/yr). Most of the pipes produced were between 8 and 45 millimeters in diameter. The copper pipes would be sold domestically and used for transporting gases and liquids in heating, natural gas, and water facilities (MinerJob.ru, 2014b).

In July 2011, Rio Tinto of Australia and the United Kingdom announced plans to start copper exploration of the Gava property in Namangan Viloyati and stated that it was prepared to invest up to $100 million in the project if the results of exploration were promising. In December 2012, the State Geology and Mineral Resources Committee (Goskomgeo) granted Rio Tinto Ltd. of the United Kingdom a 5-year license for exploration of copper deposits in Namangan Viloyati; the estimates of the licensed area's resources were not made public. For exploration in Uzbekistan, Rio Tinto created a special company, named Gava Exploration, 100% of which belonged to Rio Tinto. In April 2013, Rio Tinto began exploration work and planned to invest a total of $2 million in exploration in 2013 and 2014 (Mineral.ru, 2013f, 2014a; Pronedra.ru, 2014).

Gold.—The main gold producers of the country were two Government-owned mining and metallurgical complexes—the Almalyk GMK and the Navoi Mining and Metallurgical Complex (Navoi GMK). The Muruntau deposit in the Central Qizilqum region was being mined by the Navoi GMK as an open pit since 1967 and therefore had relatively low extraction costs. According to the Goskomgeo, Uzbekistan had 41 identified gold deposits, but only 9 of them were being mined. Uzbekistan planned to increase the number of mined deposits to about 30 by 2025. Goskomgeo also stated that, over the next 25 years, it was no longer planning to involve foreign investors in gold exploration and mining in the country (Mineral.ru, 2013n; Almalyk Mining-Metallurgical Complex, 2014; Navoi Mining and Metallurgical Combinat, 2015).

Navoi GMK was the main producer of gold and the only uranium producer in Uzbekistan. Navoi GMK's share of total gold production in Uzbekistan was about 80%; it had control of 13 gold deposits, most of which were either already being mined or were to be developed in the near future. Production by the Navoi GMK was conducted at four plants located in Navoi (GMZ–1), Uchkuduk (GMZ–3), Zarafshan (GMZ–2), and Zarmitan (GMZ–4). By 2017, the Navoi GMK planned to increase ore mining at the Zarmitan plant by 30% to 1.8 Mt/yr and to invest a total of $112.3 million. The improvement program for GMZ–4 included construction of a new mine at the Promezhutochnoe deposit, opening new horizons at the Charmitan deposit, and construction of the second stage of the tailings storage, all of which were to be completed between 2014 and 2016. At GMZ–4, the company planned to build a new gold-processing plant with the capacity to produce 10 t/yr of gold (Mineral.ru, 2013k, l).

In 2013, the Navoi GMK invested a total of $177 million in development and modernization of its production process and planned to increase its total investment amount by 28% in 2014. New modernization projects planned for 2014 included completion of a new uranium mine in the Central Qizilqum region, the GMZ–4 project, and underground works at the Karakutan deposit. At the Karakutan deposit, which was located in Navoiy Viloyati, Navoi GMK planned to combine open pit and underground mining into one complex and, by doing so, to double the mine's capacity. In 2014, Navoi GMK planned to invest $41 million in the Karakutan complex and to complete the modernization by the end of the year (Mineral.ru, 2013k; Mineral.ru, 2014c, e).

At the end of 2013, the Navoi GMK finished construction of a new open pit mine at the Bessopantau deposit, which was located in the Central Qizilqum region. Total investment in the mine was estimated to be about $60 million. The company planned to start mining in 2014, and the full production capacity of 15 million cubic meters per year of ore was to be reached in 2015 (Mineral.ru, 2013j; 2014d, e).

In 2014, the Navoi GMK also planned to increase its investment in exploration for gold and uranium by 10%, to

$25 million. In 2013, exploration was planned in the eastern and western parts of the country and in the Autonomous Republic of Karakalpakstan. The goal of exploration was to replenish mined mineral resources and find deposits with higher grades. As a result of exploration, the Navoi GMK expected to increase its gold and uranium resources by between 10% and 12% (Stanradar.com, 2013).

