



2012 Minerals Yearbook

UZBEKISTAN

THE MINERAL INDUSTRY OF UZBEKISTAN

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Uzbekistan has substantial natural resources, which include more than 1,800 known mineral deposits. The two minerals produced in the country in significant amounts were gold and uranium. In addition, Uzbekistan was one of the leading world producers of kaolin, molybdenum, nitrogen, rhenium, oil and natural gas, and sulfur. Other valuable minerals produced included copper, gypsum, silver, tungsten, and zinc. Many other mineral commodities (such as iron ore and lithium) had been identified that were not being mined. In previous decades, mineral production was limited by the country's inefficient infrastructure, remote location with respect to world markets, and tight regulatory environment that attracted only a small amount of foreign investment. 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 (Apodaca, 2013a, b; George, 2013; Polyak, 2013a, b; U.S. Central Intelligence Agency, 2013; U.S. Energy Information Administration, 2013; Virta, 2013).

Minerals in the National Economy

In 2012, Uzbekistan's real gross domestic product (GDP) increased by 8.2%; the nominal GDP was 96,589.8 billion soums (\$48.7 billion).¹ The value of exports was reported to be to \$14.3 billion, which was a decrease of 5.1% compared with that of 2011. 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 18.5% of Uzbekistan's exports, by value), Kazakhstan (14.6%), Turkey (13.8%), Russia (12.8%), Ukraine (12.5%), and Bangladesh (8.9%). The value of imports increased to \$12.0 billion, or by 11.4% compared with that of 2011. The main mineral import commodities were chemicals and ferrous and nonferrous metals. The major import partners were Russia (which supplied 20.6% of Uzbekistan's imports, by value), China (16.5%), the Republic of Korea (16.3%), Kazakhstan (12.8%), Germany (4.6%), and Turkey (4.2%) (State Committee of the Republic of Uzbekistan on Statistics, 2013).

In 2012, the share of industrial production in the GDP was 52.6%. The main industries (as a percentage of the value produced by all industries) were the fuel industry (18.0%), machine building and metal processing (17.5%), food processing (13.1%), textile manufacturing (12.9%), nonferrous mining and metallurgy (10.0%), electric power production (7.7%), and the chemical sector and construction material manufacturing (5.5% each) (State Committee of the Republic of Uzbekistan on Statistics, 2013; U.S. Central Intelligence Agency, 2013).

¹Where necessary, Uzbekistani soums (UZS) were converted to U.S. dollars (US\$) at the average annual rate of 1,983UZS=US\$1.00.

Production

In 2012, production of tungsten increased by 173%; that of zinc, by 11.3%; and potash, by 11.1%. Uranium production increased by an estimated 8.0%; copper, by 4.5%; and gypsum, by an estimated 4.2%. On the other hand, crude petroleum production decreased by 12.1% and molybdenum mine output decreased by 6.2%. These and other production data are in table 1.

Structure of the Mineral Industry

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 copper porphyry deposits, the Kalmakyr and the Sary-Cheku deposits, were the complex's sources of copper. An additional copper deposit, Dal'neye, was on reserve. The mineral deposits of Toshkent Viloyati are highly complex and contain more than 170 types of minerals. In addition to copper, the Almalyk GMK mined and processed lead-zinc-barite ores from the Uch-Kulach deposit located in Jizzax Viloyati and the Khandiza polymetallic deposit located in Qashqadaryo Viloyati (Almalyk Mining-Metallurgical Complex, 2013).

In December, the Almalyk GMK completed reconstruction and expansion of its Kalmakyr Mine. The reconstruction started in 2009 and included the purchase of mining and transportation equipment, reconstruction of railroad tracks at the mine, and overburden removal at some sections of the mine. Because of the reconstruction, the mine capacity was expected to increase to 31.5 million metric tons per year (Mt/yr) of ore from 27 Mt/yr. The project was financed by the Fund for Reconstruction and Development of Uzbekistan (FRRU), which provided a \$63 million loan; AKIB Ipotekabank, which provided a \$20 million loan; and the Almalyk GMK, which used \$39.4 million of its own funds (MinerJob.ru, 2013b).

In July 2011, Rio Tinto announced plans to start copper exploration of the Gava property in Namangan Viloyati and announced that it was prepared to invest up to \$100 million in the project if the results of exploration were promising. In December, 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. Rio Tinto was planning to start exploration in the beginning of 2013 and to invest \$1 million within 1 year (MinerJob.ru, 2012b).

