



2017–2018 Minerals Yearbook

MONGOLIA [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF MONGOLIA

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Note: In this chapter, information for 2017 is followed by information for 2018.

Historically, Mongolia's economy relied on herding and agriculture practices but, in more recent years, it has become increasingly reliant on the mining sector. Mongolia has about 3,000 deposits and occurrences of 50 mineral commodities. The country has extensive deposits of coal, copper, fluor spar, gold, iron, petroleum, tungsten, uranium, and zinc. In 2017, Mongolia was the world's fifth-ranked producer of fluor spar, accounting for 4% of the world's production, and had reserves of 22 million metric tons (Mt) of fluor spar, or 8% of the world's reserves (Mineral Resources and Petroleum Authority of Mongolia, 2017, p. 8, 30, 43; McRae, 2018, 2019).

Minerals in the National Economy

In 2017, Mongolia's nominal gross domestic product (GDP) was \$11.4 billion. The country's real gross domestic product (GDP) increased by 5.4% compared with an increase of 1.4% in 2016. The higher real GDP growth rate was attributed to a recovery in foreign direct investment (FDI) in the Oyu Tolgoi copper-gold mine and to an increase in coal exports. FDI net inflows to Mongolia totaled \$1.5 billion compared with a reverse investment of \$4.2 billion in 2016. The mining sector employed 22,045 people out of the country's total employment of 68,305 and accounted for 22% of the GDP. Exports of mineral commodities were valued at \$5.5 billion, accounting for 89% of total exports of goods (\$6.2 billion). Imports of mineral commodities (mostly diesel fuel and gasoline) were valued at \$789 million, accounting for 18% of the total imports of goods (\$4.3 billion) (Asian Development Bank, 2018, p. 174; 2019b, p. 236; Bank of Mongolia, The, 2018, p. 15, 16; World Bank, The, 2018; 2019; Mineral Resources and Petroleum Authority of Mongolia, 2019, p. 30; National Statistics Office of Mongolia, 2019, p. 55).

The 2014 amendments to the Minerals Law of 2006 provide that the state's share (34% to 50% as required) in strategic mineral deposits can be replaced by a royalty payment. In addition, license holders receiving the state share must pay a royalty based on a percentage approved by the Government. A strategic mineral deposit is defined as having the potential to affect the national development or to account for greater than 5% of the total GDP in a given year. The 15 mineral deposits that were classified as strategic included deposits of coal, copper, gold, iron, phosphorite, silver, and uranium. Another 39 deposits are under evaluation for strategic importance (Mineral Resources Authority, 2016, p. 30–31).

Production

In 2017, substantial increases in production included that of fluor spar (acid grade), by 62%; iron ore (gross weight) and cement, 56% each; crushed stone (unspecified), 50%; raw steel, 25%; fluor spar (metallurgical grade), 20%;

and lime, 17%. Production of mined tin decreased by 36%. Other notable decreases in mine production included that of tungsten, by 30%; molybdenum, 26%; zinc, 11%; and silver, 10%. Data on mineral production are in table 1.

Structure of the Mineral Industry

Based on Resolution No. 4 of 2016, the Mineral Resources and Petroleum Authority of Mongolia is the Government entity responsible for supporting the development of state policy on mining and petroleum and for administering the activities related to the country's "geologic" resources. The majority of the mining and production companies in Mongolia were owned by the state or by joint ventures between international companies and the Government of Mongolia. A few companies were wholly owned by foreign investors (Mineral Resources and Petroleum Authority of Mongolia, 2017, p. 3). Table 2 lists Mongolia's major mineral industry facilities.

Commodity Review

Metals

Copper.—In 2017, Mongolia produced about 1.447 Mt of copper concentrate [303,000 metric tons (t) of contained copper], most of which was exported to China. Oyu Tolgoi LLC and Erdenet Mining Corp. (EMC) were the major copper mining operators in Mongolia. In 2017, Oyu Tolgoi produced 157,000 t of copper from the Oyut deposit compared with 201,300 t in 2016 owing to the depletion of high-grade ore. Production at EMC's Erdenetiin-Ovoo Mine was estimated to be 146,000 t of copper in 2017 (National Statistical Office of Mongolia, 2018, p. 104, 106; Rio Tinto plc, 2018, p. 42).

The Oyu Tolgoi Mine represented one of the largest high-grade Paleozoic porphyry copper-gold-molybdenum deposits in the world. Turquoise Hill Resources Ltd. of Canada (in which Rio Tinto held a 50.8% stake) managed this mine on behalf of all shareholders. The mine consisted of five deposits that could be in production for about 100 years. Of the five deposits, the Oyut deposit was first mined as an open pit operation in 2013. As of 2017, the Oyut deposit had copper ore reserves of 863 Mt at a grade of 0.44% copper (3.8 Mt of contained copper) (table 2; Rio Tinto plc, 2018, p. 229; Turquoise Hill Resources Ltd., 2018).