In 2012, Almalyk GMK started construction of three new gold mines; all the deposits are located in Toshkent Viloyati, and the total cost of construction was expected to reach $132 million. The construction of the three mines was expected to increase Almalyk GMK's gold production by between 25% and 30%. The first, the Samarchuk Mine, was to be constructed at the Kyzyl-Alma deposit. The new mine was expected to have an annual capacity of 200,000 t/yr of ore. Construction of the Samarchuk Mine would cost $74 million, and it was to be financed by the FRRU ($14.2 million), Uzbek banks ($24.8 million), and Almalyk GMK's own funds ($35 million). In February 2013, Almalyk GMK announced a tender for construction of a vertical shaft at a total cost of $18.9 million. The mine was expected to be completed by the end of 2015 (Mineral.ru, 2013e; Regnum.ru, 2013).

In February, the Government approved construction of the second underground mine at the Kairagach gold deposit, which is located in Toshkent Viloyati. The major incentive for the development of the new deposit was to keep Almalyk GMK's Ahgren gold refinery operating while existing gold mines were being depleted. The economic assessment estimated that the mine construction would require a total of $30.56 million. The project was being financed by Uzbek banks, which loaned a total of $13.2 million; the FRRU, which provided $6.7 million in loans; and Almalyk GMK's own funds. The total production capacity of the new mine was expected to be 80,000 t/yr of ore. To stimulate construction of the Kairagach Mine, the Government reduced the customs duties on all imported vehicles, materials, and equipment used in the project through November 2014. The mine was planned to be completed by the end of 2014 (Mineral.ru, 2013h; MinerJob.ru, 2013a; Regnum.ru, 2013).

The third project was a mine reconstruction at the Kochbulak gold deposit. As a result of reconstruction, new sections of the deposit with total capacity to mine 40,000 t/yr of ore were brought into production. These new sections would allow Almalyk GMK to maintain its production level for the next 6 years. The reconstruction was completed in October; it cost $10 million and was financed with Almalyk GMK's own funds (Mineral.ru, 2013a; MinerJob.ru, 2013d).

Iron and Steel.—In 2013, Uzbekistan produced 746,200 t of steel, which was a 1.3% increase compared with its production in 2012; production of rolled steel increased by 1.1%. OAO Uzmetkombinat, which was located in Bekobod, Toshkent Viloyati, was the leading steel producer in Uzbekistan. In 2013, Uzmetkombinat planned to install new vacuum equipment at a cost of $17.1 million and to invest $9.48 million in steel quality improvement (12uz.com, 2014).

In September 2012, POSCO of the Republic of Korea and the Government of Uzbekistan signed an agreement to develop the Tebinbulak field. Tebinbulak is a titanium-magnetite iron ore field located in the Autonomous Republic of Karakalpakstan; its forecasted resource base was estimated to be 3,500 Mt of iron ore. In June, POSCO announced its decision not to participate in the project because, according to its computations, the development was likely unprofitable (Mineral.ru, 2013p; MinerJob.ru, 2013l; UzDaily.com, 2013).

Following the POSCO refusal, the Government wanted to continue with the projects and asked the project participants (Uzmetkombinat of Uzbekistan and OAO Uralmechanobr of Russia) to prepare an economic assessment for development of Tebinbulak by the end of 2013. According to Goskomgeo, the project would include construction of a mining complex with the capacity to process 14.7 Mt/yr of iron ore and extraction of titanium and vanadium. The expected total cost of the project was $3.1 billion; the projected capacity was 1.5 Mt/yr of iron, and the project was planned to be completed by 2020 (UzDaily.com, 2013; MinerJob.ru, 2013i, 2014a).

Zinc and Lead.—In January 2011, Almalyk GMK started production at a new mining and metallurgical complex in Qashqadaryo Viloyati, whose main output was zinc concentrate. The new plant capacity was 5,000 t/yr of copper concentrate, 20,000 t/yr of lead concentrate, and 60,000 t/yr of zinc concentrate. As a result, Almalyk GMK was able to supply its zinc plant to about 50% of capacity with its own zinc concentrate, mostly from the Khandiza Mine. Previously, the zinc plant had operated on a tolling scheme. It was expected that, at the height of production, Almalyk GMK would produce about 80,000 t/yr of its own zinc concentrate. In September, the Government decided to start a $25.7 million reconstruction of the zinc plant. The project would be financed by a loan from Ipoteka-Bank ($16.4 million) and Almalyk GMK's own funds ($9.3 million). The reconstruction was planned to be completed in the last quarter of 2014 (Mineral.ru, 2013b; MinerJob.ru, 2013b, c, k).

