



2015 Minerals Yearbook

AFGHANISTAN [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF AFGHANISTAN

By Karine M. Renaud

Afghanistan has a wide range of mineral resources, including metals, industrial minerals, and mineral fuels and related materials. In recent years, deterioration of the security situation, political uncertainty, and a lack of infrastructure had prevented the country's development of most of these resources. In 2015, the minerals mined in Afghanistan included aragonite, chromite, coal, fluor spar, gypsum, lime, marble, natural gas, petroleum, salt, and precious and semiprecious stones. The mineral-processing industry produced cement and iron and steel (table 1; International Monetary Fund, 2016, p. 4).

Minerals in the National Economy

Afghanistan's real gross domestic product (GDP) increased by 0.8% in 2015 compared with an increase of 1.3% (revised) in 2014; the nominal GDP was \$19.00 billion. The rate of decrease was owing to ongoing challenges, such as political instability, the uncertain security situation, the withdrawal of North Atlantic Treaty Organization (NATO) troops from the country, inadequate infrastructure, and a delay in the execution of the Federal budget, which might have affected the economic development of the country. According to the Central Statistics Organization, mining and quarrying revenue increased by 4% to \$32.04 million (AFN2.03 billion)¹ in 2015 from \$30.78 million (AFN1.84 billion) in 2014 and accounted for less than 1% of the GDP in 2015. The value of industrial sector output accounted for 32% of the GDP in 2015. The value of construction sector output decreased by 55% in 2015 from that of 2014 owing to the security situation (Central Statistics Organization, 2015d, p. 178–179, 191; World Bank, The, 2015; International Monetary Fund, 2016, p. 4).

Afghanistan relied heavily on international assistance to meet its basic expenses. Funds received from international donors for development in Afghanistan were estimated to total \$3.7 billion in 2015 compared with \$4.0 billion in 2014. The main donor agencies and countries were the U.S. Agency for International Development (USAID) (which contributed \$1.1 billion), Denmark (\$535 million), Germany (\$364 million), the European Union (\$339 million), Japan (\$323 million), the World Bank (\$253 million), the Asia Development Bank (\$154 million), Canada (\$108 million), the Republic of Korea (\$106 million), and Australia (\$103 million) (Central Statistics Organization, 2016, p. 272–273, 287–288).

During the year, several Canadian companies discussed with the Government a possible \$8 billion investment in the country, which would include the construction of a hydropower dam in Faryab Province, extraction of gas and petroleum in Sheberghan City, construction of a cement plant in Samangan Province, construction of an iron plant and extraction of coal

in Takhar Province, and mining for gemstones in Badakhshan Province (Global Cement, 2015a).

Government Policies and Programs

The Ministry of Mines and Petroleum (MOMP) is the main entity responsible for the administration of mining policy and for oversight and regulation of the mining sector, including mineral exploration and exploitation. The MOMP has several subagencies, including the Afghanistan Geological Survey (AGS), the Afghanistan Petroleum Authority, and the Inter-Ministerial Committee. The Mining Revenue Management Policy ensures that the revenue generated from mining is allocated to designated sectors. The Mineral Cadastre Department accepts and processes applications for mineral rights, coordinates their technical and environmental evaluation, processes renewals, and collects application and surface right fees. The Afghan National Environmental Protection Agency (NEPA) certifies mine operations according to the country's environmental laws (Humayoon, 2013, p. 2, 10; Popal, 2014, p. 5, 6; Global Witness, 2015a).

The Mining Law of Afghanistan is composed of the Minerals Law of 2014 and the Mining Regulations of 2009. In 2011, amendments to the Minerals Law of 2005 were drafted by the MOMP. The amendments were approved by the President of Afghanistan and then passed by the Parliament in the fourth quarter of 2014. In 2015, Global Witness Ltd. and a board of other Afghan and international civil organizations submitted proposed amendments to the Minerals Law of 2014 to the Government, which included adding new articles intended to ensure transparency of mining data and mines ownership, as well as amendments to existing articles related to community monitoring of and consultation regarding the types of licenses issued, the granting process and authorities, and policy regarding the procurement of local goods and services (Humayoon, 2013, p. 7; Popal, 2014, p. 5, 6; Zaheer, 2014; Global Witness, 2015a).