Gold.—Mongolia's gold output decreased between 2009 and 2013 owing to the adoption and enforcement of the Law Prohibiting Mineral Exploration and Extraction Near Water Sources, Protected Areas and Forests of 2009. The output had returned to pre-2009 levels since 2013, however, owing in part to the Government's favorable legal and taxation environment to promote gold mining (Mineral Resources and Petroleum Authority of Mongolia, 2017, p. 39).

In 2016, a Government Working Group made up of representatives from the Ministry of Finance, the Ministry of Mining and Heavy Industry, and the Bank of Mongolia developed the Gold-II national program, which took effect in 2017, to further increase gold production. The Government expected that this program would increase gold extraction by 2 to 3 metric tons per year (t/yr), gradually reaching 25 t/yr by 2020 (Mineral Resources and Petroleum Authority of Mongolia, 2017, p. 71).

As of 2017, Oyu Tolgoi's Oyu deposit—the country's major gold deposit—had reserves of 242 t gold at a grade of 0.28 gram per metric ton (g/t) gold. In 2017, Oyu Tolgoi produced 3,555 kilograms (kg) of gold compared with 9,331 kg in 2016. The decrease was the result of lower ore grades (Rio Tinto plc, 2018, p. 226, 229).

Molybdenum.—Zuun Mod in Bayankhongor Province was one of Asia's largest undeveloped molybdenum-copper deposits. In 2011, the Government of Mongolia granted a 30-year mining license with two additional 20-year terms possible to Erdene Resource Development Corp. of Canada. Erdene estimated resources (measured and indicated) to be 218 Mt at grades of 0.057% molybdenum (124,000 t of contained molybdenum) and 0.069% copper (150,000 t of contained copper). Because of the decreased demand for molybdenum since 2005, further development of the deposit would be delayed until the molybdenum market improves (Erdene Resource Development Corp., 2018a, p. 18; 2018b, p. 33, 34).

Industrial Materials

Fluorspar.—In 2017, production of fluorspar in Mongolia was estimated to be 380,000 t and exports of fluorspar ores and concentrates totaled 319,000 t. The leading destinations for the fluorspar exports were Russia (which received 56% of the exports) and China (43%) (National Statistical Office of Mongolia, 2018, p. 104, 106).

Mongolrostsvetmet LLC mined fluorite ore from the Bor-Undur underground mines and three open pits. The fluorite ore from these mines was processed at Mongolrostsvetmet's Bor-Undur mining complex, which was the largest fluorspar-concentrate-processing plant in Mongolia. Bor-Undur produced fluorspar acid concentrate (used as feedstock for the manufacture of fluorine-bearing chemicals and as an ingredient in the processing of aluminum and uranium) and metallurgical fluorspar (used as a flux in steelmaking) as final products (Mineral Resources Authority, 2016, p. 48, 49; Mongolrostsvetmet LLC, 2018a, b).

Mineral Fuels and Related Materials

Coal.—Mongolia had "geological" coal reserves¹ of 37.4 billion metric tons (Gt) as of 2016 and approximately 160 coal deposits and 276 occurrences in 15 basins, with 171 entities holding 296 coal mining licenses. In 2016 (the latest year for which data were available), coking coal accounted for 74% (by weight) of total coal production, and Mongolia

exported more than 89% of its coking (metallurgical) coal production. The country exported 23.6 Mt of coking coal in 2016 and 26.3 Mt in 2017 to China, which was the leading recipient of Mongolia's coking coal exports (table 1; Mineral Resources Authority, 2016, p. 18, 49; Mineral Resources and Petroleum Authority of Mongolia, 2017, p. 42; Mongolian Mining Corp., 2018, p. 20).

State-owned Erdenes Tavan Tolgoi (ETT) JSC, Mongolian Mining Corp., Mongolyn Alt (MAK) Group, and SouthGobi Resources Ltd. were the major producers and exporters of Mongolian coal. As of 2017, the Ukhaa Khudag (UHG) Mine and the Baruun Naran Mine of Mongolian Mining had run-of-mine coal reserves of 333 Mt (320 Mt of coking coal and 13 Mt of thermal coal) and 176 Mt (coking coal), respectively. In 2017, UHG produced 5.9 Mt of coal, of which, 4.4 Mt was exported to China (Dolgorsuren, 2015, p. 1; Mongolian Mining Corp., 2018, p. 26, 31).

SouthGobi Resources Ltd. operated the Ovoot Tolgoi Mine and owned the Soumber and the Zag Suuj deposits. The Ovoot Tolgoi Mine in South Gobi Province is located 46 kilometers from the border with China. Coal is transported by railway to China. As of 2016, the Ovoot Tolgoi Mine had 114.1 Mt of coal reserves. In 2017, this mine produced 6.38 Mt of coking coal (SouthGobi Resources Ltd., 2018a, p. 24; 2018b).