The Almalyk GMK was planning to start mining its reserve Dal'neye deposit, which was located in Toshkent Viloyati, by the end of 2014. The company was planning to complete a technical assessment of the project by mid-2013 and would then seek Government approval for the project. The Almalyk GMK expected to start mine construction in 2014 and to complete the first stage of mine development within 5 years, when it expected to be mining 10 Mt/yr of ore. The total cost of the first stage was estimated to be \$330 million. After the completion of the second stage (the terms of which were not disclosed), the company was planning to mine 35 Mt/yr of ore. The resources of Dal'neye were expected eventually to replace the partially depleted Kalmakyr and Sary-Cheku deposits (Mineral.ru, 2012g).

Gold.—Uzbekistan's significant reserves of gold were estimated to total 5,300 metric tons (t). According to Goskomgeo, the country had 33 primary gold deposits. 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 thought to be unique in the world because of the high quality of its ores and the relatively low extraction costs (because the ore was accessible by open pit mining). Another prospective gold deposit, the Tamdybulak, is located 25 kilometers north of Muruntau (Almalyk Mining-Metallurgical Complex, 2013; Navoi Mining and Metallurgical Combinat, 2013).

The 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 planned to be developed in the near future. Production at the Navoi GMK was conducted at four metallurgical plants located in Navoi, Uchkuduk, Zamaritan, and Zarafshan. In 2012, the Navoi GMK was planning to complete construction of a new gold mining complex that would use bioleaching (BIOX) technology. The new complex was being built at the hydrometallurgical plant in Uchkuduk, and the total cost of the project was \$210 million. The complex was expected to process 5 Mt/yr of ore and to produce 20 metric tons per year (t/yr) of gold when it reaches its full capacity (Mineral.ru, 2012a).

In August, the Navoi GMK announced that it was planning to invest \$28 million to modernize its heap-leaching facilities between 2012 and 2015. The project was to be financed by the Navoi GMK's own funds and an \$8.3 million loan from the FRRU. At Muruntau, heap-leaching technology was first used in 1996 by the Zarafshan-Newmont company, which was a joint venture between two Uzbek partners—Goskomgeo and the Navoi GMK—and Newmont Mining Co. of the United States. In 2007, Goskomgeo decided to liquidate the joint venture, and its equipment was transferred to the Navoi GMK. After the transfer, the heap-leach plant, which was originally a part of Newmont, continued to operate, but was in need of modernization. The modernization currently planned by the Navoi GMK was expected to increase the ore throughput by 20%; it would take 2.5 years to complete and was projected to extend the life of the mine to at least 2025 (MinerJob.ru, 2012c).

In December, the Navoi GMK announced that, because of a recent series of improvements, the annual capacity of the Zamaritan plant had been increased to 1.4 Mt/yr of ore

from 1.1 Mt/yr. The improvements included opening new mining horizons at the underground Guzhumtsai Mine and starting up new equipment for gravity-based fine gold extraction. The total cost of improvements was \$330 million, and the production capacity of the Zamaritan plant was expected to reach 1.8 Mt/yr of ore by 2015 (MinerJob.ru, 2012a).

Also in December, the Navoi GMK opened a new conveyor system at the southeastern part of its Muruntau Mine. The new conveyor was 540 meters (m) long and was 2 m wide. The new system was expected to reduce the costs of transporting ore within the mine as well as reduce the transportation time and distance traveled by the mined materials. In 2013, the transportation capacity of the new system was expected to reach 6 million cubic meters per year (MinerJob.ru, 2012d).

In 2012, the 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 the 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 the Almalyk GMK's own funds (\$35 million). The mine was planned to go online in 2014 (Forbes.kz, 2013; Regnum.ru, 2013).

The second mine under construction was a new underground mine at the Kairagach deposit. The total project cost was \$30.6 million, and the mine was expected to be completed in 2 years. 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 the 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 third mine under construction was an open pit mine at the Uzun portion of the Kochbulak gold deposit. The total cost of the project was expected to be \$15 million, and the work was scheduled to be completed by the end of 2013. Because of the existing mining operations at the Kochbulak deposit, the Uzun mine construction works were able to use existing infrastructure and therefore reduce construction costs (Mineral.ru, 2012b, 2013; Forbes.kz, 2013; MinerJob.ru, 2013a).