In 2015, the USAID continued with implementation of a 4-year Assistance in Building Afghanistan by Developing Enterprises (ABADE) 2012–2017 program. Through this program, the USAID worked with the private sector in the country to increase the production and rate of employment at enterprises, to increase domestic and foreign investment in businesses, and to increase sales of products. The program was scheduled to end in 2017 (U.S. Agency for International Development, 2012; 2014a, p. 2–3; 2016).

Production

According to the Central Statistics Organization, the MOMP Cadastre Department, and the Afghan Gas Department, Afghanistan's production of cement decreased by 49%; marble, by 47%; coal, by 43%; rock salt, by 40%; nitrogen (N content of

¹Where necessary, values have been converted from Afghanistan afghani (AFN) to U.S. dollars (US\$) at an average annual exchange rate of AFN68.35=US\$1.00 for 2015 and AFN58.24=US\$1.00 for 2014.

ammonia), by 35%; gypsum, by 33%; precious stones, by 31%; lime, by 30%; and natural gas, by 8%. Production of aragonite increased by 220% (table 1; Central Statistics Organization, 2015c, p. 171).

Structure of the Mineral Industry

Such mineral resources as chromite, coal, gypsum, lime, marble, natural gas, precious and semiprecious stones, salt, and talc continued to be exploited through artisanal and small-scale mining, and more than 80% of these resources were controlled by local warlords and the insurgents. According to the Afghanistan Natural Resources Monitoring Network, there were about 2,000 illegal mines across Afghanistan. Local warlords, the insurgents, and local people continued to mine natural resources illegally in the Provinces of Badakhshan, Ghazni, Helmand, Kandahar, Khost, Logar, Paktya, Sar-e Pul, Wardak, and Zabul, smuggle them outside the country, and gain revenue for their activities. The insurgents controlled gold-mining operations in Raghistan District in the northern part of Badakhshan Province, and the group was trying to take control of areas rich in minerals, including southern Helmand Province (chromite), northeastern Badakhshan Province (gold), eastern Kunar Province (precious stones), and Nuristan Province (precious stones) (table 1; Pajhwok Afghan News, 2005; Mohammadi, 2015; Zhanmal, 2015; Najafizada, 2015; United Nations, 2015, p. 5, 14–15; International Monetary Fund, 2016, p. 4). Table 2 is a list of major mineral facilities operating in 2015.

Commodity Review

Metals

Chromium.—In 2015, the Government terminated mining contracts with two foreign companies for chromite mines in Logar Province. Most of the chromite deposits occur in Logar, Paktya, and Parwan Provinces. On May 18, 2010, a mining contract was signed between the MOMP and Hewad Brothers Mining Co. (HBMC) for a chromite deposit with an area of 54 square kilometers (km²) in the Gadakhil area of Kohisafi District in Parwan Province. As a part of the terms of the contract, the company was expected to construct a road from the chromite deposit to the main road and to establish a plant for chromite processing within Afghanistan. The HBMC agreed to pay a 26% royalty to the Government. As of 2015, HBMC had submitted an exploration and exploitation plan, but the plan had not been approved by the Government (table 1; Ministry of Mines and Petroleum, 2014a, b; Azizi, 2015).

Copper.—In 2015, copper production at the Aynak project continued to be delayed as a result of insurgent attacks and tightened control over the area around Aynak, the absence of railroads to get metal out of the country, the need to clear the area of Soviet land mines (which, according to the MOMP, was expected to be completed by the end of 2015), the presence of an archaeological site in the area of Mes Aynak, and a lack of phosphate rock for the smelting operations. The Aynak copper project, which was a large-scale project in Afghanistan, was awarded to Jiangxi Copper Co. Ltd. (JCL) of China.

