



2022 Minerals Yearbook

IRAN [ADVANCE RELEASE]

U.S. Geological Survey, Reston, Virginia: 2025

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World rankings for mineral production, shares of world production, and reserves presented in this chapter are derived from the referenced sources. Production data in this chapter may differ from data in other sources because of differences in the date of reporting.

THE MINERAL INDUSTRY OF IRAN

By Iman Salehi Hikouei

In 2022, Iran was the world's second-ranked producer of direct-reduced iron (DRI), mined gypsum, and strontium (tied with Spain), accounting for 25.8%, 10.6% (estimated), and 32.3% (estimated) of the world's output, respectively; the fourth-ranked producer of feldspar, 7.1% (estimated); the sixth-ranked producer of iron ore (Fe content) and kaolin, 3.0% and 3.9%, respectively; the seventh-ranked producer of barite (excluding United States production), bentonite and molybdenum, 2.8%, 3.7%, and 1.4% (estimated), respectively; and the eighth-ranked producer of cement, 1.5% (estimated). The country was the world's third-ranked producer of natural gas after the United States and Russia, accounting for 6.3% of world output, and the eighth-ranked producer of crude petroleum and condensate, accounting for a combined 4.0% of world output (table 1; Energy Institute, 2023, p. 17; Midrex Technologies Inc., 2023, p. 8; Organization of the Petroleum Exporting Countries, 2023, p. 79; Crangle, 2024; Hatfield, 2024a, b; Londono, 2024; McRae, 2024; Polyak, 2024; Simmons, 2024; Tuck, 2024).

In 2022, Iran held the world's largest barite and feldspar reserves, the eighth-largest fluor spar reserves, and the eighth-largest iron ore reserves (Fe content). The country was a member of the Organization of the Petroleum Exporting Countries (OPEC). According to OPEC, Iran had the world's second-largest natural gas reserves after Russia by yearend 2022 (Barry, 2023; McRae, 2023a, b; Organization of the Petroleum Exporting Countries, 2023, p. 7, 76; Tuck, 2023).

Minerals in the National Economy

In 2022, Iran's nominal gross domestic product (GDP) was estimated to be \$346.5 billion. The country's real GDP increased by 3.8% in 2022 compared with an increase of 4.7% in 2021. The GDP growth in recent years was due to increased hydrocarbon prices. The country's average crude petroleum price increased to \$68 per barrel in 2021 and to \$96 per barrel in 2022 compared with \$40 per barrel in 2020. The value of mining sector activities increased by 2.8% in 2022 compared with a decrease of 0.4% in 2021. The number of the country's active mines increased to 6,025 in 2022, or by 4.2% compared with the number in 2021, and employment in the mining sector increased by 8.3% to 130,358 people, accounting for less than 1% of the total employment of the country (Fars News Agency, 2023b; International Monetary Fund, 2023; Organization of the Petroleum Exporting Countries, 2023, p. 16, 67; Statistical Center of Iran, 2023, p. 9).

Government Policies and Programs

The Ministry of Industry, Mine, and Trade is responsible for issuing mining and quarrying permits and promoting investment opportunities in the mineral sector. The Government-owned holding company Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO) is

responsible for the formulation and implementation of the country's policies on mineral exploration and mining, mine and plant construction and development, and mineral production royalty rates. The Mining Act of 1998 and amendments to the Mining Act of 2013 govern the activities of the mineral sector in Iran (Iran Ministry of Industry, Mine, and Trade, 2015, undated; Iranian Mines and Mining Industries Development and Renovation Organization, undated).

Production

Notable increases in Iran's mineral production in 2022 compared with production in 2021 were those for coal (metallurgical), which increased by 75%; smelter zinc (primary), by 53% (estimated); refinery lead (primary), by 21% (estimated); mined molybdenum (Mo content), by 19%; bentonite, by 18% (estimated); urea (N content), by 15% (estimated); primary aluminum, by 13%; and ammonia (N content), by 10%. Notable decreases in production included that of mined manganese (Mn content), which decreased by 28% (estimated); bauxite, by 17%; copper (smelter, secondary), by 16%; ferrochromium, by 12% (estimated); and copper (refinery, secondary), by 12%. Data on mineral production are in table 1.

Structure of the Mineral Industry

The Government controlled most large-capacity mineral companies through IMIDRO. The leading IMIDRO subsidiaries were Iran International Engineering Company; Iran Minerals Production and Supply Co. (IMPASCO); IRASCO; Mehdiabad Barite, Lead, and Zinc Complex; Mobarakeh Steel Co. (MSC); National Iranian Copper Industries Co. (NICICO); and South Aluminum Industries Complex (SALCO) (Iranian Mines and Mining Industries Development and Renovation Organization, 2023b; undated).

Ghadir International Industries and Mines Development Co., owned by Ghadir Investment Group, was established in 2011 to develop exploration, production, and processing of metallic and nonmetallic minerals. The Middle East Mines & Mineral Industries Development Holding Co. (MIDHCO) was established in 2007 to develop Iran's mining and industrial sectors through managing and investing in companies involved in exploration, mining operations, and mineral processing (Ghadir International Industries and Mines Development Co., 2023; Middle East Mines Industries Development Holding Co., 2023a, p. 11, 16; 2023b).

The Ministry of Petroleum oversaw large petroleum and natural gas companies in the country, including National Iranian Oil Co. (NIOC), which was responsible for exploration and production of crude petroleum and natural gas. The Atomic Energy Organization of Iran (AEOI) was engaged in the exploration, mining, and treatment of uranium (Atomic Energy Organization of Iran, 2023; Kafaee Ghasempour, 2023). Table 2 is a list of major mineral industry facilities.

Mineral Trade

Iran's exports increased to about \$53.1 billion in 2022 from \$48.4 billion in 2021. Petroleum exports increased to \$42.6 billion in 2022 from \$25.5 billion in 2021 mainly owing to the increase in petroleum prices and production. Iran's crude petroleum export price increased by 42% to \$96.3 per barrel in 2022 from that in 2021. Nonfuel mineral exports decreased in value by about 7.6% in 2021 owing to challenges in the energy supply, particularly supplies of gas and electricity. The country's total nonfuel exports amounted to \$12.2 billion in 2022, which included exports of steel (valued at \$5.8 billion), copper (\$1.6 billion), aluminum (\$973.3 million), iron ore pellet (\$626.3 million), zinc (\$597.0 million), coal and coke (\$453.7 million), cement (\$343.2 million), sponge iron (\$206.1 million), stone products (\$199.7 million), molybdenum (\$111.1 million), iron concentrate (\$90.0 million), ferroalloys (\$81.6 million), and lead (\$80.2 million). In 2022, the country's exports were destined for China (27.4%), Iraq (19.3%), Turkey (14.0%), the United Arab Emirates (10.9%), India (4.0%), and other countries (24.4%). Iran's top mineral exports to China were petrochemical products valued at \$3.5 billion; copper products, \$793.3 million; such mineral commodities as cement, lime, mineral salts, and sulfur, \$374.4 million (combined); iron and steel, \$285.3 million; aluminum products, \$133.8 million; and building materials, including marble, travertine, and granite, \$85.5 million (Enigma Investing, 2023; Ministry of Foreign Affairs, 2023; Organization of the Petroleum Exporting Countries, 2023, p. 18, 67; Tasnim News Agency, 2023).

Iran's total imports increased to \$59.6 billion in 2022 from \$52.9 billion in 2021. Imports of nonfuel minerals were valued at about \$5 billion in 2022, which was a 27.5% increase from those in 2021. In 2022, the countries of origin for Iran's imports were the United Arab Emirates (30.8%), China (26.4%), Turkey (10.2%), India (4.8%), Germany (3.4%), and other countries (24.4%) (Enigma Investing, 2023; Tasnim News Agency, 2023).

Commodity Review

Metals

Bauxite and Alumina, and Aluminum.—In 2022, Iran's production of bauxite decreased to 571,680 metric tons (t) from 689,149 t (revised) in 2021, and that of alumina, to 225,942 t from 230,000 t (estimated). These decreases were due to a shortage of electricity at the production facilities. Iran's bauxite reserves were 40 million metric tons (Mt) in 2022. The country's production of primary aluminum increased to 632,166 t in 2022 from 559,647 t in 2021. From March 21, 2022, to March 20, 2023, SALCO produced 270,185 t of primary aluminum; Iranian Aluminium Co., 178,077 t; Almahdi Aluminium Co., 147,749 t; and Iran Alumina Co., 36,155 t. Iran's aluminum and alumina production capacities were 827,000 metric tons per year (t/yr) and 280,000 t/yr, respectively. In 2022, Iran Alumina's new 40,000-t/yr production line started producing aluminum at the Jajarm Aluminum Complex in North Khorasan Province (tables 1, 2; Gereft, 2023; Iranian Mines and Mining Industries Development and Renovation Organization, 2023a; Tehran Times, 2023a).

Copper.—Iran's production of mined copper (Cu content) increased to 322,000 t in 2022 from 315,900 t in 2021. Copper concentrate production was mainly from the Sarcheshmeh copper complex, which produced 729,000 t in 2022; the Sungun Mine, 334,000 t; and the Meiduk Mine, 153,000 t. Iran's copper ore reserves increased to 19.2 billion metric tons (Gt) in 2022 from 17.2 Gt in 2021 owing to new discoveries such as the Seridoon deposit in Kerman Province. The Sarcheshmeh copper complex started an expansion project in 2018 to increase copper concentrate production by 70,000 t/yr through the flotation process from copper slag. The project was expected to be completed in 2023. The Dar Aloo project in Kerman Province, owned by NICICO, reached its final phase of construction in 2022. Once completed (expected in 2023), the project would have a production capacity of 100,000 t/yr of copper concentrate grading 24.5% copper (table 1; Iranian Mines and Mining Industries Development and Renovation Organization, 2022b; 2023d, j; Non-ferrous Metals and Mines Trading Services Co., 2023; Tabnak News Agency, 2023).