Tungsten.—In 2012, OAO Uzbek Refractory and Heatproof Metals Complex (UzKTZhM) produced 130.8 t of metallic tungsten, which was a 173% increase compared with the 2011 production level. UzKTZhM produced tungsten on a tolling scheme from raw materials imported from Russia. The complex was the leading producer of metal tungsten in the Commonwealth of Independent States and, in addition to tungsten, it also produced molybdenum and alloys of refractory metals. The complex was originally built in 1956 and had 14 major plants and 12 auxiliary production lines. As of 2012, however, UzKTZhM was operating well below its capacity; tungsten production, for example, was only at about 50% of full capacity level (Regnum.ru, 2012a; UZDaily.uz, 2013).

A newly formed Uzbekistan-Korea Tungsten Co. was planning to start mining tungsten at the Sautbai deposit, which is located in Navoiy Viloyati. Uzbekistan-Korea Tungsten was a joint venture between Goskomgeo of Uzbekistan and Shindong Resources Co. Ltd. of the Republic of Korea. According to the announced schedule, the partners were expected to finalize the economic assessment of the project and to start ground work by the end of 2013. The project included construction of a mining and beneficiation complex with a projected capacity of 1,500 t/yr of highly beneficiated tungsten concentrate. Goskomgeo reported that the Sautbai deposit contains 4 million metric tons (Mt) of ore that included 19,900 t of tungsten trioxide. The Government expected that the Almalyk GMK and UzKTZhM would eventually join the joint venture to increase the effectiveness of the project (Mineral.ru, 2012d; Uzreport.uz, 2012b).

Industrial Minerals

Potash.—In the summer of 2010, State Joint Stock Co. Uzkimyosanoat opened the new Dekhkanabad potash fertilizer mining and beneficiation complex in Qashqadaryo Viloyati on the border with Turkmenistan. The mine was built by ZAO Zapadno-Ural'skiy Mashinostroitel'nyy Kontsern (ZUMK) of Russia, and CITIC Pacific Ltd. of Hong Kong constructed the beneficiation plant. The mine construction was financed by FRRU (\$61.9 million), Eximbank of China (\$41.7 million), and Uzkimyosanoat's own funds. The cost of mine construction was \$56 million, and the construction cost for the beneficiation plant was \$43.9 million. The total cost of the complex was \$123.7 million, and the annual capacity of the complex was expected to reach 200,000 t/yr of potassium chloride (Gazeta.uz, 2010; Newchemistry.ru, 2012).

The Dekhkanabad complex is built at the Tubegatan deposit of potash salts. The total resources of the deposit are estimated to be 400.2 Mt of "ore" containing 36.8% potassium chloride. The Uzbek portion of the deposit's resources is estimated to be about 200 Mt. In 2011, the plant produced 180,000 t of potassium chloride, and, in 2012, it reached its production capacity of 200,000 t/yr, most of which was exported. In May, ZUMK and CITIC Pacific started working on the second stage of construction, which was expected to cost a total of \$254.7 million. According to the company's plan, after the second stage is completed, the plant's capacity would be tripled to 600,000 t/yr, of which 350,000 t/yr was expected to be exported. The construction of the second stage was expected to be finished by the end of 2013 (Gazeta.uz, 2010; RCCnews.ru, 2012).

Sulfuric Acid.—In 2012, Uzbekistan produced 1.27 Mt of sulfuric acid and was planning to double its production by 2015. Two modernization projects were underway—a new plant within the Almalyk GMK copper smelter and a new plant at the Navoi GMK. The new plant at the Almalyk GMK was planned to have a capacity of 500,000 t/yr at a total cost of \$80.2 million. The Almalyk GMK expected to invest \$21.2 million of its own funds and to obtain a \$30 million loan from the FRRU and a \$29 million loan from AKIB Ipotekabank. The plant at the Almalyk GMK was to be completed by the end of 2013 (Trend.az, 2012).

The new plant at the Navoi GMK was planned to have a capacity of 650,000 t/yr and was expected to cost a total of \$94 million, of which \$64 million would come from the Navoi GMK's own funds and the other \$30 million was to be financed by the FRRU. The new plant was expected to start operations in 2014 (Uzreport.uz, 2012a).