JCL was the minor shareholder in the Metallurgical Corporation of China Ltd. (MCC)–JCL Consortium, which was a joint venture between MCC and JCL. Aynak's copper resources were estimated to be 690.8 million metric tons (Mt) at a grade of 1.6% copper and to contain 11.3 Mt of copper. The consortium established MCC–JCL Aynak Minerals Co. Ltd. (MCC–JCL) to oversee contractual commitments related to the Aynak copper project. In July 2015, MCC and the MOMP discussed amendments to the Aynak mining contract. MCC was demanding the right to reduce its commitment, such as building the powerplant, smelter, and railway. The MOMP requested that MCC complete the feasibility study, start development of the mine and construction of related infrastructure, and begin production of copper, but not to contaminate the surrounding environment and communities (Taylor and others, 2011, p. 50; Global Witness Ltd., 2012, p. 5; Daniel and Harooni, 2015; Metallurgical Corp. of China Ltd., 2015, p. 33; Special Inspector General for Afghanistan Reconstruction, 2015a, p. 174).

In 2015, the two copper-gold prospects tendered in 2011—the Shaida porphyry copper prospect and the Balkhab copper prospect—were under reassessment by the MOMP owing to a lack of transparency in the award process under the previous Government. The Shaida porphyry copper prospect in Herat Province had an exploration area of 250 km² and estimated, inferred, and possible resources of 4.8 Mt at a grade of 1.0% copper. The Afghan Mineral Group was the winning bidder for the Shaida porphyry copper prospect. Afghan Gold and Minerals Co., which was owned by Afghan Krystal Natural Resources (51%) and Afghan Gold Holdings [Guernsey (United Kingdom)] (49%), was the winning bidder for the exploration rights to the Balkhab copper prospect. The resources of the Balkhab copper prospect (a volcanogenic massive sulfide deposit with an exploration area of 210 km² in Sar-e Pol Province and 247 km² in Balkh Province) were estimated to be about 100 Mt (Rigby, 2011, p. 13, 16, 18; Ministry of Mines and Petroleum, 2012a, b; 2013; Special Inspector General for Afghanistan Reconstruction, 2015b, p. 161).

Gold.—In 2015, Afghanistan imported 46 kilograms (kg) of gold. In 2015, the Government contract with the joint venture of Sterling Mining Co. of Afghanistan and Belhasa International Corp. L.L.C. of the United Arab Emirates for the Zarkashan copper-gold prospect, which was tendered in 2011, was canceled owing to the lack of security in the area. In 2015, the Badakhshan gold prospect was under reassessment by the MOMP owing to a lack of transparency in the award process under the previous Government. The Turkish-Afghan Mining Co., which was a joint venture of Eti Gümüş S.A. of Turkey (51%) and Afghan Gold and Minerals Co. of Afghanistan (49%), was the winning bidder for the Badakhshan gold prospect in Badakhshan Province. The Badakhshan gold prospect is a quartz-vein deposit with four licensed exploration areas of 250 km² each. Of these four areas, the Veka Dur gold prospect had indicated or probable and inferred resources grading 4.1 grams per metric ton gold and containing 960 kg of gold (Peters and others, 2011, p. 168; Rigby, 2011, p. 13, 16, 18; Ministry of Mines and Petroleum, 2012b; Central Statistics Organization, 2015b, p. 110; Pajhwok Afghan News, 2015;

Special Inspector General for Afghanistan Reconstruction, 2015b, p. 161).

Iron and Steel.—In 2015, medium-sized companies continued to be funded by the USAID’s ABADÉ program. Domestic iron scrap was used by most of the steel companies in Afghanistan to produce crude steel. In 2015, the crude steel production totaled 2,826 metric tons (t) compared with 24,000 t in 2014. Production of pig iron totaled 5,030 t in 2015 compared with 9,009 t in 2014. The steel manufacturing companies in Afghanistan were Sino-Afghan Steel Co., which was owned and operated by the Watan Group, and the Maisam Steel Mill, which operated a steel plant in Pul-e-Charkhi with a production capacity of 36,500 metric tons per year (t/yr). The Maisam Steel Mill used scrap to produce steel construction material and employed 200 workers (table 2; U.S. Agency for International Development, 2014b; Central Statistics Organization, 2015c, p. 163).