Gold.—Iran's gold production was 7,000 kilograms (kg) in 2022, which was unchanged from that in 2021 and 2020. Zarshouran Gold Mine and Mining Industries Development Co., which was located 31 kilometers (km) northeast of Takab in West Azerbaijan Province and wholly owned by IMIDRO, was the leading gold producer in 2022. The company produced 941 kg of mined gold (Au content) in 2022, which was approximately the same amount as in 2021. In 2022, Pars Tamin Mines Development Co. (a subsidiary of Social Security Investment Co.) discovered the Anjirak gold deposit in Taftan in Sistan va Baluchestan Province. The project which was owned by Pars Tamin had proven and probable and proven gold ore reserves of 24 Mt and 49 Mt, respectively (tables 1, 2; Fars News Agency, 2022; Iranian Mines and Mining Industries Development and Renovation Organization, 2023i, p. 3; 2023j; Iran Minerals Production and Supply Co., 2023, p. 42, 49, 65).

Iron and Steel.—Iran's production of DRI decreased to 31.7 Mt in 2022 from 31.9 Mt in 2021. The Gha'nat steel complex, which was owned by IMIDRO and located in Khorasan Jonoubi Province, began producing DRI in 2022 and had a production capacity of 800,000 t/yr of DRI. The complex employed 400 people and produced 560,000 t of DRI in 2022 (tables 1, 2; Fars News Agency, 2023a).

Iran's production of raw steel increased to 30.4 Mt in 2022 from 27.9 Mt in 2021. The increase was due primarily to improvements in electricity supply management for steel plants. The top four raw steel producers in Iran were MSC, which had a production capacity of 7.2 million metric tons per year (Mt/yr); Khouzestan Steel Co. (KSC), 3.8 Mt/yr; Esfahan Steel Co. (ESCO), 3.6 Mt/yr; and South Kaveh Steel Co. (SKS), 2.4 Mt/yr. MSC's raw steel production increased to 7.21 Mt in 2022, or by 7.4% compared with that in 2021; KSC, to 3.58 Mt, or by 7.8%; ESCO, to 2.59 Mt, or by 8.3%; and SKS, to 1.43 Mt, or by 7.6%. The country's production of billet increased by 14.0% to 9.3 Mt; ingot, by 15.5% to 51,900 t; and slab, by 4.4% to 11.5 Mt; the production of rebar decreased by 6.1% to 2.8 Mt (tables 1, 2; Iranian Mines and Mining Industries Development and Renovation Organization, 2022c, d; 2023e, f).

Iron Ore.—Iron ore production (gross weight) decreased to 78.3 Mt in 2022 from 82.7 Mt in 2021. Sangan Iron Ore Co.'s production increased to 21.6 Mt in 2022, or by 17% compared with that in 2021. The company, which was owned by National Iranian Steel Co., was the leading iron ore producer in the country in 2022. Sangan Iron Ore's Sangan Mine in Razavi Khorasan Province had a production capacity of 25 Mt/yr. Khorasan Steel Co. was expanding iron ore production at the Sangan Mine in 2022. The expansion project was 22.6% complete in 2022 and was intended to increase the mine's iron ore production capacity by 2.5 Mt/yr. A joint venture between IMIDRO and Sangan Parsian Epal Industrial and Mining Co. was responsible for another expansion project at the Sangan Mine. The project was 31.53% complete in 2022 and was intended to increase the mine's iron ore production capacity by 2.4 Mt/yr. Other leading iron ore producers included Gohar Zamin Iron Ore Co., Chadormalu Mining and Industrial Co., and Gol Gohar Iron Ore Co., which produced 12.5 Mt, 9.5 Mt, and 9.4 Mt, respectively, in 2022. According to IMIDRO, Iran's iron ore reserves were about 3.3 Gt by yearend 2022 (table 2; Mining Industries Development and Renovation Organization, 2022a, c, g, j).

The Gol Gohar region, located 50 km southwest of Sirjan in Kerman Province, had the following five major iron ore mines: Gol Gohar 1, which was owned by Gol Gohar Iron Ore Co. and had proven reserves of 228 Mt of iron ore; Gol Gohar 2, which was owned by Gohar Pouyesh Gaam Mining & Industrial Co. and had proven reserves of 63 Mt; Gol Gohar 3, which was owned by Gohar Zamin Iron Ore Co. and had proven reserves of 640 Mt; Gol Gohar 4, which was owned by MIDHCO and had proven reserves of 70 Mt; and Gol Gohar 5, which was owned by Mahan Industries and Mines Technology Development Co. and had proven reserves of 38 Mt. In 2022, iron ore production at Gol Gohar 1 increased to 9.4 Mt, or by 22% compared with that in 2021, and production at Gol Gohar 4 increased to 2.1 Mt, or by 111%, whereas production at Gol Gohar 2 decreased to 1.4 Mt, or by 67%; production at Gol Gohar 3 decreased to 12.0 Mt, or by 20%; and production at Gol Gohar 5 decreased to 2.5 Mt, or by 8% (table 2; Gohar Pouyesh Gaam Mining & Industrial Co., 2023; Iranian Mines and Mining Industries Development and Renovation Organization, 2023i, p. 1; Iran Minerals Production and Supply Co., 2023, p. 60).

The Jalal Abad Mine's production of iron ore decreased to 4.7 Mt in 2022, or by 20% compared with that in 2021. The mine was owned by ZISCO and is located 35 km northwest of Zarand in Kerman Province. It had a production capacity of 6 Mt/yr and proven reserves of 187 Mt of iron ore as of 2022. IMPASCO reported that iron ore production at its Chah Gaz, Golmandeh, and Mishdovan Mines was 1.2 Mt, 1.15 Mt, and 490,300 t, respectively, in 2022 compared with 458,400 t, 1.2 Mt, and 164,500 t in 2021 (table 2; Iran Minerals Production and Supply Co., 2023, p. 61).

Lead and Zinc.—Lead (Pb content of concentrate) production increased by 4% to 52,000 t (estimated) in 2022 from that in 2021. The leading lead-zinc mines in Iran were the Anguran Mine in Zanjan Province and the Mehdiabad Mine in Yazd Province. The Anguran Mine was owned by IMPASCO and Iran Zinc Mines Development Co. The companies' combined production of lead-zinc ores from the open pit mine

decreased to 1 Mt in 2022, or by 7% compared with that in 2021. The Mehdiabad Mine was owned by IMIDRO and had a production capacity of 700,000 t/yr of lead-zinc ore. The mine produced 140,000 t of lead and zinc from March 21, 2022, to March 20, 2023. The first phase of the Mehdiabad Mine's expansion project reached a completion rate of 85% in 2022. This project was intended to increase zinc concentrate capacity by 200,000 t/yr at the mine. The Mehdiabad Mine had ore reserves of about 170 Mt at an average grade of 4.5% zinc and 1.6% lead. IMPASCO's production of lead concentrate at the Nakhla lead-zinc plant at Anarak in Isfahan Province increased to 9,600 t in 2022 from 6,522 t in 2021 (tables 1, 2; Felezat Online, 2023; Iran Minerals Production and Supply Co., 2023, p. 46, 54, 58, 66; Mehdiabad Mine, 2023).

Industrial Minerals

Barite.—Iran's production of barite increased to 300,000 t (estimated) in 2022 from 290,000 t in 2021. The increase was likely due to increased demand for drilling material by the domestic crude petroleum and natural gas industries. In 2022, the Mehdiabad Barite, Lead, and Zinc Complex was the primary producer of barite in Iran and had a production capacity of 500,000 t/yr of barite. The complex had reserves of 69 Mt of barite and produced 247,000 t of barite in 2022 (tables 1, 2; Iran Minerals Production and Supply Co., 2023, p. 58).

Cement.—Iran's production of cement decreased to 58.9 Mt (estimated) in 2022, or by 6.5% compared with that in 2021. The decrease was attributed to a shortage in the supply of electricity for the cement plants and decreased demand from the national construction market. Iran's total cement capacity was estimated to be about 90 Mt/yr in 2022. The leading cement producer in Iran was Fars and Khuzestan Cement Co., which had a production capacity of about 30 Mt/yr. From March 21, 2022, to March 20, 2023, the company's production of cement increased to 14.1 Mt from 13.7 Mt for the same period in the previous year; exports also increased to 3.3 Mt from 2.8 Mt. Saveh Grey Cement Co. and Saveh White Cement Co., both owned by Fars and Khuzestan Cement Co., reached a production record of 1.97 Mt of gray cement and 300,511 t of white cement, respectively, in 2022 (tables 1, 2; Fars and Khuzestan Cement Co., 2022, 2023; Saveh Cement Co., 2023, Tahlil Bazar, 2023, p. 3–4).

Gypsum.—Iran's production of gypsum in 2022 was estimated to be 16 Mt. The leading Province for gypsum production in Iran was Semnan Province in north-central Iran, which was estimated to have a production capacity of more than 16 Mt/yr of gypsum. Semnan Province had 91 active gypsum mines that had total reserves of 192 Mt of gypsum by yearend 2022. Other top Provinces for gypsum production were Bushehr Province and Hormozgan Province in southern Iran as well as Tehran Province in northern Iran, which were estimated to have a combined production capacity of about 6 Mt/yr (tables 1, 2; Young Journalists Club, 2023).

