



2010 Minerals Yearbook

KYRGYZSTAN

THE MINERAL INDUSTRY OF KYRGYZSTAN

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Kyrgyzstan has a variety of mineral resources (ferrous and nonferrous metals, including precious metals and rare earths; industrial minerals, semiprecious stones, and uranium). Prior to the proclamation of Kyrgyz independence in 1991, mining was an important part of the economy of the Soviet Republic; in the past two decades, however, the variety of mined minerals was reduced. In 2010, gold accounted for more than 90% (in terms of value) of the minerals mined in the country. Other minerals being mined included antimony, cement materials, clay, coal, fluor spar, gypsum, limestone, mercury, natural gas, oil, sand and gravel aggregates, silica, and silver. Kyrgyzstan has deposits of other minerals that were not being mined. They include arsenic, bauxite, copper, iron ore, lead, rare-earth metals, sulfur, tin, tungsten, and zinc. Uranium was in high demand during the Soviet period, which ended in 1991, but was no longer mined in the country because of the negative environmental consequences of uranium production (Russian American Chamber of Commerce in the USA, 2007; Celestial Mountains Travel Encyclopedia of Kyrgyzstan, 2012; U.S. Central Intelligence Agency, 2012; Welcome.kg, 2012).

Kyrgyzstan has significant reserves of coal but only limited reserves of oil and gas, and the country relied on imports of fossil fuels. Most natural gas imports came from Uzbekistan. Kyrgyzstan is rich in hydropower, and more than 90% of domestically consumed electricity was generated by hydroelectric powerplants. Kyrgyzstan also exported hydropower to Kazakhstan and Uzbekistan in return for fossil fuels. The country's antiquated electric grid and often inefficient management practices made the country more dependent on foreign oil when water levels were low (Library of Congress, 2007).

Production

In 2010, the nominal gross domestic product (GDP) decreased by 2% compared with that of 2009 to \$4.49 billion. Industrial production, on the other hand, increased by 9.8% compared with that of 2009. In 2010, the production value of the mineral industry decreased by 0.4% compared with that of 2009 because of the decrease in the mining of nonfuel minerals. Also, the share of the mineral industry in total industrial production decreased to 1.9% from 2.1% in 2006 (Natsional'nyi Statisticheskii Komitet Kirgizskoi Respubliki, 2011, p. 6, 7, 8; U.S. Department of State, 2012). Data on mineral production are in table 1.

Commodity Review

Metals

Gold.—Despite Kyrgyzstan's significant potential for further exploration and development, in 2010, there were only two gold mines operating in the country. One of them, the Kumtor gold mine, is located in the southern Tien Shan metallogenic belt,

which traverses Central Asia. The belt includes a number of mesothermal-type gold deposits, such as the Jilau, the Kumtor, the Muruntau, and the Zarmitan deposits. Kumtor is located about 350 kilometers (km) southeast of Bishkek and about 60 km north of the border with China.

The Kumtor Mine was operated by Canadian company Centerra Gold Inc. In 2010, Centerra Gold produced 5.765 million metric tons (Mt) of gold ore and extracted 568,000 troy ounces (17.7 t) of gold content. Up to the end of 2009, the Kumtor deposit had been operated by another Canadian company, Cameco Gold Inc. Since 1992, Cameco and the Government had jointly owned Kumtor Gold Co.; the Kyrgyz Government held two-thirds of the company shares and Cameco held the other one-third. In April 2009, Centerra Gold negotiated an agreement with Cameco and the Government, and in December 2009, Centerra Gold became the sole owner of Kumtor Gold. Mining operations at Kumtor were conducted using conventional open pit methods. The overall waste-to-ore ratio in 2010 was 19.2:1 (MetalDaily.ru, 2011; Centerra Gold Inc., 2012).