In 2015, a consortium of companies from India decided not to pursue any further negotiations on the Haji-Gak project, which is located in Bamyan Province and extends into Parwan and Wardak Provinces, owing to the uncertainties regarding Afghanistan’s mining laws, the spread of insurgents’ control close to the proposed project and steel mill site, and the absence of infrastructure for transporting the iron ore. The consortium had originally proposed to invest \$10.8 billion to develop three blocks at Haji-Gak (another block was awarded to Kilo Goldmines Ltd. of Canada), which would include the development of three iron ore mines and the construction of a 6-million-metric-ton-per-year (Mt/yr)-capacity steel plant; however, in 2014, the consortium decreased the proposed capacity of the steel plant to 1.2 Mt/yr and reduced its proposed total investment to \$1.5 billion. Kilo Goldmines (25%) and an Indian consortium led by Steel Authority of India Ltd. (SAIL) (75%) were awarded a mining contract for the Haji-Gak deposit in 2011 (Renaud and others, 2011, p. 451, 460; Sutphin and others, 2011, p. 570, 579; Das, A.K., 2014, 2015; Das, K.N., 2014; Special Inspector General for Afghanistan Reconstruction, 2015a, p. 174).

Industrial Minerals

Cement.—In 2015, cement production decreased to 52,629 t from 102,276 t owing to power shortages and to a decrease in demand following the withdraw of NATO troops, which affected infrastructure development in Afghanistan. In 2015, Afghanistan imported 3.4 Mt of cement. Pakistan’s cement exports to Afghanistan decreased by 24% during the first 9 months of 2015. In 2015, the Ghorī I cement plant in Baghlan Province, which was the only operational cement plant in the country, reported some decrease in cement production owing to power shortages. It was a two-kiln operation with a design capacity of 144,000 t/yr of clinker. In 2014, the MOMP initiated the Cement Production Facilities Tender (CPFT), which included three tender projects—Ghorī III, Herat, and Jabal-e Saraj; however, the Ghorī III project was withdrawn. The objectives of the CPFT were to mine the raw material for cement plants, construct and operate new cement production facilities, supply power to the cement plants, and pay royalties. In 2014, the

winning bidder for the Jabal-e Saraj cement factory in Parwan Province was Lego Afghan Logistic Service. Jabal-e Saraj, which was a one-kiln operation, had the potential to produce up to 36,000 t/yr of clinker; however, it had not produced cement for some years. The winning bidder for the Herat plant in Herat Province had not been determined by the year’s end (Global Cement, 2013, 2015b; CemNet.com, 2014a, b; Marx Group, The, 2014; Mossotti, 2014, p. 20–22; AT Monitoring Desk, 2015; Central Statistics Organization, 2015b, p. 121).

Fluorspar.—Amania Mining Co. was established in 2010 and was involved in exploration, development, mining, and processing of the Bakhud fluorite deposit in Kandahar Province. In 2013, Amania Mining began exploring the Bakhud fluorite deposit, validating Soviet data, updating geologic maps, and collecting data. The deposit was divided into four blocks—northern, southern, eastern, and western. Exploration of the deposit was completed in 2014; the reserves for all four blocks combined were estimated to be 8.8 Mt at a grade of 47% CaF₂ and containing 4.1 Mt of fluorite. The fluorite was extracted from an open pit mine. The pilot metallurgical processing plant was designed in August 2014 and was fully commissioned by December 2014; it had a minimum capacity of 36,000 t/yr and a maximum capacity of 60,000 t/yr. In 2014, Amania Mining produced 20,000 t of fluorspar, and the produced material was shipped to other countries through Pakistan. Amania Mining was expected to increase production to 100,000 t/yr of acidspars and metspars in 2015; however, the actual production amount in 2015 was not available (Amania Mining Co., 2014, p. 2, 4, 7, 16, 26, 32, 43; 2015; Miller, 2015; PR Newswire, 2015).