Coal.—Iran’s metallurgical coal production increased by 75% to 2.27 Mt in 2022 from 1.3 Mt (revised) in 2021 owing to increased demand on the international markets. In November 2022, IMIDRO reported that more than 113,000 t of coal was exported monthly to 38 countries, including Afghanistan, China, India, Pakistan, and the United Arab Emirates. IMPASCO produced 1.9 Mt of coal at its mine near Tabas in South Khorasan Province, which was an increase of 95% compared with that in 2021. Central Alborz Coal Co.’s production of coal at its mine in Mazandaran Province increased by 3% to 154,461 t (tables 1, 2; Iranian Mines and Mining Industries Development and Renovation Organization, 2022e; 2023h; Tasnim News Agency, 2022).

Petroleum and Natural Gas.—Iran’s production of crude petroleum (including condensates) increased by 4.6% to 1.40 billion barrels (Gbbbl) in 2022 from 1.33 Gbbbl (revised) in 2021. The country’s crude petroleum exports increased to 901,000 barrels per day (bbl/d) in 2022, which was an increase of 18% compared with that in 2021. In 2022, NIOC and Dasht Azadegan Arvand Oil and Gas Development Co. agreed to increase the Azadegan Oilfield’s crude petroleum production capacity to 570,000 bbl/d from 190,000 bbl/d. The project was in an Iran–Iraq shared oilfield located approximately 70 km southwest of Ahwaz in Khuzestan Province. The expansion was expected to cost \$7 billion and was planned to be completed by 2029. The country’s petroleum refinery throughput increased by 2.3% to 875 million barrels in 2022 (tables 1, 2; Mapna Group, 2023; Organization of the Petroleum Exporting Countries, 2023, p. 46).

Iran’s production of natural gas (dry basis) increased by 2.0% to a record of 262.3 billion cubic meters in 2022 from 257.1 billion cubic meters in 2021. The country’s natural gas consumption decreased to 228.9 billion cubic meters in 2022 from 236.5 billion cubic meters in 2021. The value of the country’s natural gas exports increased by 9.2% owing to the increased prices and demand for natural gas on the international markets. In 2022, Iran exported 18.9 billion cubic meters of natural gas through pipelines, including 9.4 billion cubic meters to Iraq, 9.1 billion cubic meters to Turkey, and 400 million cubic meters to the Republic of Azerbaijan. The Phase-11 South Pars project, which was owned by NIOC and in the shared gasfield between Iran and Qatar, nearly reached its final phase of development in 2022. The \$4.8 billion project was expected to be completed in 2023. Once in operation, the project would produce 56 million cubic meters per day of natural gas and 80,000 bbl/d of natural gas liquids (tables 1, 2; BP p.l.c., 2022, p. 37; Energy Institute, 2023, p. 34, 37; Farda Bours, 2023; Petro Pars, 2023; Tehran Times, 2023b).

Uranium.—Iran’s uranium (U content) production in 2022 was estimated to be 71 t. In November 2022, the AEOI announced that Iran had started to increase uranium enrichment to 60% through doubling the number of centrifuges at the Fordow nuclear enrichment plant in Qom Province. Iran was expected to build a uranium ore extraction plant at Chaldoran in West Azerbaijan Province by 2023; the site had reserves of nearly 500,000 t of uranium. The Government planned to invest \$118.3 million for this project, which was expected to be

completed by 2026 (tables 1, 2; Hamshahri News Agency, 2023; Islamic Republic News Agency, 2023; Mizan Online News Agency, 2023).

Outlook

Iran’s real GDP is projected to increase at a modest rate in the next a few years according to the International Monetary Fund. The country’s economy is expected to be positively affected by increased international demand and increased prices for fuel minerals such as coal, crude petroleum, and natural gas. The sustainability of current levels of hydrocarbon output in the country will depend on technological upgrades, development of new fields, and the full lifting of international economic sanctions on Iran to allow increased exports. Production of nonfuel mineral commodities, such as aluminum and bauxite, barite, copper, gold, gypsum, iron ore, iron and steel, lead, and zinc, is expected to increase in the short term owing to numerous ongoing projects, such as the Dar Aloo project and the Sangan expansion project. In the medium term, new discoveries such as the Anjirak gold deposit and the Seridoon copper deposit may increase the country’s production capacity for these commodities (International Monetary Fund, 2023).

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TABLE 1
IRAN: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons, gross weight, unless otherwise specified)

Commodity ²	2018	2019	2020	2021	2022
METALS					
Aluminum:					
Bauxite	719,537 ^r	848,202 ^r	846,452 ^r	689,149 ^r	571,680
Alumina	235,000 ^e	234,000 ^e	238,000 ^e	230,000 ^e	225,942
Metal, primary	305,000 ^e	258,000 ^e	425,000 ^e	559,647	632,166
Antimony, mine, Sb content ^e	600	400	400	500	500
Chromium, mine, chromite, concentrate:					
Gross weight	119,456	122,083	135,049	47,400	50,000 ^e
Cr ₂ O ₃ content ^e	53,000	54,000	60,000	21,000	22,000
Copper:					
Mine:					
Ore, 0.6% to 1.2% Cu:					
Gross weight ^e	53,000,000	52,000,000	52,500,000	53,000,000	54,000,000
Cu content	311,400	307,300	309,200	315,900	322,000 ^e
Concentrates, 29% to 35% Cu, Cu content	300,800	295,800	297,100	316,800	320,900
Solvent extraction ³	15,700	16,400	16,400	22,800	23,300
Smelter:					
Primary	204,100	201,100	223,300	246,800	252,700
Secondary	100,300	109,100	127,500	114,400	96,300
Refinery:					
Primary:					
Leaching, electrowon	15,700	16,400	16,400	22,800	23,300
Other	149,600	160,400	167,500	192,000	206,400
Secondary	73,300	84,700	95,500	88,700	78,400
Ferroalloys, ferrochromium	13,000	12,000	10,000 ^e	17,000 ^r	15,000 ^e
Gold, mine, Au content ^e kilograms	7,600	8,500	7,000	7,000	7,000
Iron ore, mine:					
Gross weight thousand metric tons	68,091 ^r	64,275 ^r	77,973 ^r	82,717 ^r	78,326
Fe content do.	44,600 ^r	40,800 ^r	51,100 ^r	54,200 ^r	51,300
Iron and steel:					
Direct-reduced iron do.	25,750	28,520	30,211	31,850	31,730
Pig iron do.	2,362	2,530	2,466	2,690	2,510
Steel, raw steel, ingots and castings do.	24,520	25,609	28,990	27,901 ^r	30,433
Lead: ^e					
Mine, concentrate:					
Gross weight	92,000	96,000	100,000	96,000	100,000
Pb content	48,000	50,000	52,000	50,000	52,000
Refinery:					
Primary	25,000	25,000	23,400	24,800	30,000
Secondary	100,000	98,000	97,000	99,200	100,000
Magnesium, metal, primary ^e	1,000	--	--	5,000	5,000
Manganese, mine, concentrate:					
Gross weight	129,000 ^e	131,000 ^e	25,000 ^r	106,000 ^r	77,000
Mn content	52,100 ^e	52,500 ^e	7,000 ^r	29,000 ^r	21,000
Molybdenum, mine, concentrate:					
Gross weight	4,753 ^r	6,138 ^r	4,285 ^r	6,253 ^r	7,229
Mo content	2,082 ^r	2,073 ^r	2,389 ^r	2,022 ^r	2,401
Zinc:					
Mine, concentrate:					
Gross weight ^e	290,000 ^r	300,000 ^r	300,000 ^r	300,000 ^r	300,000
Zn content	145,000 ^r	150,000 ^r	150,000 ^r	150,000 ^r	150,000
Smelter, primary	136,000 ^{r,e}	140,000 ^e	131,000 ^{r,e}	136,000 ^{r,e}	208,000

See footnotes at end of table.