Almalyk GMK also planned to build a new $60 million lead plant that would have the capacity to produce 15,000 t/yr of lead. The new plant would be integrated into the polymetallic mining and metallurgical plant that was in operation at the Khandiza Mine. The plant would be financed by Almalyk GMK's own funds ($20 million) and loans from Uzbek banks ($40 million). Almalyk GMK planned to prepare an economic assessment in July, have it approved in September, and start construction in December. The plant was expected to be commissioned in 2017 (Mineral.ru, 2013g).

Mineral Fuels and Related Materials

Coal.—In 2013, Uzbekistan increased coal production by 9% compared with 2012, to 4.09 Mt. Of this total, production of bituminous coal amounted to 20,100 t, which was an increase of 1.5% compared with production in 2012. OAO Uzbekkumir (Uzbekugol) was the leading coal producer in Uzbekistan, accounting for 3,891,500 t, or 95.1% of the total coal produced in the country. Other producers were OAO Shargunkumir, which produced 20,100 t, and OAO Apartak, which produced 178,400 t of lignite. As of January 1, 2014, Uzbekkumir employed a total of 6,455 people; Shargunkumir, 341; and Apartak, 252 (Noviyvek.com, 2014; UzRport.uz, 2014).

Uzbekistan's resources of coal were reported to be 1,900 Mt, including 46.3 Mt of bituminous coal. Undiscovered resources of coal in Uzbekistan were estimated to total an additional 320 Mt. Significant bituminous coal resources are concentrated in the southern part of the country, in particular, in Qashqadaryo and Surxondaryo Viloyatis; resources of lignite are concentrated in Fergana, Navoiy, and Toshkent Viloyatis, as well as the Karakalpak Autonomous Republic. As of 2013, coal mining was conducted at three main deposits—the Angren lignite deposit and the Baysun and Shargun bituminous coal deposits. According to experts, domestic demand for coal in the country was about 4 Mt, 85% of which was from power-generation facilities (MinerJob.ru, 2013h, j).

In recent years, the Government has been trying to increase coal production with the goal of exporting some of the domestically produced hydrocarbons that previously had been used within Uzbekistan. In particular, the Government planned to increase lignite production to 6.4 Mt/yr by 2016 and to increase bituminous coal production to 900,000 t/yr by 2021. The Government expected that direct coal consumption by residents would increase to 2.4 Mt/yr by 2020. In addition to expansion and modernization at existing facilities, the Government was considering development of the Vuadil deposit, which was located in Fergana Viloyati and had undiscovered resources of 117 Mt (MinerJob.ru, 2013h).

Uranium.—The Navoi GMK was the only enterprise in the country that conducted mining, beneficiation, and export of uranium as uranium oxide (U_3O_8). The Navoi GMK had three mining units and Hydrometallurgical Plant #1 (GMZ–1) that were involved in uranium production. The primary method of uranium mining used at Navoi was in situ leaching (ISL). This technology made possible the profitable extraction of uranium from sandstone-type deposits with low uranium content. Navoi GMK's uranium resources consisted of 20 deposits and 10 additional prospective areas. According to Goskomgeo, explored and evaluated resources of uranium in Uzbekistan amounted to 185,800 t, of which 138,800 t was of sandstone type and the other 47,000 t was of black shale type. Based on the proven and probable reserves, the Navoi GMK expected to continue uranium mining for 40 years beyond 2016 (Navoi Mining and Metallurgical Combinat, 2015).

At the end of 2013, Navoi GMK completed construction of three new uranium mines—Alendy, Aulbek, and Northern Kanimekh. The total cost of the projects was $75 million, and they were expected to reach planned capacity by 2015. The three new mines would likely increase annual uranium production in Uzbekistan by 40%. In August, it became known that Navoi GMK stopped construction of two other mines—Meylisay and Northern Mayzak—because the technology for underground leaching appeared to be ineffective when uranium has high carbonate content. It was not clear if or when the construction of these two mines would be completed (MinerJob.ru, 2013g; Kazachevskaya, 2014).