The second gold mine in Kyrgyzstan, the Makmal Mine, was operated by OAO KyrgyzAltyn and was wholly owned by the Kyrgyz Government. The Makmal Mine was located 630 km from Bishkek in the Djalalabad region. The mine had been operated using open pit methods from 1986 to 2003. After 2003, the production volumes at Makmal were very low. As of 2010, the gold reserves of the mine were approaching depletion, and KyrgyzAltyn was developing plans to mine the deposit using underground methods to extend the life of the mine to 2016. Currently, the average production from the mine was about 1.1 million metric tons per year of ore (KyrgyzAltyn, 2011).

Mercury.—The Khaydarkan mercury mining and metallurgical complex continued to mine the Khaydarkan and the Novoye deposits. The complex included two underground mines, a beneficiation plant, and a metallurgical processing facility. As recently as in 2000, the plant's annual production level was 500 to 600 t of mercury, but in 2010, it had decreased to about 250 t. The mercury plant was located in the mountainous settlement of Khaydarkan on the Alay ridge of the Tien Shan mountains. The settlement had a population of 11,000, and the people depended largely on the mine for their livelihood. Alternative employment opportunities were very limited, but the amount of toxic waste generated by processing mercury ore over the years made the environmental situation in the settlement potentially dangerous for the residents. The most common types of waste were burrow, cinder, and tailings. Although no detailed studies had been conducted, environmental advocates were concerned that the concentrations of mercury in the air and water were elevated and that the health of the local population could be endangered. In 2009, the Government announced a decision to conditionally close the mine, but no information on whether the mine had indeed been closed was available (Noruzbaev, 2009).

Outlook

Kyrgyzstan is actively trying to attract foreign investment into its mineral industry. Whereas a majority of foreign companies continue to direct their efforts at exploration of gold deposits (for example, new gold mines are planned at Jerooy and Taldy-Bulak), other mineral resources (especially antimony, rare earths, and uranium) are also likely to attract the interest of foreign investors in the future. Kyrgyzstan's experience in other sectors of the economy (for example, agriculture) suggests that it can efficiently reform its legal system in the direction of a market economy and well-functioning land and resource markets (U.S. Agency for International Development, 2010). At the same time, the recent political unrest at mines in Talas Province is likely to caution investors who intend to work in Kyrgyzstan (Minerjob.ru, 2010).

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TABLE 1
KYRGYZSTAN: PRODUCTION OF MINERAL COMMODITIES^{1,2}

(Metric tons unless otherwise specified)

Commodity	2006	2007	2008	2009	2010
METALS					
Antimony:					
Mine output, Sb content ^e	50	10	10	10	10
Metal and compounds	100	150 ^e	242	918	1,000 ^e
Gold, mine output, Au content kilograms	10,721	10,559	18,132	16,950	18,300 ^e
Mercury:					
Mine output, Hg content ^e	250	250	250	250	250
Metal kilograms	168,900	331,500	290,000 ^e	320,000	330,000 ^e
Molybdenum, mine output, Mo content ^e	250	250	250	250	250
INDUSTRIAL MINERALS					
Cement	1,059,900	1,229,500	1,218,100	579,400 ^r	600,000 ^e
Fluorspar, concentrate ^e	4,000	4,000	4,000	4,000	4,000
Kaolin ^e	400,000	400,000	400,000	400,000	400,000
Lime, dead-burned	9,900	12,900	8,700	4,700 ^r	7,800
Salt ^e	1,100	1,100	1,100	1,100	1,100
Sands cubic meters	514,800	597,900	836,200	800,000 ^e	850,000
MINERAL FUELS AND RELATED MATERIALS					
Coal:					
Bituminous	45,359	37,195	55,338	67,132	70,000 ^e
Lignite	275,784	358,338	437,263	535,239	550,000 ^e
Total	321,143 ^r	395,533 ^r	492,601 ^r	602,371 ^r	620,000 ^e
Natural gas thousand cubic meters	25,700 ^r	18,200 ^r	29,700 ^r	15,400 ^r	13,600 ^e
Petroleum, crude:					
In gravimetric units	70,900	68,500	71,000	77,300 ^r	85,000 ^e
In volumetric units ^e 42-gallon barrels	515,000	498,000	516,000	562,000	618,000
Uranium, processed:					
U content	NA	NA	1,097	2,574	NA
U ₃ O ₈ content	NA	NA	1,309	3,071	NA

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ^rRevised. NA Not available.