TABLE 1—Continued
IRAN: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons, gross weight, unless otherwise specified)

Commodity ²	2018	2019	2020	2021	2022
INDUSTRIAL MINERALS					
Barite	201,721	224,412	288,341 ^r	290,000 ^r	300,000 ^e
Boron, borax	1,200	2,500 ^e	2,500 ^e	2,500 ^e	2,500 ^e
Celestite	94,200	129,040	110,000 ^e	200,000 ^{r, e}	200,000 ^e
Cement, hydraulic ^e thousand metric tons	55,400	60,400	68,300	63,000 ^r	58,900
Clay: ^e					
Bentonite	424,000	760,000	715,000	720,000	850,000
Kaolin	1,760,000 ^r	1,620,000	2,050,000 ^r	2,100,000 ^r	2,100,000
Diatomite ^e	3,000	--	--	--	--
Feldspar	2,060,000 ^e	2,370,000 ^e	1,910,000 ^e	2,803,500 ^r	2,800,000 ^e
Fluorspar	89,102	49,705	116,159 ^r	116,000 ^r	116,000
Gemstones, turquoise kilograms	21,000 ^e	21,000 ^e	42,302	42,000 ^e	42,000 ^e
Gypsum, mine thousand metric tons	13,852	16,147	16,000 ^e	16,000 ^e	16,000 ^e
Iodine	368	682	700 ^e	700 ^e	700 ^e
Lime ^e thousand metric tons	3,300	3,450	3,900	3,900	4,000
Magnesite	169,953	153,525	270,000 ^{r, e}	280,000 ^{r, e}	270,000 ^e
Mica ^e	1,500	1,120	1,120	1,100	1,100
Nitrogen, N content: ^e					
Ammonia	3,700,000	3,500,000	3,600,000	4,000,000	4,400,000
Urea	2,800,000	2,800,000	2,800,000	3,400,000 ^r	3,900,000
Perlite ^e	72,000	32,000	53,000 ^r	77,000 ^r	77,000
Phosphate rock:					
Gross weight ^e	280,000 ^r	270,000 ^r	280,000 ^r	220,000 ^r	220,000
P ₂ O ₅ content	106,000 ^e	102,000 ^e	105,000 ^e	83,900 ^r	85,000 ^e
Potash, K ₂ O ₅ content thousand metric tons	33	37	37	37 ^e	40
Salt do.	2,800 ^e	2,700	3,200 ^e	2,700 ^{r, e}	2,700 ^e
Talc ^e	49,000	45,000	60,000	75,000 ^r	70,000
MINERAL FUELS AND RELATED MATERIALS					
Coal:					
Bituminous ^e thousand metric tons	155	142	142	150	150
Metallurgical do.	1,750 ^r	1,586 ^r	1,670 ^r	1,298 ^r	2,273
Coke, metallurgical do.	1,310 ^e	1,160 ^e	1,270 ^e	1,300 ^e	1,265
Natural gas, dry basis ⁴ million cubic meters	233,060	241,730	249,630	257,119	262,261
Petroleum:					
Crude, including condensate ⁵ thousand 42-gallon barrels	1,686,300 ^r	1,243,555 ^r	1,138,800 ^r	1,333,345 ^r	1,395,030
Refinery, throughput do.	761,755	766,865	800,445	855,560	874,905
Uranium, mine, U content ^e	71	71	71	71	71

^eEstimated. ^rRevised. do. Ditto. NA Not available. -- Zero.

¹Table includes data available through December 12, 2023. All data are reported unless otherwise noted. Estimated data are rounded to no more than three significant digits; may not add to totals shown.

²In addition to the commodities listed, bromine, caustic soda, clay (unspecified), crude construction materials (such as sand and shell), crushed stone, dimension stone, dolomite, ferrosilicon, hafnium oxide, ilmenite, iron oxide pigments, limestone, methanol, nepheline syenite, pumice, quartzite, selenium, silica, silicomanganese, silver, soda ash, sulfur, zeolites, and zirconium metal may have been produced, but available information was inadequate to make reliable estimates of output.

³The copper content of solvent extraction output at the mine level is the same as electrowon refinery output because copper produced in the solvent extraction and electrowinning process is typically reported only at the refinery level.

⁴Source: Organization of the Petroleum Exporting Countries, 2023.

⁵Source: Energy Institute, 2023.

TABLE 2
IRAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2022¹

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities ²	Annual capacity
Alumina	Iran Alumina Co. (IAC) [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Plant northeast of Jajarm, North Khorasan Province	280.
Aluminum	Almahdi Aluminium Co. (AAC) [(Iranian Mines and Mining Development and Renovation Organization (IMIDRO)] ¹	Bandar Abbas Aluminium Smelter, Hormozgan Province	257.
Do.	Iranian Aluminium Co. (IRALCO) [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO), ³ 60%, and a joint venture of Development Investment Co. and a subsidiary of Industrial Mehr Finance & Credit Institution, 40%]	Arak Aluminium Smelter, Markazi Province	230.
Do.	Iran Alumina Co. (IAC) [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Jajarm Aluminum Complex, North Khorasan Province	40.
Do.	South Aluminum Corp. (SALCO) [Ghadir Investment Co., 51%, and Iranian Mines and Mining Development and Renovation Organization (IMIDRO), ³ 49%]	Smelter near city of Lamerd, Fars Province	300.
Antimony	Gol Gohar Mining and Industrial Co. [Omid Investment Management Corp., 38.83%; Mines and Metals Development Co., 23.04%; Mobarakheh Steel Co. (MSC), 6.17%; others, 31.96%]	Sefidabeh Antimony Complex (mine and processing plant), 190 km north of Zahedan, Sistan va Baluchestan Province	NA.
Do.	Ubar Mining Int'l LLC, 70%, and Part Gowal City Co., 30%	Sirzar Mine, 125 km southwest of Mashhad, Razavi Khorasan Province	NA.
Barite	Iran Barite Group	Ardakan and Haftehr Mines in Yazd Province; Chenaroreh Mine in Markazi Province; Hajiabad, Mazandaran, and Tang Dozan Mines in the Esfahan Province; Verben Mine in Qazvin Province	NA.
Do.	Mehdiabad Barite, Lead and Zinc Complex [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Mehdiabad Mine, 115 km southeast of Yazd, Yazd Province	500.
Bauxite	Iran Alumina Co. (IAC) [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Jajarm Mine, about 15 km northeast of Jajarm, North Khorasan Province	900.
Celestite	Kani Goharan Kimia Co. (KGK)	Mine in Bandar Abbas, Hormozgan Province	72.
Cement	Abadeh Cement Co.	Plant at Abadeh, Fars Province	550.
Do.	Abyek Cement Co. (Fars & Khuzestan Cement Co.)	Plant at Abyek, 80 km northwest of Tehran, Qazvin Province	7,600.
Do.	Anarak Special Cement Co.	Plant at Anarak, Esfahan Province	500.
Do.	Ardebil Cement Co. (Espandar Cement Investment Co.)	Plant at Namin, Ardabil Province	1,220.
Do.	Ardestan Cement Co.	Plant north of Isfahan, Esfahan Province	1,300.
Do.	Asia West Cement Complex Co. (AWCC)	Torbat-e-Jam Plant, Razavi Khorasan Province	1,500.
Do.	Azar-Abadegan Khoy Cement Co.	Plant in West Azerbaijan Province	1,095.
Do.	Behbahan Cement Co. (Fars & Khuzestan Cement Co.)	Plant at Behbahan, Khuzestan Province	800.
Do.	Benvid White Cement Co. (Bank Melli Iran Investment Co.)	Plant at Benvid, Esfahan Province	219.
Do.	Bojnourd Cement Co. (Fars & Khuzestan Cement Co.)	Plant, about 37 km from Bojnourd, North Khorasan Province	1,950.

See footnotes at end of table.

TABLE 2—Continued
IRAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2022¹

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities ²	Annual capacity
Cement—Continued	Darab Cement Co. [General public (Justice shares), 50%, and Bank Melli Iran Investment Co., 29%]	Plant, about 190 km southeast of Shiraz, Fars Province	1,123.
Do.	Dashtestan Cement Co. (Ghadir Investment Co.)	Plant at Borazjan, Bushehr Province	1,400.
Do.	Doroud Cement Co. (Fars & Khuzestan Cement Co.)	Plant at Doroud, Lorestan Province	1,245.
Do.	East White Cement Co.	Plant at Mashhad, Razavi Khorasan Province	330.
Do.	Ekbatan Cement Co. (Espandar Cement Investment Co.)	Plant at Ekbatan, Tehran Province	108.
Do.	Estahban Cement Co.	Plant, 20 km west of Estahban, Fars Province	350.
Do.	Faraz Firouzkhu Cement Co. (Espandar Cement Investment Co.)	Plant, about 180 km northeast of Tehran	1,205.
Do.	Fars Cement Co. (Fars & Khuzestan Cement Co.)	Plant at Shiraz, Fars Province	819.
Do.	Farsnov Cement Co. (Fars & Khuzestan Cement Co.)	Plant, about 65 km southeast of Shiraz, Fars Province	1,000.
Do.	Firoz Kuh Co. (Bank Melli Iran Investment Co.)	Plant at Tehran, Tehran Province	1,100.
Do.	Ghaen Cement Co. (Cement Investment and Development Co., 26%; Bank Melli Iran Investment Co., 14%; others, 60%)	Plant at Qayen (Ghaen), South Khorasan Province	811.
Do.	Gharb Cement Co. (Fars & Khuzestan Cement Co.)	Plant at Kermanshah, Kermanshah Province	1,248.
Do.	Gilan Sabz Cement Co. (Tehran Cement Co.)	Plant at Deylaman, Gilan Province	1,200.
Do.	Hegmatan Cement Co. (Tehran Cement Co., 79%)	Plant east of Razan, Hamadan Province	2,400.
Do.	Hormozgan Cement Co. (Omid Investment Management Corp.)	Plant, about 75 km west of Bandar Abbas, Hormozgan Province	1,872.
Do.	Ilam Cement Co. (Tehran Cement Co., 50%; Omid Investment Management Corp., 47%; other private, 3%)	Plant northeast of Ilam, Ilam Province	1,750.
Do.	Isfahan Cement Co.	Plant at Isfahan, Esfahan Province	1,168.
Do.	Jovein Cement Co.	Plant at Joghatay, Razavi Khorasan Province	1,400.
Do.	Karoun Cement Co.	Plant near Masjed Soleyman, Khuzestan Province	1,100.
Do.	Kavan Boukan Cement Co.	Plant at Bukan, West Azerbaijan Province	1,250.
Do.	Kavir Kashan Cement Co. (Espandar Cement Investment Co.)	Plant near Kashan, Esfahan Province	690.
Do.	Kerman Cement Co. (Bank Melli Iran Investment Co., 38%)	Plant at Kerman, Kerman Province	1,314.
Do.	Khamsch Cement Co.	Plant in Zanjan Province	1,061.
Do.	Khash Cement Co. (Fars & Khuzestan Cement Co.)	Plant at Khash, Sistan va Baluchestan Province	811.
Do.	Khazar Cement Co. (Fars & Khuzestan Cement Co.)	Plant at Loshan, Gilan Province	1,250.
Do.	Khuzestan Cement Co. (Fars & Khuzestan Cement Co.)	Plant at Ramhormoz, Khuzestan Province	2,500.
Do.	Kiasar Cement Co. (Espandar Cement Investment Co.)	Plant near Sari, Mazandaran Province	690.
Do.	Kordestan Cement Co. (Ghadir Investment Co.)	Plant north of Bijar, Kordestan Province	1,500.
Do.	Lamerd Cement Co.	Plant at Lamerd, Fars Province	1,250.
Do.	Lar-e Sabzevar Cement Co.	Plant at Sabzevar, Razavi Khorasan Province	1,030.
Do.	Larestan Cement Co.	Plant in Fars Province	1,100.