In 2009, China Guangdong Nuclear Power Group (CGNPC) and Goskomgeo created a 50–50 joint venture, which was named Uz-China Uran, with authorized capital of $4.6 million for exploration of uranium deposits in Boztaus Plateau in the Central Qizilqum region. Undiscovered resources of uranium at the Boztaus Plateau were estimated to be 5,500 t, and all ores are of the black shale type. In 2013, the Government announced that the authorized capital was increased to $8.6 million because additional equipment was supplied for exploration at the Meshetinskoye Plateau in the Central Qizilqum region. Uz-China Uran planned to ramp up exploration of new areas and to finish testing a new technology of separate extraction of uranium and vanadium. It was expected that Uz-China Uran might start deposit development as soon as 2014 (Mineral.ru, 2013d, m).

In July, Japan Oil, Gas and Metals National Corporation (JOGMEC) and Navoi GMK signed an agreement to explore for uranium in Navoi Viloyati. The agreement was made on conditions of entrepreneurial risk for 5 years; that is, both parties bore risks associated with exploration. JOGMEC agreed to explore prospective areas in Juzkuduk and Tamdykuduk-Tulyantash where sandstone-type uranium deposits had been located previously. JOGMEC agreed to invest a minimum of $3 million in exploration. The company received an exclusive right to conduct direct negotiations with the Government and to sign a contract for mining and product sharing, if any deposits were found in the contract area. This is the first exploration agreement with a foreign investor that involved sandstone-type uranium deposits (Mineral.ru, 2013c, o).

Outlook

During the past several years, Uzbekistan has intensified its efforts to expand the country's industry, including manufacturing and, especially, automobile production, chemical production, and machine building. In 2013, the share of the country's GDP produced by industrial enterprises was 54%. Increased industrial production and higher living standards are expected eventually to increase the demand for energy. Facing competition for its hydrocarbon resources, Uzbekistan will likely seek to increase its production and exports of hydrocarbons during the next decade by expanding its pipelines and modernizing its production facilities and infrastructure. The Government is also likely to continue to form partnerships with Asian and Russian firms to help achieve this objective.

Uzbekistan is likely to increase its production of copper, gold, and uranium. In the past several years, Uzbekistan has made concerted efforts to modernize its Almalyk and Navoi GMKs and to ramp up their production. Barring unforeseen events in the world economy, Uzbekistan's production of metals and uranium is expected to increase in the next several years. The production of hydrocarbons and refined petroleum products, on the other hand, might require additional investments and development of these resources is harder to predict.

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TABLE 1
UZBEKISTAN: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity[2]		2009	2010	2011	2012	2013
METALS						
Copper:						
Mine output, Cu content		95,000	90,000	91,500	95,600	97,000
Metal:[e]						
Blister		92,000	92,000	92,000	93,000	96,000
Refined		80,000	90,000	91,500 [3]	95,600 [3]	98,000 [3]
Gold[e]	kilograms	90,000	90,000	91,000	93,000	98,000
Molybdenum, mine output, Mo content		500 [e]	500 [e]	557	522	490
Rhenium[e]	kilograms	4,800	4,800	5,400	5,400	5,400
Silver, mine output	do.	52,876	59,097	60,000	60,000	61,000
Steel:						
Crude		716,400	731,373	733,400	736,300	746,200
Rolled		670,000	691,910	709,900	710,500	718,000
Tungsten, metal		--	--	48	131	98
Zinc, metal, smelter, primary		40,000	40,000 [e]	54,900	61,100	61,500 [e]

See footnotes at end of table.

