



2006 Minerals Yearbook

AFGHANISTAN

THE MINERAL INDUSTRY OF AFGHANISTAN

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The Afghan economy, including its industrial sector, continued to be dominated by agriculture in 2006. The country has received international economic assistance since 2001. In June 2006, the Government and the International Monetary Fund agreed on a Poverty Reduction and Growth Facility program for 2006-09 that would be focused on maintaining macroeconomic stability, boosting growth, and reducing poverty.

The mineral resources of Afghanistan were relatively underexplored from a global perspective. The country has extensive deposits of barite, chromite, coal, copper, gold, iron ore, lead, natural gas, petroleum, precious and semiprecious stones, salt, sulfur, talc, and zinc. Precious and semiprecious stones include high-quality emerald, lapis lazuli, and ruby. Ongoing instability in certain areas of the country, the country's remote and rugged terrain, and an inadequate infrastructure and transportation network have made mining these deposits difficult. Afghanistan's mining industry was using primitive methods and outdated equipment. The country had approximately 200 mines, some of which were still under the control of local warlords (Mining Journal, 2006b). Production data for mineral commodities were not readily available.

A new mining law was passed in 2005 and regulations were being developed to provide the framework for more formal exploration for and mining of minerals. The process of applying for mineral rights was also being revised. All minerals located on or under the surface are the exclusive property of the Government, except for hydrocarbons and water, which are regulated under separate laws. The principal role of the Government with respect to minerals is to promote the efficient development of the mineral industry by the private sector. The Ministry of Mines and Industries is responsible for the administration and implementation of the Mining Law. The Law provides investment security to the holder of a mineral right. The Government cannot expropriate mineral rights without adequate compensation in accordance with international norms. The Law also gives the mineral royalty rates, which range from 5% of gross revenue for industrial minerals to up to 10% for gemstones. Other changes in Government policy in 2006 included the legalization of the gemstone trade, Government control of the gemstone industry, and encouragement of investment in mining (Mining Journal, 2006b).

Commodity Review

Metals

Copper.—No copper mines were active in the country in 2006. In the past, copper had been mined from Hirat Province and Farah Province in the west, Kapisa Province in the east, and Kandahar Province and Zabul Province in the south. Current interest was focused on the Aynak, the Darband, and the Jawkhar prospects in southeastern Afghanistan. Copper mineralization at Aynak in Logar Province was stratabound

and characterized by bornite and chalcopyrite disseminated in dolomite marble and quartz-biotite-dolomite schists of the Loy Khwar Formation. Although a resource of 240 million metric tons at a grade of 2.3% copper had been reported, a number of small ore lenses were potentially not practically and economically minable. Open pit and underground mining would be needed to exploit the main ore body, and other infrastructure problems, such as inadequate power and water, were also likely. The new (2005) Mining Law might favor the development of the deposit by using public tenders. The Government issued a public tender for the deposit in 2006 with a deadline of October 28, 2006, and expected the granting of concessions in February 2007. Nine mining companies from Australia, China, India, and the United States were interested in the prospect (British Geological Survey, 2006b; Mining Journal, 2006a).

Gold.—Gold was mined from the Samti placer deposit in Takhar Province in the north by groups of artisanal miners. Badakhshan Province also had occurrences of placer gold deposits. The deposits were found on the western flanks of the mountains in alluvium or alluvial fan in several river valleys, particularly in the Anjir, the Hasar, the Nooraba, and the Panj Valleys. The Samti deposit is located in the Panj River Valley and was estimated to contain between 20 and 25 metric tons of gold. Alluvial gold also occurs near the Zarkashan skarn deposit in Ghazni Province (British Geological Survey, 2006d).

Iron Ore.—The best known and largest Hajigak iron oxide deposit in Afghanistan is located in Bamyān Province where the ore occurs in both primary and oxidized states. The primary ore accounts for 80% of the deposit and consists of magnetite, pyrite and minor chalcopyrite. The remaining 20% is oxidized and consists of three hematitic ore types. The deposit remained unmined in 2006. The presence of coking coal nearby at Shabashak in the Dar-l-Suf District and large iron ore resources made the deposit viable for future development. Open pit mining and blast furnace smelting operations were envisioned by an early feasibility study (British Geological Survey, 2006c).

Industrial Minerals

Gemstones.—Afghanistan is known to have exploited its precious and semiprecious gemstone deposits. These deposits include aquamarine, emerald, fluorite, garnet, kunzite, ruby, sapphire, semiprecious lapis lazuli, topaz, tourmaline, and varieties of quartz. The four main gemstone-producing areas are those of Badakhshan, Jegdalek, Nuristan, and the Panjshir Valley. Artisanal mining of gemstones in the country used primitive methods. Some gemstones were exported illicitly, mostly to India (which was the world's leading import market for colored gemstones and an outlet for higher quality gems) and to the domestic Pakistan market (British Geological Survey, 2006a).

Mineral Fuels

Petroleum and Natural Gas.—The U.S. Geological Survey and the Ministry of Mines and Industries jointly assessed the oil and gas resources in northern Afghanistan. The estimated mean volumes of undiscovered petroleum were 1,596 million barrels (Mbbbl) of crude oil, 444 billion cubic meters of natural gas, and 562 Mbbbl of natural gas liquids. Most of the undiscovered crude oil occurs in the Afghan-Tajik Basin and most of the undiscovered natural gas is located in the Amu Darya Basin. These two basins within Afghanistan encompass areas of approximately 515,000 square kilometers (U.S. Geological Survey, 2006).

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