See footnotes at end of table.

TABLE 2—Continued
IRAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2022¹

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities ²	Annual capacity
Cement—Continued	Loshan Cement Co. (Tehran Cement Co., 66%)	Plant at Loshan, Gilan Province	200.
Do.	Margon Cement Co.	Plants at Kohgiluyeh and Boyer, Ahmad Province	1,000.
Do.	Mazandaran Cement Co. (Bank Melli Iran Investment Co., 60%)	Plant at Neka, Mazandaran Province	2,270.
Do.	Mehriz Tejarat Cement Co.	Plant, 55 km southeast of Mehriz, Yazd Province	1,460.
Do.	Momtazan Cement Co.	Plant at Kerman, Kerman Province	1,030.
Do.	Monde Dashti Cement Co. (Ghadir Investment Co.)	Plant in Bushehr Province	1,200.
Do.	Naeen Cement Co. (Tehran Cement Co.)	Plant in Esfahan Province	1,650.
Do.	Nahavand Cement Co. (Tehran Cement Co.)	Plant in Hamadan Province	1,205.
Do.	Neyriz White Cement Co. (Fars & Khuzestan Cement Co.)	Plant at Neyriz, Fars Province	164.
Do.	Neyzar Qom Cement Co. (Espandar Cement Investment Co.)	Plant in Qom Province	1,150.
Do.	Omran Anarak Cement Co.	Plant at Delijan, Markazi Province	1,100.
Do.	Peyvand Golestan Cement Co. (Tehran Cement Co.)	Plant near Galikesh, Golestan Province	1,241.
Do.	Qeshm Cement Co.	Plant at Qeshm Island, Hormozgan Province	510.
Do.	Safaeh Cement Co.	Plant at Safaeh, Yazd Province	624.
Do.	Saman Gharb Cement Co.	Plant at Mahi Dasht, Kermanshah Province	2,300.
Do.	Sarooj Bushehr International Co. (Bank Melli Iran Investment Co.)	Plant at Kangan, Bushehr Province	1,650.
Do.	Sarooj Isfahan Cement Co.	Plant in Esfahan Province	600.
Do.	Saveh Grey Cement Co. (Fars & Khuzestan Cement Co.)	Plant at Saveh, Markazi Province	2,738.
Do.	Saveh White Cement Co. (Fars & Khuzestan Cement Co.)	do.	365.
Do.	Sepahan Cement Co. (Ghadir Investment Co.)	Plant at Mobarakeh, Esfahan Province	3,200.
Do.	Shahrekor Cement Co.	Plant at Sefiddasht, Chahar Mahal va Bakhtiari Province	1,030.
Do.	Shahrout Cement Co. (Fars & Khuzestan Cement Co.)	Plant at Shahrout, Semnan Province	1,872.
Do.	Shargh Cement Co. (Ghadir Investment Co.)	Plant at Mashhad, Razavi Khorasan Province	2,500.
Do.	Shomal Cement Co. (Bank Melli Iran Investment Co., 59%)	Plant at Pardis, Tehran Province	1,550.
Do.	Shomal White Cement Co. (Bank Melli Iran Investment Co., 59%)	do.	89.
Do.	Soufian Cement Co. (Fars & Khuzestan Cement Co., 50%, and Social Security Organization Investment Co., 50%)	Plant, about 33 km northwest of Tabriz, East Azerbaijan Province	2,555.
Do.	Tehran Cement Co.	Plant at Tehran, Tehran Province	5,400.
Do.	Tis Chabahar Cement Co.	Plant at Rask, Sistan va Baluchestan Province	1,000.
Do.	Urmia Cement Co. (Fars & Khuzestan Cement Co.)	Plant at Orumiyeh, West Azerbaijan Province	2,100.
Do.	Urmia White Cement Co.	do.	180.
Do.	Yasuj Cement Co. (Fars & Khuzestan Cement Co.)	Plants at Kohgiluyeh and Boyer, Ahmad Province	230.
Do.	Yazd Bohrouk Cement Co.	Plant at Yazd, Yazd Province	1,100.
Do.	Zabol Cement Co. (Fars & Khuzestan Cement Co.)	Plant at Zahedan, Sistan va Balochestan Province	1,030.

See footnotes at end of table.

TABLE 2—Continued
IRAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2022¹

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities ²	Annual capacity
Cement—Continued	Zanjan Cement Co. (Fars & Khouzesan Cement Co.)	Plant at Zanjan, Zanjan Province	660.
Do.	Zarrin Rafsanjan Cement Co.	Plant in Kerman Province	230.
Do.	Zaveh Torbat Cement Co.	Plant at Torbat e-Heydariyeh, Razavi Khorasan Province	1,092.
Chromite, concentrate, Cr ₂ O ₃ content	Esfandaghe Mines Co.	Abdasht Mine, Kerman Province; Suqan (Saboughan) Mine, Kerman Province; processing plant at Esfandaghe, Kerman Province	30.
Do.	Faryab Mining Co.	Faryab Mine and processing plant, Minab, Hormozgan Province	180. ^e
Do.	Kani Goharan Kimia Co. (KGK)	Mine in Kerman Province	12.
Do.	Shahab Sang Co.	Sabzan Mine, Faryab, Kerman Province	5.
Do.	NA	Furumad Mine, Shahroud, Semnan Province; Gaft processing plant, Semnan Province	6.
Do.	NA	Mir Mahmud Mine, Mayami, Semnan Province	6.
Do.	NA	Dumak Mine, Zahedan, Sistan va Baluchestan Province	2.
Coal	Central Alborz Coal Co. [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Mine in Mazandaran Province	120.
Do.	Fajr Mazinoiy Co.	Mazino Mine, Tabas, South Khorasan Province	2,000.
Do.	Iran Minerals Production and Supply Co. (IMPASCO) [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Eastern Parvadeh Mine, Tabas, South Khorasan Province	600.
Do.	do.	Parvadeh 4 Mine, Tabas, South Khorasan Province	600.
Do.	do.	Parvadeh 2 and 3 Mines, Tabas, South Khorasan Province	500.
Do.	do.	Khomroud Mine, Ravar, Kerman Province	450.
Do.	do.	Kordobad Mine, Mazadaran Province	325.
Do.	do.	Hashouni and Pabdana Mines, Kerman Province	150.
Do.	do.	Takht and Vatan Mines, Alborz Province	150.
Do.	do.	Zemestanyurt Mine, near Azadshahr, Golestan Province	100.
Do.	Kerman Coal Co.	Eshkli Mine and Hamkar Mine, Kerman Province	620.
Do.	The Middle East Mines and Minerals Industries Development Holding Co. (MIDHCO) [Mabnaye Khavar Miyaneh Co., 15.19%; Pars Aryan Investment Co., 11.84%; Rahbord Sarmaye Iranian Co., 10.38%; Arzesh Afarinan Pasargad Group Co., 9.4%; and other investors, 53.19%]	Zarand Mine, Zarand, Kerman Province	1,200.
Coke	Esfahan Steel Co. (ESCO) [National Iranian Steel Co. (NISCO)] ⁴	Plant about 40 km southwest of Isfahan, Esfahan Province	900.
Do.	Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO) ³	Plant at Savadkouh, Mazandaran Province	300.

See footnotes at end of table.