Gemstones.—In 2015, gemstones continued to be smuggled to Pakistan, and the value of the smuggled material was estimated to be \$267 million. Gemstone mining in Afghanistan started 6,500 years ago and continues to the present time. In 2015, precious and semiprecious stones were produced in Afghanistan and 2,721 t of lapis lazuli was exported. A total of 32 million grams of precious stones was produced in 2015 and included emerald, ruby, and sapphire. A total of 5.0 million kilograms of semiprecious gemstones was produced in 2015 and included aquamarine, garnet, kunzite, lapis lazuli, and tourmaline. According to the Monitoring Team within the Afghan National Defense and Security Forces, in 2015, two of three roads to the lapis lazuli mine in Badakhshan Province were under the control of the insurgent group, which would be able to demand payment for transporting lapis lazuli from the mine. The Government postponed the renewal of mining licenses for lapis lazuli owing to a dispute between the previous owner of the mine and the Government. The same issue was facing the tourmaline mine at Deodarra in Jurm District. There were three lapis lazuli mines in Badakhshan Province—in Jurm District, in Kuran Wa Munjan District, and in Zebak District; however, none of the mines held valid licenses issued by the MOMP (table 1; British Geological Survey, 2014; Central Statistics Organization, 2015a, p. 178; Global Witness, 2015b, p. 6; Mohammadi, 2015; United Nations, 2015, p. 14).

Outlook

Development of Afghanistan's mining sector could contribute at an enhanced level to economic growth for the country. The Government continued to try to develop mineral resources by attracting foreign investment in the country's mineral industry and implementing changes in the Mineral Law to improve and strengthen Government transparency and accountability. Afghanistan might be far away from being able to develop its mining sector sustainably because of several factors, including the uncertain security situation, political uncertainty, and inadequate infrastructure. One of the largest mineral sector projects in Afghanistan, the Aynak copper project, might eventually cease operating, and the Haji-Gak iron ore project was stalled. Illegal mining and insurgents' control of the mining sites will likely continue to be critical challenges for mineral sector development for the near future.

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TABLE 1
AFGHANISTAN: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2011	2012	2013	2014	2015	
METALS						
Chromite	6,000	6,000	3,309	6,369	6,400 ^c	
Iron and steel, metal:						
Steel, crude	--	--	24,580	24,000	2,826	
Pig iron	--	--	9,000	9,009	5,030	
INDUSTRIAL MINERALS						
Aragonite	NA	NA	NA	1,000	3,200	
Cement, hydraulic	38,000	37,000	52,000	102,276	52,659	
Fluorspar	--	--	--	20,000	20,000 ^c	
Gypsum	62,000	57,000	57,000	60,000 ^c	40,000	
Lime	128,000	130,000	130,000	127,000	89,000	
Nitrogen, N content of ammonia	27,000	50,000	76,000	60,000	39,000	
Salt, rock	186,000	147,000	112,600 ^r	112,400 ^r	67,000	
Gemstones:						
Precious	grams	NA	NA	NA	46,200,000 ^{r,3}	3,190,000
Semiprecious	kilograms	NA	NA	NA	4,700,000 ³	5,000,000 ^c
Stone, marble		29,000	45,000	103,000 ^r	101,000 ^r	53,700
MINERAL FUELS AND RELATED MATERIALS						
Coal, bituminous	750,000	780,000	936,000	233,000	132,000	
Natural gas:						
Gross	thousand cubic meters	142	161	155	160	147
Marketed	do.	142	145	141	140 ^c	129
Petroleum, condensate	42-gallon barrels	70,000	80,000	68,000	67,000	64,000

^cEstimated data are rounded to no more than three significant digits. ^rRevised. do. Ditto. NA Not available. -- Zero.

¹Table includes data available as of July 30, 2016.

²Aluminum, barite, gold, sand and gravel, and talc were produced by artisanal miners, but available information was inadequate to make reliable estimates of output.

³Sum of the data that were reported from January 1, 2014, to December 29, 2014.

Source: Central Statistics Office; Ministry of Mines and Petroleum Cadastre Department and Afghan Gas Department.