According to the Mineral Resources Authority, the ETT Mine—classified as a strategic mineral deposit—contained 6.4 Gt of coking (or bituminous) coal resources. In 2017, ETT produced about 10 Mt of coal, of which 8.5 Mt was exported. The Government planned to resume an initial public offering (IPO) for ETT in 2018. Mongolia had previously planned to launch an IPO of ETT in 2011, but it was deferred by complaints about the bidding process from firms in Japan and the Republic of Korea (Mineral Resources Authority, 2016, p. 32; Thomson Reuters, 2018b; UBinfo, 2018).

Uranium.—As of 2015, the geological reserves of uranium in Mongolia were assessed to be about 180,000 t of elemental uranium (tU). From 1988 to 1995, Russian interests (the Erdes Mining Enterprise, which was a subsidiary of Priargunsky Industrial Mining & Chemical Union) mined uranium ores from the Dornod Mine in Dornod Aimag; since 1995, there had been no uranium production in Mongolia. As of 2016, there were eight uranium deposits on which feasibility studies had been completed and approved by the Government (Mineral Resources Authority, 2016, p. 18; World Nuclear Association, 2017).

AREVA Mines LLC was a joint-venture company (AREVA Mongol, 66%, and state-owned MonAtom LLC, 34%) established to conduct uranium mining activities in Mongolia. AREVA Mongol was owned by Orano Mining (66%) and Mitsubishi Corp. of Japan (34%). Cogegobi LLC was Orano Mining's exploration subsidiary. In 2015, mining licenses were granted to Cogegobi LLC for the Zoovch Ovoo deposit (which had indicated resources of 12,836 tU and inferred resources of 60,809 tU) and the Dulaan Uul deposits (which had resources of 6,259 tU) in the Sainshand basin. In 2016, these mining licenses were transferred to AREVA Mines (renamed to Badrakh Energy in 2018). In 2017, the pilot for Zoovch Ovoo was launched to perform detailed technical and economic analysis of the project. MonAtom expected that both deposits would be mined at

¹The economic extractability of "geological" reserves has not been proved. The amount of "geological" reserves would be larger than those determined by the Joint Ore Reserves Committee (JORC) or National Instrument (NI) 43-101 codes' reserve estimates (Mineral Resources Authority, 2016, p. 35).

2,000 tU per year starting in 2022 (Areva Mongol LLC, 2017, p. 63; World Nuclear Association, 2017; Orano Mining, 2020).

MINERAL INDUSTRY HIGHLIGHTS IN 2018

In 2018, Mongolia's real GDP increased by 6.8% owing to large investments in the mining sector and growth in the services sector. Total FDI to Mongolia was valued at \$1.95 billion. The mining sector accounted for 24% of Mongolia's GDP. Employment in the mining sector increased by 5% to 23,128 people, accounting for 31% of total employment of 74,167 in the country (Asian Development Bank, 2019a, p. 190; 2019b, p. 236; Mineral Resources and Petroleum Authority of Mongolia, 2019, p. 30; National Statistics Office of Mongolia, 2019, p. 55; World Bank, The, 2019).

The export value of goods totaled \$7.01 billion. Exports of mineral commodities increased by 12% to \$6.20 billion, which was driven by the increased value and quantity of coal exports. Coal and copper concentrates accounted for 40% and 29% of total exports, respectively. China was the leading recipient, accounting for 99.2% and 99.4% of Mongolia's coal and copper concentrate exports, respectively. Imports of goods totaled \$5.88 billion. Imports of mineral commodities (mostly diesel fuel and gasoline) increased by 41% to about \$1.11 billion owing mostly to increased petroleum prices. Russia supplied 99% of the imports of diesel fuel and gasoline (Bank of Mongolia, The, 2018, p. 14–15; National Statistics Office of Mongolia, 2019, p. 111, 118).

In 2018, major increases in production included those of mined tungsten, by 280%; fluor spar (metallurgical grade), 69%; raw steel, 39%; cement, 38%; and stone (crushed, unspecified), 17%. Notable decreases in production included that of iron ore (gross weight), by 19%; and crude petroleum, by 16% (table 1).

As of 2018, the Oyu Tolgoi Mine's Hugo Dummett North deposit had total (proved and probable) ore reserves of 464 Mt at grades of 1.66% copper and 0.34 g/t gold compared with 878 Mt at grades of 0.43% copper and 0.27 g/t gold at the Oyu open pit. Production at the deposit, which was being developed as an underground mine, was planned to start in 2021. Oyu Tolgoi expected to produce more than 550,000 t/yr of copper and 14 t/yr of gold from 2025 to 2030, all from the Oyu open pit and the Hugo Dummett North deposit (Turquoise Hill Resources Ltd., 2018; Rio Tinto plc, 2019, p. 272).