TABLE 2—Continued
IRAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2022¹

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities ²	Annual capacity
Coke—Continued	Middle East Coke Production Co. [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Plant at Zanjan, Zanjan Province	800.
Do.	Tabas Coke Production Co. [Iranian Mines and Mining Development and Renovation Organization (IMIDRO)] ³	Plant near Tehran, Tehran Province	450.
Do.	Zarand Iranian Steel Co. (ZISCO) [The Middle East Mines and Minerals Industries Development Holding Co. (MIDHCO)]	Plant at Zarand, Kerman Province	800.
Copper:			
Concentrate, Cu content	Faraz Ma'aden Anarak Co.	Maskani Mine, Naen, Esfahan Province	55.
Do.	National Iranian Copper Industries Co. (NICICO) [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Sarcheshmeh copper complex, south of Rafsanjan, Kerman Province	730.
Do.	do.	Sungun Mine and plant, East Azerbaijan Province	335.
Do.	do.	Meiduk Mine, 40 km northeast of Shahr-e Babak, Kerman Province	155.
Do.	do.	Che'hel Koureh Mine, 120 km Northwest of Zahedan, Sistan va Baluchestan Province	17.
Do.	do.	Qal'eh Zari Mine, about 180 km southwest of Birjand, South Khorasan Province	10.
Do.	do.	Chah Firozeh, Chah Messi, Darehzar, and Eijo copper mines, Kerman Province	NA.
Do.	Private cooperatives	Chah Musa Mine and Qal'eh Sukhteh Mine, Semnan Province	5.
Do.	Small-scale miners	Kuh Zar Mine, Semnan Province	NA.
Smelter output	National Iranian Copper Industries Co. (NICICO) [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Smelter, Sarcheshmeh copper complex, south of Rafsanjan, Kerman Province	200.
Do.	do.	Smelter near Khatoonabad, Kerman Province	450.
Do.	do.	do.	120.
Refined metal	do.	Refinery, Sarcheshmeh copper complex, south of Rafsanjan, Kerman Province	210.
Do.	do.	Refinery, Sungun copper complex, East Azerbaijan Province	100.
Do.	do.	Electrowinning plant, Sarcheshmeh copper complex, south of Rafsanjan, Kerman Province	14.
Do.	do.	Electrowinning plant, Meiduk copper complex, Kerman Province	5.
Do.	The Middle East Mines and Minerals Industries Development Holding Co. (MIDHCO) [Mabnaye Khavar Miyaneh Co., 15.19%; Pars Aryan Investment Co., 11.84%; Rahbord Sarmaye Iranian Co., 10.38%; Arzesh Afarinar Pasargad Group Co., 9.4%; and other investors, 53.19%]	Refinery, 20 km north of Shahr-e Babak, Kerman Province	50.

See footnotes at end of table.

TABLE 2—Continued
IRAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2022¹

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities ²	Annual capacity
Ferroalloys:				
Ferrocchrome		Iran Minerals Production and Supply Co. (IMPASCO) [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Joghatai ferrocchrome complex, Razavi Khorasan Province	25.
Do.		Top Echo Co.	Plant at Rafsanjan, Kerman Province	60.
Ferosilicon		The Middle East Mines and Minerals Industries Development Holding Co. (MIDHCO) [Mabnaye Khavar Miyaneh Co., 15.19%; Pars Aryan Investment Co., 11.84%; Rahbord Sarmaye Iranian Co., 10.38%; Arzesh Afarinan Pasargad Group Co., 9.4%; and other investors, 53.19%]	Plant at Malayer, Glass Industrial Estate, Hamedan Province	12.
Do.		do.	Plant at Jokar Industrial Town, Jokar City, Hamedan Province	12.
Fluorspar		Kani Goharan Kimia Co. (KGK)	Mine in Bandar Abbas, Hormozgan Province	10.
Gemstones, turquoise	kilograms	National Iranian Copper Industries Co. (NICICO) [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Meiduk Mine, 40 km northeast of Shahr-e Babak, Kerman Province	36,000. ^c
Do.	do.	Small-scale miners of Olia and Sofla	Neyshabur Mine, Razavi Khorasan Province	42,000. ^c
Do.		NA	Kuh Zar Mine, Semnan Province	NA.
Gold:				
Ore, Au content	kilograms	Artisanal placer operations	Neyshabur area, Razavi Khorasan Province	NA.
Do.	do.	Iran Minerals Production and Supply Co. (IMPASCO) [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Mouteh Mine (Chah Khaton and Senjedeh pits), Esfahan Province, and Kuh-e-Zar Mine, Semnan Province	600.
Do.	do.	do.	Hirad Mine, Nehbandan, Southern Khorasan Province	200.
Do.	do.	do.	Kouhdom Mine, 110 km northeast of Ardestan, Esfahan Province	100.
Do.	do.	National Iranian Copper Industries Co. (NICICO) [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Combined production from various copper mines	600.
Do.	do.	Zar Kuh Mining Co.	Sari Gunay Mine, 90 km east of Sanandaj, Kordestan Province	2,000.
Do.	do.	Zarshouran Gold Mine and Mining Industries Development Co. [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Zarshouran Mine, 31 km northeast of Takab, West Azerbaijan Province	3,000.
Metal	do.	do.	Zarshouran complex, near Takab, West Azerbaijan Province	NA.
Gypsum				
		Afra Gypsum Hormoz Co.	Quarry at Bandar Abbas, Hormozgan Province	360.
Do.		IR Gypsum Co.	Quarry in Semnan Province	10,950.
Do.		Jazeera Gypsum Mining Co.	Quarry and plant near Bushehr City, Bushehr Province	200.
Do.		Jonoub Gypsum Co.	Quarry in Bandar Khamir, Hormozgan Province	1,200.
Do.		Kani Goharan Kimia Co. (KGK)	Quarry in Hormozgan Province	1,440.

See footnotes at end of table.

TABLE 2—Continued
IRAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2022¹

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities ²	Annual capacity
Gypsum—Continued	Khak Sang Kish Co.	Quarry at Khamir, Hormozgan Province	360.
Do.	Khamir Gypsum Co.	Quarry in Hormozgan Province	1,200.
Do.	Khorasan Gypsum Co.	Quarry in Semnan Province	1,000.
Do.	Mazandaran Semnan Gypsum Co.	do.	1,095.
Do.	Omid Semnan Gypsum Co.	Quarry in Tehran Province	365.
Do.	Samim Derakhshan Co.	Quarry at Bandar Khamir, Hormozgan Province	1,200.
Do.	Semnan Gypsum Co.	Quarry in Semnan Province	1,825.
Do.	Ziari Holding Co. (Pardisun Gypsum Co., Sahar Gypsum Co., and Simin Gypsum Semnan Co.)	do.	2,190.
Iron and steel:			
Iron ore, Fe content	Ario Iron Ore Mining Group	Ghadir, Kosar, Meshkat, Noor and Farsineh Mines, Yazd Province	2,500.
Do.	Chadormalu Mining and Industrial Co. [Omid Investment Management Corp., 37.6%; Mines and Metals Development Investment Co., 16.4%; Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO), ³ 10.4%]	Chadormalu Mine, 80 km north of Bafq, Yazd Province	16,000.
Do.	Gohar Zamin Iron Ore Co. [Gol Gohar Mining and Industrial Co., 28%; Omid Investment Management Corp., 26%; Ghadir Industries and Mines Development Co., 21%; Mines and Metals Development Investment Co., 19%; Others, 6%]	Mine (Gol Gohar 3), 50 km southwest of Sirjan, Kerman Province	15,000.
Do.	Gol Gohar Iron Ore Co. [Omid Investment Management Corp., 39%; Mines and Metals Development Investment Co., 28%; Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO), ³ 18%]	Mine (Gol Gohar 1), 50 km southwest of Sirjan, Kerman Province	14,000.
Do.	Iran Central Iron Ore Co. [National Iranian Steel Co. (NISCO), ⁴ 100%]	Choghart Mine, 10 km northeast of Bafq, Yazd Province	5,000.
Do.	Iranian Minerals Production and Supply Co. (IMPASCO) [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO) ³]	Chah Gaz Mine, about 70 km of Bafq, Yazd Province	700.
Do.	do.	Golmandeh Mine, near Ardakan, Yazd Province	NA.
Do.	do.	Mishdovan Mine, 20 km north of Bafq, Yazd Province	500.
Do.	Gohar Pouyesh Gaam Mining & Industrial Co. [Gol Gohar Mining and Industrial Co.; Mahan Industries and Mines Technology Development Co.; Sirjan Iranian Steel Co. (SISCO)]	Mine (Gol Gohar 2), 50 km southwest of Sirjan, Kerman Province	4,500.
Do.	Jalal Abad Iron Ore Complex [Zaran Iranian Steel Co. (ZISCO)]	Jalal Abad Mine, 35 km northwest of Zarand, Kerman Province	6,000.
Do.	Mahan Industries and Mines Technology Development Co. [Mahan Industries and Mines Holding]	Mine (Gol Gohar 5), 50 km southwest of Sirjan, Kerman Province	3,000.
Do.	Middle East Mines & Mineral Industries Development Holding Co. Holding Co. (MIDHCO) [Mabnaye Khavar Miyaneh Co., 15.19%; Pars Aryan Investment Co., 11.84%; RahbordSarmaye Iranian Co., 10.38%; Arzesh Afarinan Pasargad Group Co., 9.4%; and other investors, 53.19%]	Mine (Gol Gohar 4), 50 km southwest of Sirjan, Kerman Province	2,500.

See footnotes at end of table.