¹Table includes data available through March 20, 2012.

²In addition to the commodities listed, Kyrgyzstan is thought to produce a number of other mineral commodities, including clays, gypsum, sand and gravel, and silver, but available information is not adequate to estimate production.

TABLE 2
KYRGYZSTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2010¹

(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	Kadamzhay complex (ATF Invest, a subsidiary of ATF Bank of Kazakhstan, 70.4%), which included the Kadamzhay Mine and the Terek-Sayskiy Mine	Kadamzhayskiy Rayon	2,400 ²
	Khaydarkan mining and metallurgical complex	Khaydarkan region	
Metal and compounds	Kadamzhay metallurgical facility (ATF Invest, a subsidiary of ATF Bank of Kazakhstan, 70.4%)	Kadamzhayskiy Rayon	28,000
Cement	Kantskiy cement plant	Kant	1,500,000
Coal	Seven underground mines and five open pits among the following deposits: Almalyk, Dzhergalan, Kara-Kiche-Kok-Yangak, Kyzyl-Kiya, Sulyukta, and Tashkumyr	Southwestern, central, and northeastern parts of the country	2,200,000 ²
Fluorspar, concentrate	Khaydarkan mining and metallurgical complex	Khaydarkan deposit	5,000
Gold:			
Au content of ore	Kumtor Gold Co. (Centerra Gold Inc.)	Kumtor deposit	22
Do.	OAo KyrgyzAltyn	Makmal deposit	3
Do.	kilograms Solton-Sary Mine	Naryn	500
Do.	Talas Gold	Dzheryuy-Bashi, Pereval; Talasskay Oblast'	NA
Do.	Taldybulak Levoberezhny deposit	NA	NA
Au content of ore, open pit	Kyrgyzaltyn-Noroks Mining Company JV	Dzher-Uy deposit	NA
Au content of ore, underground	do.	do.	NA
Refined	Kara-Balta refinery	Chuskaya Oblast'	NA
Mercury:			
Hg content of ore	Khaydarkan mining and metallurgical complex	Khaydarkan and Novoye deposits	700 ²
Metal	do.	do.	1,000
Molybdenum, for nonmetallurgical uses	Kara-Balta mining and metallurgical complex	NA	NA
Do.	Molibden Joint Stock Co.	Chuskaya Oblast'	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 ²
Petroleum	do.	do.	150,000
Do.	Kyrgyz Petroleum Co.	Dzhalal-Abadskeya Oblast'	NA
Rare earths:			
Ore	Aktyuzskiy mining directorate	Kutessai II and Aktyuz-Boordu deposits	300,000
Rare-earth metals	Kyrgyz chemical and metallurgical plant	Orlovka	800
Silver	Karagoyskoye deposit	Oshskaya Oblast'	NA
Do.	Kumyshtag deposit	Talasskaya Oblast'	NA
Tin	Enil'chek JSC mining enterprise	Atdzhaylau deposit	150
Do.	do.	Trudovoye deposit	350
Do.	Tyanshanolovo mining and beneficiation complex	Sary-Dzhas field	NA
Do.	Uchkoshkon deposit	do.	NA
Tungsten	Enil'chek JSC mining enterprise	Atdzhaylau deposit	90
Do.	do.	Trudovoye deposit	95,600
Uranium, processed	Kara-Balta uranium mill (Renova Group)	Zarechnoye deposit, Chuskaya Oblast'	3,600
Do.	Linia Prava (LPU) (Nimrodel Resources, 100%)	Southern Fergana Valley, Batkenskaya Oblast'	NA

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

¹Many 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.

²Capacity estimates are totals for all enterprises that produce that commodity.