Mineral Fuels and Related Materials

Coal.—Uzbekistan's identified resources of coal were estimated to be 1,900 Mt, including 46.3 Mt of bituminous coal. Undiscovered resources of coal in Uzbekistan were estimated to total an additional 323 Mt. Significant bituminous coal resources are concentrated in the south 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 2012, coal mining was conducted at three main deposits—the Angren lignite deposit and the Baysun and the Shargun bituminous coal deposits. In 2012, the four companies that produced coal in Uzbekistan were, in the order of the tonnage produced, OAO Uzbekugol, OAO Apartak, OAO Shargunkumir, and OAO Erostigaz (Mineral.ru, 2012e).

In recent years, the Government had been trying to increase coal production with the goal of exporting some of the domestically produced hydrocarbons that had previously been used within Uzbekistan. In particular, the Government planned to increase lignite production to 6.4 Mt/yr by 2014 and 16.3 Mt by 2021, and to increase bituminous coal production to 900,000 t by 2021. The Government was expecting that direct coal consumption by residents would increase to 2.4 Mt by 2020, or by 2.9 times that of 2012. By then, the share of coal in the country's total domestic energy consumption would increase to 12% from 3.9% in 2012 (Mineral.ru, 2012c, h).

According to Government plans, Government-owned OAO Uzbekugol, which was the leading producer of solid fuels in the country, was developing the Angren lignite deposit. The company had adopted a program of modernization that would consist of six projects which would cost a total of about \$500 million. The first two stages of the project were to be completed by 2015, which would increase the production capacity to 11.5 Mt by 2018. OAO Apartak, which was also developing the Angren deposit, was planning to modernize its lignite mine operations by improving the mine's infrastructure and logistics. The project would include construction of a new technological complex to improve coal sorting and loading into railroad cars. The Apartak modernization project was expected to cost about \$80 million and to increase the company's annual lignite production to 1.82 Mt by 2016 (12uz.com, 2012).

OAO Shargunkumir, which held a mining license for the Baysun and the Shargun deposits in Surxondaryo Viloyati, was also planning to modernize its production facilities by investing \$92.2 million in upgrades. The modernization program would include acquisition of new equipment for processing, sorting, and loading coal and the construction of a new \$15 million beneficiation plant that would have a capacity of 600,000 t/yr. In March, Uzbekugol became one of the shareholders of

Shargunkumir by purchasing some shares on the secondary market that used to be owned by foreign shareholders. The amount of shares and the purchasing price were not disclosed. Prior to the transaction, the Government owned 51% of the shares, the company workers owned 7.43% of the shares, and the other 41.57% of the shares belonged to a consortium of companies, including M.Metal & Co. Ltd., SAB Energy, and Shadella Inc., all of the United Kingdom (UZDaily.uz, 2012).

Natural Gas and Petroleum.—Uzbekistan had significant hydrocarbon resources and was one of only a few countries in the region that were not dependent on a foreign supply of energy. The country had 171 discovered oil and natural gas fields, 51 of which produced oil and 17 of which produced gas condensate. Because of aging production equipment, however, oil production at existing facilities had been decreasing since 2003, and the currently producing fields were being rapidly depleted. In 2012, Uzbekistan's production of liquid hydrocarbons decreased by 12.1% to 3.165 Mt—1.561 Mt of petroleum and 1.604 Mt of gas condensate (Neftrans.ru, 2013).

In May, National Holding Company Uzbekneftegaz announced that it planned to build an oil and gas shale processing complex at the Sangruntau deposit in Navoiy Viloyati. The shale project was a joint project with Japan Gas Corp. (JGC) of Japan. According to preliminary plans, the new complex would produce up to 1 Mt/yr of petroleum products. According to expert estimates, probable resources of oil and gas shale amount to 47 billion metric tons (Gt), and most of the resources are located at depths of up to 600 m. The resources of the Aktau, the Baisun, the Jam, the Kulbeshkak, the Sangruntau, the Uchkyr, and the Urtabulak deposits were included in that estimate. In addition to hydrocarbon resources, the deposits reportedly contain a wide spectrum of nonferrous and rare metals (Azizov, 2012).

In November, it was announced that Uzbekneftegaz would start development of natural gas condensate deposits at the border with Turkmenistan. The \$320 million project would involve development of seven deposits, the largest of which were the Girsan, the Samantepe, and the Taylyak deposits. The deposits were discovered in the 1990s, but no attempts have been made to develop them until recently. It was expected that once the deposits were all producing (by 2017), the total production from all seven of them would amount to 3.5 billion cubic meters per year of natural gas (Mineral.ru, 2012f).