TABLE 2—Continued
IRAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2022¹

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities ²	Annual capacity
Iron and steel:—Continued			
Iron ore, Fe content—Continued	Sangan Iron Ore Co. [National Iranian Steel Co. (NISCO)] ⁴	Sangan Mine, about 140 km southeast of Torbat e-Heydariyeh, Razavi Khorasan Province	25,000.
Do.	Small privately owned mines (about 20)	NA	1,000. ^c
Cast iron	Zagros Steel Co. (Government, majority interest)	Foundry in Kordestan Province	70.
Direct-reduced iron	Ardakan Steel Co. (ARSCO)	Direct-reduction iron plant in Ardakan, Yazd Province	960.
Do.	Arfa Steel Co. [ChadorMalu Mining & Industrial Co., 43.69%; Mines and Metals Development Investment Co. (MMDIC), 20.51%; Yaran Rolling Pipe Co., 16.99%; others, 19.81%]	do.	800.
Do.	Baft Steel Co. [Iranian Mines and Mining Development and Renovation Organization (IMIDRO)] ³	Direct-reduction iron plant, Baft, Kerman Province	800.
Do.	Chadormalu Mining and Industrial Co. [Omid Investment Management Corp., 37%; Mines and Metals Development Investment Co., 15%; Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO), ³ 8%]	Direct-reduction iron plant, Ardakan, Yazd Province	1,550.
Do.	Esfahan Steel Co. (ESCO) [National Iranian Steel Co. (NISCO)] ⁴	Direct-reduction iron plant about 40 km southwest of Esfahan, Esfahan Province	600.
Do.	Gha'enat Steel Complex [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Direct-reduction iron plant, about 80 km southeast of Gonabad Nimbolook, Khorasan Jonoubi Province	800.
Do.	Gol Gohar Mining and Industrial Co.	Direct-reduction iron plant, Kerman Province	3,260.
Do.	Hormozgan Steel Co. (HOSCO) [National Iranian Steel Co. (NISCO) ⁴ and partners]	Direct-reduction iron plant in Gachin, Hormozgan Province	1,660.
Do.	Iranian Ghadir Iron and Steel Co. (IGISCO)	Direct-reduction iron plant in Ardakan, Yazd Province	800.
Do.	Khorasan Steel Co. [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO), 3 majority interest, and a Government pension fund, 40%]	Direct-reduction iron plant, Razavi Khorasan Province	1,600.
Do.	Khouzestan Steel Co. (KSC) [National Iranian Steel Co. (NISCO)] ⁴	Direct-reduction iron plant, Ahwaz, Khuzestan Province	3,820.
Do.	Mianeh Steel Co.	Direct-reduction iron plant, Mianeh, East Azerbaijan Province	800.
Do.	Mobarakeh Steel Co. (MSC) [National Iranian Steel Co. (NISCO)] ⁴	Direct-reduction iron plant about 50 km southwest of Isfahan, Esfahan Province	9,500.
Do.	Neyriz Ghadir Steel Co. [Ghadir Investment Co. (IGISCO), 65%]	Direct-reduction iron plant in Neyriz, Fars Province	800.
Do.	Pasargad Steel Co. (PASCO) (private, 100%)	Direct-reduction iron plant in Shiraz, Fars Province	1,500.
Do.	Persian Gulf Saba Steel Co.	Direct-reduction iron plant in Bandar Abbas, Hormozgan Province	1,500.
Do.	Sabzevar Pars Steel Co. (SPSCO)	Direct-reduction iron plants in Razavi Khorasan Province	800.

See footnotes at end of table.

TABLE 2—Continued
IRAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2022¹

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities ²	Annual capacity
Iron and steel:—Continued			
Direct-reduced iron—Continued	Sefid Dasht Steel Co.	Direct-reduction iron plant in Chahar Mahal va Bakhtiari Province	800.
Do.	Shadegan Steel Co.	Direct-reduction iron plants in Shadegan, Khuzestan Province	800.
Do.	Sirjan Iranian Steel Co. (SISCO) [Middle East Mines & Mineral Industries Development Holding Co. (MIDHCO)]	Direct-reduction iron plant in Kerman Province	1,700.
Do.	Sirjan Jahan Steel Complex Co. (SJSCO) (Golgohar Mining & Industrial, 51%)	Direct-reduction iron plants in Sirjan, Kerman Province	960.
Do.	South Kaveh Steel Co. (SKS)	Direct-reduction iron plant in Bandar Abbas, Hormozgan Province	1,860.
Steel, raw	Arfa Steel Co. [ChadorMalu Mining & Industrial Co., 43.69%; Mines and Metals Development Investment Co. (MMDIC), 20.51%; Yaran Rolling Pipe Co., 16.99%; others, 19.81%]	Plant at Ardakan, Yazd Province	800.
Do.	Bardsir Steel Co. [The Middle East Mines and Minerals Industries Holding Co. (MIDHCO) [Mabnaye Khavar Miyaneh Co., 15.19%; Pars Aryan Investment Co., 11.84%; Rahbord Sarmaye Iranian Co., 10.38%; Arzesh Afarinan Pasargad Group Co., 9.4%; and other investors, 53.19%]	Bardsir steel plant, 60 km west of Kerman, Kerman Province	1,000.
Do.	Chadormalu Mining and Industrial Co. [Omid Investment Management Corp., 37%; Mines and Metals Development Investment Co., 15%; Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO), ³ 8%]	Plant at Ardakan, Yazd Province	1,000.
Do.	Esfahan Steel Co. (ESCO) [National Iranian Steel Co. (NISCO)] ⁴	Plant, about 40 km southwest of Isfahan, Esfahan Province	3,600.
Do.	Hormozgan Steel Co. (HOSCO) [National Iranian Steel Co. (NISCO) ⁴ and partners]	Plant at Gachin, Hormozgan Province	1,500.
Do.	Khorasan Steel Co. [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO), ³ 60%, and a Government pension fund, 40%]	Plant at Neyshabur, Razavi Khorasan Province	650.
Do.	Khuzestan Steel Co. (KSC) [National Iranian Steel Co. (NISCO)] ⁴	Plant at Ahwaz, Khuzestan Province	3,800.
Do.	Meibod (Meybod) Steel Co. [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO), ³ 50%]	Plant, about 15 km southwest of Meybod, Yazd Province	300.
Do.	Mobarakeh Steel Co. (MSC) [National Iranian Steel Co. (NISCO)] ⁴	Plant, about 50 km southwest of Isfahan, Esfahan Province	7,200.
Do.	Saba Steel Co. [National Iranian Steel Co. (NISCO)] ⁴	Plant in Esfahan Province	1,600.
Do.	Sepid Dasht Steel Co. [National Iranian Steel Co. (NISCO)] ⁴	Plant in Lorestan Province	1,000.
Do.	South Kaveh Steel Co. (SKS)	Plant near Bandar Abbas, Hormozgan Province	2,400.
Do.	Vian Steel Melting and Casting Co.	Plant, about 42 km from Hamadan, Hamadan Province	600.

See footnotes at end of table.

TABLE 2—Continued
IRAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2022¹

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities ²	Annual capacity
Lead:			
Concentrate, Pb content	Calcimin Co. [Iran Zinc Mines Development Co. (IZMDC)]	Dandi zinc and lead concentrator plant, Zanjan Province	30.
Do.	Zanjan Zinc Khales Sazan Industrial Group	Zanjan plant, Zanjan Province	20.
Refined metal, primary	National Iranian Lead and Zinc Co. (Iran Zinc Mines Development Co.)	Refinery about 12 km east of Zanjan, Zanjan Province	40.
Refined metal, secondary	NIRU Manufacturing Co. Ltd.	Plants in Tehran Province	65.
Lead and zinc, ore	Anguran Lead and Zinc Complex [Iran Minerals Production and Supply Co. (IMPASCO), and Iran Zinc Mines Development Co. (IZMDC)]	Anguran open pit mine, Dandi, Zanjan Province	1,000.
Do.	Bafq Mining Co.	Koushk Mine, Yazd Province	120.
Do.	BAMA Co.	Irankouh complex (Gooshfil underground and Tappeh Sorkh open pit mines, about 20 km southeast of Isfahan, Esfahan Province, and Kolah Darvazeh Mine, south of Isfahan, Esfahan Province)	100.
Do.	Beroner Tehran Co. (Kahanroba Industrial Group, 100%)	Emarat Mine, about 25 km southwest of Arak, Markazi Province	150.
Do.	Iran Minerals Production and Supply Co. (IMPASCO) [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Nakhlak lead and zinc plant, 55 km northeast of Anarak, Esfahan Province	50.
Do.	Mehdiabad Barite, Lead and Zinc Complex [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Mehdiabad Mine, 115 km southeast of Yazd City, Yazd Province	700.
Lime	Espandar Lime Complex Co.	Azarshahr plant in Tabriz, East Azerbaijan Province	131.
Do.	do.	Alborz plant in Firoozkooh, Tehran Province	55.
Do.	Pasargad Steel Co. (PASCO) (private, 100%)	Lime plant in Shiraz, Fars Province	70.
Do.	Shargh Industrial Lime Co.	Plant at Mashhad, Razavi Khorasan Province	NA.
Do.	The Middle East Mines and Minerals Industries Holding Co. (MIDHCO) [Mabnaye Khavar Miyaneh Co., 15.19%; Pars Aryan Investment Co., 11.84%; Rahbord Sarmaye Iranian Co., 10.38%; Arzesh Afarinan Pasargad Group Co., 9.4%; and other investors, 53.19%]	Plant, 30 km northwest of city of Kerman, Kerman Province	400.
Magnesite	Birjand Refractory Mining Co. [Iranian Refractories Procurement & Production Co. (IRPPC)]	Hoz Sefid, Shirkuhak, and Torshak Mohammadi Mines, about 50 km southeast of Birjand, South Khorasan Province	100.
Do.	Kani Goharan Kimia Co. (KGK)	Mine in Bandar Abbas, Hormozgan Province	60.
Do.	Nokabad Magnesite Co.	Nokabad Mine, Sistan va Baluchestan Province	30.
Do.	Persia Payan Madan Co.	Chasiah and Soltan Abad Mines, Tehran Province	50.
Magnesium	Royal Metal Ingot Co.	Plant in South Khorasan Province	6.
Methanol	Kaveh Methanol Co.	Plant in Dayyer, Bushehr Province	2,555.

See footnotes at end of table.