TABLE 1—Continued
UZBEKISTAN: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity[2]		2009	2010	2011	2012	2013
INDUSTRIAL MINERALS						
Cement		6,850,000 e	6,872,000 r	6,698,000	6,800,000	6,990,000
Clays:e						
Bentonite		20,000	20,000	25,000	25,000	26,000
Kaolin		5,500,000	5,500,000	7,000,000	7,000,000	7,500,000
Gypsum		48,400	44,000	48,000 e	50,000 e	50,000 e
Nitrogen, N content of ammoniae		1,000,000	1,344,029 3	1,294,300 3	1,300,000	1,350,000
Phosphate rock:e						
Gross weight		600,000	800,000	800,000	800,000	850,000
P_2O_5 content		140,000	187,000	187,000	187,000	198,000
Potash, K_2O equivalent		--	33,000 r	110,000 r	125,280	132,000
Sulfur:e						
Byproduct:						
Metallurgy		170,000	170,000	170,000	170,000	175,000
Natural gas and petroleum		350,000	350,000	350,000	370,000	380,000
Total		520,000	520,000	520,000	540,000	555,000
Sulfuric acid		1,023,800	1,192,600	1,200,000	1,270,000	1,300,000
MINERAL FUELS AND RELATED MATERIALS						
Coal:						
Bituminous		101,000	198,000	244,000	19,800 r	20,100
Lignite		3,553,000	3,102,000	3,600,000	3,730,200 r	4,069,900
Total		3,654,000	3,300,000	3,844,000	3,750,000 r	4,090,000
Natural gas, dry	million cubic meters	65,000	65,937	63,036	62,911	55,200
Petroleum:						
Crude:4						
In gravimetric units		2,331,000	1,866,000	3,600,000	3,165,000	2,900,000 e
In volumetric units	42-gallon barrels	16,900,000	13,600,000	26,200,000	23,000,000	21,200,000 e
Petroleum refinery products:						
In gravimetric units		4,117,000	3,296,000	5,000,000	5,000,000	4,800,000
In volumetric units	42-gallon barrels	33,100,000	26,480,000	40,165,000	40,165,000	38,400,000
Uranium:						
U content		2,429	2,400	3,000 r	3,000 r	2,400
U_3O_8 content		2,865	2,830	3,540 r	3,540 r	2,830

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

[1]Table includes data available through January 11, 2015.

[2]In addition to the commodities listed, Uzbekistan is thought to produce a number of other mineral commodities, including aluminum, cesium, caustic soda, feldspar, fluorspar, graphite, iodine, iron ore, lead, lithium, manganese, rubidium, selenium, tellurium, and vermiculite, but available information is not adequate to make reliable estimates of output.

[3]Reported figure.

[4]Includes gas condensate.

TABLE 2
UZBEKISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2013[1, 2]

(Metric tons unless otherwise specified)

Commodity		Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Cement		OAO Kyzylkumcement	Navoi City	3,150,000
Do.		OAO Akhangarcement	Sirdaryo Viloyati	1,740,000
Do.		OAO Kuvasaycement	Farg'ona Viloyati	1,100,000
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:				
Lignite		OAO Uzbekugol and OAO Apartak	Angren deposit, Toshkent Viloyati	4,500,000
Bituminous		OAO Shargunkumir and OAO Erostigaz	Baysun and Shargun deposits, Surxondaryo Viloyati	700,000 [3]
Copper:				
Mine output, Cu content		Almalyk mining and metallurgical complex (Almalyk GMK)	Dal'neye, Kalmakyr, and Sary-Cheku deposits	100,000 [3]
Concentrate		Almalyk polymetallic beneficiation plant	Qashqadaryo Viloyati	NA
Metal		Almalyk refinery	Olmaliq	130,000
Feldspar		Karichasayskoye and other deposits	Deposits in Samarqand Viloyati, Toshkent Viloyati, and Qoraqalpog'iston Respublikasi	120,000 [3]
Fertilizers		Ammophos production association	Olmaliq	NA
Do.		Azot production association	Farg'ona area	NA
Do.		Elektrokhimprom production association	Chirchiq	NA
Do.		Kokand superphosphate plant	Qo'qon	NA
Do.		Naviazot production association	Navoiy Viloyati	NA
Do.		Samarkand chemicals plant	Samarqand Viloyati	NA
Fluorspar		Agata-Chibargata, Aurakhmat, Kengutan, Kyzylbaur, Naugarzan, and Nugisken deposits	East of Toshkent Viloyati	150,000
Do.		Syrpatash deposit	Namangan Viloyati	NA
Gold	kilograms	Various facilities and deposits, which include:	Of which:	98,000 [3]
		Adzhi-Bugutty, Amantaytau, Balpantau, Bulutkan, Donguz-Tau, Muruntau, and Taurbay deposits	Central Qizilqum region	
		Navoi mining and metallurgical complex (Navoi GMK) (Uzbekistan State Committee for Geology and Mineral Resources) Navoi, Uchkuduk, Zarmitan, and Zarafshan gold refineries	Muruntau deposit and 12 others	
		Kochbulak and Kyzyl-Al'ma-Say deposits	Toshkent Viloyati	
		Almalyk mining and metallurgical complex (Almalyk GMK)	Dalneye, Kalmakyr, and Sary-Cheku deposits	
Graphite		Tadzhi-Kazgan deposit	Navoiy Viloyati	NA
Iron ore		Syurenata deposit	Toshkent Viloyati	NA
Lead, mine output, Pb content		Almalyk mining and metallurgical complex (Almalyk GMK)	Uch-Kulach deposit, Jizzax Viloyati	40,000 [3]
Manganese		Dautashskoye deposit	Qashqadaryo Viloyati	40,000
Molybdenum:				
Mine output, Mo content		Almalyk mining and metallurgical complex (Almalyk GMK); Kalmakyr and Sary-Cheku deposits	Toshkent Viloyati	900 [3]
Metal		Uzbek refinery and hard metals plant	Chirchiq	NA