TABLE 2
AFGHANISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum, secondary:			
Extrusion and powder coating	Qader Najib Ltd.	Kabul	NA
Manufactured	Salam Bilal Ltd.	Kandahar Province	360
Do.	Javed Waziri PVC and Aluminium Production Ltd.	Pol-e-Charkhi, Kabul	NA
Do.	Khalil Najeeb Steel Mills Ltd.	Bagrami industrial area, Kabul	36,000
Cement	Ghori I [Afghan Cement L.L.C. (subsidiary of Government-owned Afghan Investment Co.)]	Pul-e-Khomri, Baghlan Province	144,000
Do.	Ghori II [Afghan Cement L.L.C. (subsidiary of Government-owned Afghan Investment Co.)]	Pul-e-Khomri, Baghlan Province ¹	360,000
Do.	Herat cement plant	Herat Province ¹	21,000
Do.	Jabal-e Saraj cement plant	Parwan Province ¹	37,000
Coal	Ashpostah Mine	Bamyan Province	160,000
Do.	Abkhorak Mine (Meesaq Sharq Ltd.)	Samangan Province	60,000
Do.	Dara-e-Suf (Khushak Brothers Co.), and Roe-e Duab and Tala Barfak Mines (North Coal Enterprise)	Samangan and Badakhshan Provinces	1,214,000
Do.	Karkar and Dudkash Mines [Afghan Coal L.L.C. (subsidiary of Government-owned Afghan Investment Co.)]	Baghlan Province	164,000
Do.	Sabzak Mine (Khushak Brothers Co.)	Herat Province	15,000
Do.	Maloma coal mine (Arya Popal Co.)	Karkh District, Herat Province	NA
Fluorite	Amania Mining Co.	Bakhud fluorite Mine in Kandahar Province	60,000
Gemstones:			
Lapis lazuli	Sar-e-San (Ljewardeen Mining Co.)	Sar-e-Sang, Kuran Wa Munjan District, Badakhshan Province	NA
Do.	NA	Jurm District, Badakhshan Province	NA
Do.	NA	Zebak District, Badakhshan Province	NA
Tourmaline	NA	Deodarra, Jurm District	NA
Gold kilograms	West Land General Trading L.L.C.	Nooraba Mine, Takhar Province	4,745
Gypsum	Massoud Aryaie Trading Co.	Baghlan Province	2,000
Do.	Samar Naweed Co.	Balkh Province	2,000
Natural gas cubic meters	Afghan Gas Ltd. (Government-owned)	Jawzjan	70,000
Do. do.	do.	Sheberghan	14,000
Oil and gas	Dragon Oil plc, 40%; Türkiye Petrolleri A.O., 40%; Ghazanfar Group, 20%	Sanduqli and Mazar-i-Sharif blocks	NA
Petroleum, condensate 42-gallon barrels	Kam International	Hairatan oil refinery, Hairatan Town, Balkh Province	186,000
Salt	Daulatabad Salt Mine	Faryab Province	100,000
Do.	Westco International FZE	Kalfagan Mine, Kalfagan area, Takhar Province	500,000
Do.	do.	Taqchakhana Salt Mine, Namak Aab District, Takhar Province	100,000
Sand and gravel	Abdul Rahim (Son of Sad Uddin)	Herat Province	75,000
Do.	Sahar Pairaze Construction Co.	Kabul Province	25,000
Do.	Meyad Mskan Construction Co.	do.	25,000
Do.	Najeebullha Son of Haji Meer Mohammad	Baghlan Province	10,000
Stone, marble square meters	Equity Capital Group	Herat Province	150,000
Do.	Mohammad Aziz (son of Mohammad Omar)	do.	28,000
Do.	Takht Rustam Stone Transportation Co.	Samangan Province	3,000
Steel, crude	Afghan Folad Steel Mill Corp. Ltd.	Herat Province	29,000
Do.	Maisam Steel Mill	Pul-e-Charkhi, Kabul	36,500
Do.	Sino-Afghan Steel Co. (owned by Watan Group)	Kabul	NA
Talc	Amin Karimzai Ltd. and HZM Marmi e Pietre Ltd.	Khogyani and Shinwari Districts, Nangarhar Province	640,000

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

¹Not active