TABLE 2—Continued
IRAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2022¹

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners		Location of main facilities ²	Annual capacity
Methanol—Continued		Middle East Kimia Pars Petrochemical Co.		Petrochemical complex, Asaluyeh, Bushehr Province	1,445.
Molybdenum, concentrate		National Iranian Copper Industries Co. (NICICO) [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³		Molybdenum plant, Sarcheshmeh copper complex, south of Rafsanjan, Kerman Province	8.
Do.		do.		Molybdenum plant, Sungun copper complex, East Azerbaijan Province	3.
Natural gas	billion cubic meters	National Iranian Oil Co. (NIOC) ¹		Associated gas from company oilfields, onshore	96.
Do.	do.	do.		Aghar, Dalan, and Kangan Gasfields, Fars Province; and Nar Gasfield, Bushehr Province, onshore	57.
Do.	do.	Pars Oil and Gas Co. [National Iranian Oil Co. (NIOC), 100%] ¹		South Pars Gasfield, offshore	227.
Natural gas liquids	thousand 42-gallon barrels	National Iranian Oil Co. (NIOC) ¹		Refinery at Bandar Abbas, Hormozgan Province	131,400.
Nitrogen fertilizer		Lordegan Petrochemical Co. (Iranian Petrochemical Investment Group, 77.77%)		Plant in Chahar Mahal va Bakhtiari Province	677 ammonia, NA urea.
Do.		National Petroleum Co. (NPC)		Plant in Bandar Mahshahr, Bandar Mahshahr-Bandar Emam Road, Khuzestan Province	NA ammonia, 6,700 urea.
Do.		Pardis Petrochemical Co.		Plant in Asaluyeh, Bushehr Province	2,000 ammonia, 3,200 urea.
Petroleum:					
Crude	million 42-gallon barrels	National Iranian Oil Co. (NIOC) ¹		Onshore oilfields include Agha Jari, Ahwaz-Asmari, Bangestan, Hakimeh, Gachsaran, Karanj, Marun, Pazanan, and Rag-e-Safid. Offshore oilfields include Abouzar and Salman	1,400.
Do.	do.	National Iranian Oil Co. (NIOC) ¹ and buyback contract joint venture of Shell Iran Nowrooz/Soroosh Development (70%), JJI S&N B.V. (20%), and Iranian Offshore Engineering & Construction Co. (10%)		Nowrooz and Soroosh Fields, offshore	75.
Do.	do.	National Iranian Oil Co. (NIOC) ¹ and buyback contract joint venture of Total S.A. (55%) and Eni SpA (45%)		Doroud field, offshore	65.
Do.	do.	National Iranian Oil Co. (NIOC) ¹		South Azadegan Field, Khuzestan Province	69.
Do.	do.	National Iranian Oil Co. (NIOC) ¹ and buyback contract joint venture of Total S.A. (70%) and PETRONAS Carigali International Sdn Bhd (30%)		Sirri A and E fields, offshore	40.
Do.	do.	National Iranian Oil Co. (NIOC) ¹ and China National Petroleum Co. (CNPC)		North Azadegan field, Khuzestan Province	27.
Do.	do.	National Iranian Oil Co. (NIOC) ¹ and buyback contract joint venture of Total S.A. (60%) and Naftiran Intertrade Co. (40%)		Darquain field, Khuzestan Province	17.
Refinery products	thousand 42-gallon barrels per day	National Iranian Oil Refining and Distribution Co. (NIORDC) ¹		Refinery at Abadan, Khuzestan Province	400.
Do.	do.	do.		Refinery at Isfahan, Esfahan Province	375.

See footnotes at end of table.

TABLE 2—Continued
IRAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2022¹

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities ²	Annual capacity
Petroleum:—Continued				
Refinery products— Continued	thousand 42-gallon barrels per day	National Iranian Oil Refining and Distribution Co. (NIORDC) ¹	Refinery at Bandar Abbas, Hormozgan Province	344.
Do.	do.	do.	Refinery at Tehran, Tehran Province	250.
Do.	do.	do.	Refinery at Arak, Markazi Province	250.
Do.	do.	do.	Refinery at Borzuyeh, Tehran Province	120.
Do.	do.	do.	Refinery at Tabriz, East Azerbaijan Province	110.
Do.	do.	do.	Refinery at Shiraz, Fars Province	60.
Do.	do.	do.	Refinery at Lavan, on Lavan Island, Hormozgan Province	60.
Do.	do.	do.	Refinery at BooAli Sina, Khuzestan Province	34.
Do.	do.	do.	Refinery at Kermanshah, Kermanshah Province	22.
Do.	do.	do.	Refinery at Aras 2, East Azerbaijan Province	10.
Do.	do.	do.	Refinery at Bushehr, Bushehr Province	10.
Do.	do.	do.	Refinery at Aras 1, East Azerbaijan Province	5.
Do.	do.	do.	Refinery at Yazd, Yazd Province	3.
Do.	do.	do.	Refinery at Zarand, Kerman Province	1.
Phosphate rock		Esfordi Phosphate Complex Co. [Iran Minerals Production and Supply Co. (IMPASCO)] ¹	Mine, about 35 km northeast of Bafq, Yazd Province	360.
Potash		Iran Potash Co. [Iran Minerals Production & Supply Co. (IMPASCO)] ¹	Zanjan and Biabanak Mines, near Khur, Esfahan Province	50.
Silver	kilograms	Zarshouran Gold Mine and Mining Industries Development Co. [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Zarshouran Mine, 40 km northeast of Takab, West Azerbaijan Province	2,500.
Stone:				
Limestone		Gohar Khak Bushehr Co.	Quarry in Bushehr Province	730.
Do.		IMPASCO [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Pirbakran limestone complex, Esfahan Province	2,000.
Do.		Iran Alumina Co. (IAC) [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Jajarm Mine, about 15 km northeast of Jajarm, North Khorasan Province	NA.
Do.		Morvarid Bandar Pol (MBP)	Quarry at Bandar Abbas, Hormozgan Province	NA.
Limestone and marble		Farzin Rock Stone Co.	Plant at Shams Abad Industrial Zone, Tehran Province	NA.
Marble		MGT Stone Co.	Quarry at Sanandaj, Kordestan Province	NA.
Titanium, ilmenite		Kahnui pilot plant [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Daregaz placer and Kahnui titanium dioxide processing plant, Kerman Province	NA.

See footnotes at end of table.

TABLE 2—Continued
IRAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2022¹

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities ²	Annual capacity
Uranium, U content:				
Mine	metric tons	Atomic Energy Organization of Iran (AEOI) ¹	Saghand Mine, about 125 km northeast of Yazd, Yazd Province	58.
Do.	do.	do.	Gachin Mine, Hormozgan Province	21.
Processing	do.	do.	Isfahan nuclear conversion plant, Isfahan, Esfahan Province	200.
Do.	do.	do.	Fordow nuclear fuel enrichment plant, 20 km north of Qom, Qom Province	21.
Do.	do.	do.	Bandar Abbas uranium leaching plant, Bandar Abbas, Hormozgan Province	21.
Do.	do.	do.	Natanz nuclear fuel enrichment plant, 80 km southeast of Qom, Qom Province	3.
Do.	do.	do.	Isfahan enriched uranium powder plant, Isfahan, Esfahan Province	2.
Zinc:				
Concentrate, Zn content		Calcimin Co. [Iran Zinc Mines Development Co. (IZMDC)]	Dandi (Anguran) plant, Zanjan Province	500.
Do.		Mehdiabad Barite, Lead and Zinc Complex [Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO)] ³	Mehdiabad Mine and plant, 115 km southeast of Yazd, Yazd Province	200.
Do.		Zangan Zinc Industry LLP [Iran Zinc Mines Development Co. (IZMDC)]	Zanjan plant, Zanjan Province	250.
Do.		Zanjan Zinc Kholes Sazan Industrial Group	Zanjan plant, Zanjan Province	200.
Refined metal		Bafq Zinc Co. [Iran Zinc Mines Development Co. (IZMDC)]	Refinery west of Bafq, Yazd Province	30.
Do.		Bama Co.	Refinery at Isfahan, Esfahan Province	15.
Do.		Bandar Abbas Zinc Production Co. (Calcimin Co.)	Refinery at Bandar Abbas, Hormozgan Province	18.
Do.		Calcimin Co. [Iran Zinc Mines Development Co. (IZMDC)]	Dandi (Anguran) refinery, Zanjan Province	80.
Do.		do.	Refinery at Zanjan, Zanjan Province	4.
Do.		Faravari Mavad Madani Iran Co. [Iran Zinc Mines Development Co. (IZMDC)]	Refinery at Dandi, Zanjan Province	18.
Do.		National Iranian Lead and Zinc Co. (Iran Zinc Mines Development Co.)	Refinery, about 12 km east of Zanjan, Zanjan Province	15.
Do.		Qeshm Zinc Melting and Reduction Co. (Calcimin Co.)	Refinery at Kaveh Industrial Zone, Qeshm Island, Hormozgan Province	20.
Do.		Sane Rooy Zanjan Co.	Refinery at Zanjan, Zanjan Province	11.
Do.		Zanjan Zinc Kholes Sazan Industrial Group	do.	35.

⁶Estimated. Do., do. Ditto. NA Not available.

¹Table includes data available through [December 12, 2023]. All data are reported unless otherwise noted. Estimated data are rounded to no more than three significant digits.

²Abbreviation(s) used for unit(s) of measure in this table include the following: km—kilometer.

³Government owned.

⁴A subsidiary of state-owned Iranian Mines and Mining Industries Development and Renovation Organization (IMIDRO).