See footnotes at end of table.

TABLE 2—Continued
UZBEKISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2013[1, 2]

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity[e]
Natural gas million cubic meters	Gazli, Kandym, Khauzak, Kokdumalak, Pamuk, and Shurtan-Say deposits (major)	Amu-Dar'ya Basin; Muborak region	70,000 [3]
Do.	Itera/Lukoil (Russia), Uzbekneftegaz JSC	Kan-Dam field	NA
Natural gas condensate	Trinity Energy	Ustyurt Platosi region	NA
Natural gas liquids million cubic meters	Mubarek gas processing plant	Muborak region	28,000
Do.	Shurtan gas-chemical complex	Shurtan-Say deposit, Qashqadaryo Viloyati	137,000
Petroleum:			
Crude	Kokdumalak and Mingbulak deposits (major)	NA	9,000,000 [3]
Refinery products	Fergana oil refinery	Farg'ona area	8,800,000
Do.	Bukhara oil refinery	Buxoro area	2,500,000
Phosphate rock	Kyzyl Kum complex	Dzheroy-Sardarin Moroccan type; Karaktay, Severnyy, and Dzhetymtau deposits	NA
Polyethylene	Shurtan gas-chemical complex	Shurtan-Say deposit, Qashqadaryo Viloyati	125,000
Potash	Dekhkanabad potash fertilizer plant	Tubegatan Mine, Qashqadaryo Viloyati	200,000
Rhenium	Almalyk mining and metallurgical complex (Almalyk GMK)	Toshkent Viloyati	NA
Selenium	do.	do.	NA
Silver	do.	do.	NA
Do.	Kosmanachi, Okzhetpes, and Vysokovoltnoye deposits	Namangan Viloyati	NA
Steel, crude	Bekabad steel mill	Bekobod region	1,100,000
Sulfur	Almalyk mining and metallurgical complex (Almalyk GMK)	Dalneye, Kalmakyr, and Sary-Cheku deposits	NA
Do.	Mubarek gas processing plant complex	Muborak region	2,000,000
Tellurium	Almalyk mining and metallurgical complex (Almalyk GMK)	Toshkent Viloyati	NA
Tungsten:	Deposits:	Locations:	1,200 [3]
Mine output, W content	Koytash deposit Ingichka and Lyangar deposits Ugat deposit	Northeastern Uzbekistan Zirabulak Mountains Northern Uzbekistan	
Mine output, WO_3 content (0.49%)	Sautbay wolframite deposit	Qizilqum region	NA
Metal	Uzbek refractory and hard metals complex (UzKTZhM)	Chirchiq, Toshkent Viloyati	NA
Uranium, U content	Navoi mining and metallurgical complex (Navoi GMK)	Central Qizilqum region	3,000
Vermiculite cubic meters	Tebinbulak deposit	NA	25,000
Zinc:			
Mine output, Zn content	Almalyk mining and metallurgical complex (Almalyk GMK)	Khandiza and Uch-Kulach deposits, Jizzax Viloyati	NA
Concentrate	Almalyk polymetallic beneficiation plant	Qashqadaryo Viloyati	60,000
Metal	do.	do.	80,000

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

[1]Table includes data and information available through January 15, 2015.

[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 the commodity.