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 profitable extraction of uranium from sandstone-type deposits with low uranium content possible. 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 resources, the Navoi GMK was

expecting to continue uranium mining for the next 40 years (Navoi Mining and Metallurgical Combinat, 2013).

In 2012, the Navoi GMK invested \$230.5 million into modernization of existing uranium processing facilities and was planning to invest \$55.2 million in two new uranium mines. The first mine at the Aulbek deposit began operations in May; mine construction was continuing, however, and the second stage was expected to be completed in 2013. The total cost of construction was expected to be \$20.9 million, of which \$8.9 million would be spent in 2012. Construction of another new mine at the North Kanimekh deposit started in 2012 and was expected to be finished in 2013; the total cost of the project was estimated to be \$34.3 million. The ores of the two new mines had higher carbonate content and were located deeper underground than were existing mines operated by the Navoi GMK; it was likely that mining of these mines would require new technologies to make uranium extraction cost effective (Podrobno.uz, 2012; Regnum.ru, 2012b).

Outlook

In the past several years, Uzbekistan has intensified its efforts to grow the country's industry, including manufacturing and, especially, automobile production, chemical production, and machine building. In 2012, the share of the country's GDP produced by industrial enterprises was greater than 50%. Increased industrial production and higher living standards in the country are expected eventually to increase the demand for energy goods. Uzbekistan will likely seek to increase its production and export 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. It also plans to increase coal production for domestic heating and electricity production significantly.

The country 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, therefore, Uzbekistan's mineral production is expected to continue to increase in the next several years.

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TABLE 1
UZBEKISTAN: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2008	2009	2010	2011	2012
METALS					
Aluminum, secondary ^c	NA ^r	NA ^r	NA ^r	NA ^r	NA
Copper:					
Mine output, Cu content	95,000	95,000	90,000	91,500 ³	95,600
Metal: ^c					
Blister	92,000	92,000	92,000	92,000	93,000
Refined	71,000	80,000	90,000	91,500 ³	95,600
Gold ^c kilograms	85,000	90,000	90,000	91,000	93,000
Molybdenum, mine output, Mo content ^c	500	500	500	557 ^{r,3}	522 ³
Rhenium ^c kilograms	4,800	4,800	4,800	5,400	5,400
Silver, mine output do.	74,648	52,876	59,097	60,000	60,000
Steel:					
Crude	685,700	716,400	731,373	733,400 ^{r,3}	736,300
Rolled	640,000	670,000	691,910	709,900 ³	710,500
Tungsten	--	--	--	48	131
Zinc, metal, smelter, primary	70,445	40,000	40,000 ^e	54,900 ^{r,3}	61,100
INDUSTRIAL MINERALS					
Cement ^c	6,600,000	6,850,000	6,800,000 ^r	6,698,000 ³	6,800,000
Clays: ^c					
Bentonite	20,000 ^r	20,000 ^r	20,000 ^r	25,000	25,000
Kaolin	5,500,000	5,500,000	5,500,000	7,000,000	7,000,000
Feldspar	NA ^r	NA ^r	NA ^r	NA ^r	NA
Fluorspar	NA ^r	NA ^r	NA ^r	NA ^r	NA
Graphite	NA ^r	NA ^r	NA ^r	NA ^r	NA
Gypsum ^c	50,000 ^r	48,400 ^{r,3}	44,000 ^{r,3}	48,000 ^r	50,000
Iodine	NA ^r	NA ^r	NA ^r	NA ^r	NA
Nitrogen, N content of ammonia ^c	1,000,000	1,000,000	1,344,029 ^{r,3}	1,294,300 ³	1,300,000
Phosphate rock: ^c					
Gross weight	600,000	600,000	800,000	800,000	800,000
P ₂ O ₅ content	140,000	140,000	187,000	187,000	187,000
Potash, K ₂ O equivalent	--	--	33	110	122
Sulfur: ^c					
Byproduct:					
Metallurgy	170,000	170,000	170,000	170,000	170,000
Natural gas and petroleum	350,000	350,000	350,000	350,000	370,000
Total	520,000	520,000	520,000	520,000	540,000
Sulfuric acid	600,000	1,023,800	1,192,600	1,200,000	1,270,000
MINERAL FUELS AND RELATED MATERIALS					
Coal:					
Bituminous	198,000	101,000	198,000	244,000	252,900
Lignite	3,092,000	3,553,000	3,102,000	3,600,000	3,600,000
Total	3,290,000	3,654,000	3,300,000	3,844,000 ³	3,852,900
Natural gas, dry million cubic meters	67,593	65,000	65,937	63,036	62,911
Petroleum:					
Crude: ⁴					
In gravimetric units	2,533,000	2,331,000	1,866,000	3,600,000	3,165,000
In volumetric units ^c 42-gallon barrels	18,400,000	16,900,000	13,600,000	26,200,000	23,000,000
Petroleum refinery products:					
In gravimetric units	4,117,000	4,117,000	3,296,000	5,000,000	5,000,000
In volumetric units 42-gallon barrels	33,100,000	33,100,000	26,480,000	40,165,000	40,165,000
Uranium:					
U content	2,338	2,429	2,400	2,500	2,700 ^e
U ₃ O ₈ content	2,757	2,865	2,830	2,950	3,190

See footnotes at end of table

TABLE 1—Continued
 UZBEKISTAN: PRODUCTION OF MINERAL COMMODITIES¹

⁶Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ⁷Revised. do. Ditto. -- Zero.

NA Not available.

¹Table includes data available through November 1, 2013.

²In addition to the commodities listed, Uzbekistan is thought to produce a number of other mineral commodities, including cesium, caustic soda, iron ore, lead, lithium, manganese, rubidium, selenium, tellurium, tungsten, and vermiculite, but available information is not adequate to estimate production.

³Reported figure.

⁴Includes gas condensate.

TABLE 2
 UZBEKISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2012^{1,2}

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity ^c
Bismuth	Ustarassay deposit (depleted)	Chotqol and Kuraminskiy Khrebet regions	NA
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	5
Metal	Almalyk refinery	Olmalik	130,000
Diamond	Karashok and Kok-Say deposits	Navoiy Viloyati	NA
Feldspar	Karichasayskoye and other deposits	Deposits in Samarqand Viloyati, Toshkent Viloyati, and Qoraqalpog'iston Respublikasi	120,000 ³
Fertilizers	Ammophos production association	Olmalik	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: Adzhi-Bugutty, Amantaytau, Balpantau, Bulutkan, Donguz-Tau, Muruntau, and Taurbay deposits Navoi mining and metallurgical complex (Navoi GMK) (Uzbekistan State Committee for Geology and Mineral Resources) Navoi, Uchkuduk, Zamaritan, and Zarafshan gold refineries Kochbulak and Kyzyl-Al'ma-Say deposits Almalyk mining and metallurgical complex (Almalyk GMK)	Of which: Central Qizilqum region Muruntau deposit and 12 others Toshkent Viloyati Dalneye, Kalmakyr, and Sary-Cheku deposits	93,000 ³
Graphite	Tadzhi-Kazgan deposit	Navoiy Viloyati	NA
Iron ore	Syurenata deposit	Toshkent Viloyati	NA

See footnotes at end of table.

TABLE 2—Continued
 UZBEKISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2012^{1,2}

(Metric tons unless otherwise specified)

Commodity	Major operating companies, main facilities, or deposits	Location or deposit names	Annual capacity ^c	
Lead, mine output, Pb content	Almalyk mining and metallurgical complex (Almalyk GMK)	Uch-Kulach deposit in 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	
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 Dzhetyntau deposits	NA	
Polyethylene	Shurtan gas-chemical complex	Shurtan-Say deposit, Qashqadaryo Viloyati	125,000	
Potash	Dekhkanabad potash fertilizer plant	Tubehatan 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, Okzhetypes, 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:				
Mine output, W content	Deposits: Koytash deposit Ingichka and Lyangar deposits Ugat deposit	Locations: Northeastern Uzbekistan Zirabulak Mountains Northern Uzbekistan	1,200 ³	
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	Tebin-Bulak deposit	NA	25,000
Zinc:				
Mine output, Zn content	Almalyk mining and metallurgical complex (Almalyk GMK)	Khandiza and Uch-Kulach deposits	NA	
Concentrate	Almalyk polymetallic beneficiation plant	Qashqadaryo Viloyati	60,000	
Metal	do.	do.	80,000	

⁶Estimated; estimated data are rounded to no more than three significant digits. Do., do. Ditto. NA Not available.

¹Table includes data and information available through October 15, 2013.

²Many 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.

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