Xanadu Mines Ltd. of Australia acquired the Kharmagtai project in the South Gobi Desert in 2014 and had completed substantial additional exploration and evaluation work, including an open pit scoping study. As of 2018, the project site was estimated to hold 129 Mt of indicated resources containing 468,000 t of copper and 46 t of gold at grades of 0.36% copper and 0.36 g/t gold, and 469 Mt of inferred resources containing 1.468 Mt of copper and 88 t of gold at grades of 0.31% copper and 0.19 g/t gold (Xanadu Mines Ltd., 2018, p. 109).

In December 2018, under the new agreement with the Government, Rio Tinto agreed to begin constructing a 300-megawatt-capacity powerplant near the Tavan Tolgoi coalfield in 2020. The company aimed to supply electricity to the major mines, such as Rio Tinto's Oyu Tolgoi and Erdenes Tavan Tolgoi Mines starting in June 2023. In 2014, Rio Tinto

agreed to generate domestic electricity for this area within 4 years, replacing Chinese suppliers (Mining Technology, 2018; Misheel, 2018).

A new railway between Ulaanbaatar (Mongolia) and the Port of Caofeidian (China) was opened in March 2018. This railway would be used for transporting China's steel products to Mongolia and for exporting Mongolian mineral commodities to Asian consumers, such as Japan and the Republic of Korea. Mongolia planned to begin construction of another railway from the Tavan Tolgoi coal deposit to the Mongolia-China border in 2019. When completed in 2021, the railway was expected to be able to carry 30 million metric tons per year of coal to China (Thomson Reuters, 2018a, c).

Outlook

In the short to medium terms, Mongolia's exports of mined minerals and mineral fuels are likely to decrease owing to lower demand and lower commodity prices, in large part because of reduced economic growth in China, which was a major recipient. In the longer term, coal, copper, and gold output is expected to increase when the construction of the new railway for coal exports to China and the expansion of the Oyu Tolgoi copper-gold mine are completed as planned (Asian Development Bank, 2020, p. 186–187).

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TABLE 1
MONGOLIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons, gross weight, unless otherwise specified)

| Commodity ² | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| METALS | | | | | |
| Copper, mine: | | | | | |
| Concentrates, Cu content | 249,200 | 311,745 | 332,000 ^{r,e} | 303,000 ^e | 301,000 ^e |
| Solvent electrowon | 6,993 ^r | 14,990 ^r | 15,010 ^r | 14,689 | 14,174 |
| Total | 256,000 | 327,000 | 347,000 ^e | 318,000 ^e | 315,000 ^e |
| Gold, mine, Au content kilograms | 11,504 | 14,556 | 18,436 ^r | 19,847 | 20,655 |
| Iron ore, mine: | | | | | |
| Gross weight thousand metric tons | 7,558 | 6,061 | 4,936 ^r | 7,695 | 6,225 |
| Fe content do. | 4,535 | 3,637 | 2,960 ^r | 4,620 | 3,740 |
| Iron and steel, raw steel | 64,400 | 43,731 | 16,800 | 21,045 | 29,169 |
| Molybdenum, mine, Mo content | 1,999 | 2,557 | 2,444 | 1,800 | 1,800 |
| Silver, mine, Ag content ^e kilograms | 49,000 ^r | 60,000 ^r | 69,000 ^r | 62,000 | 60,000 |
| Tin, mine, Sn content | 79 | 64 | 39 | 25 | 25 |
| Tungsten, mine, concentrate, W content | 557 | 351 ^r | 732 ^r | 510 | 1,938 |
| Zinc, mine, Zn content | 46,600 ^e | 44,800 ^e | 45,900 ^r | 41,000 ^e | 44,000 ^e |
| INDUSTRIAL MINERALS | | | | | |
| Cement, hydraulic thousand metric tons | 411 | 410 | 432 ^r | 675 | 934 |
| Fluorspar: | | | | | |
| Acid grade ³ do. | 72 | 47 | 34 | 55 | 55 ^e |
| Metallurgical grade ⁴ do. | 303 | 300 ^{r,e} | 270 ^{r,e} | 325 ^e | 550 ^e |
| Lime, hydrated and quicklime do. | 58 | 52 | 48 ^{r,e} | 56 | 59 |
| Salt | 1,852 | 1,686 | 1,800 ^{r,e} | 1,800 ^e | 1,800 ^e |
| Stone, crushed, unspecified thousand metric tons | 240 | 141 | 101 | 151 | 177 |
| MINERAL FUELS AND RELATED MATERIALS | | | | | |
| Coal: | | | | | |
| Bituminous | 4,061,000 ^r | 2,074,000 ^r | 2,419,000 ^r | 2,400,000 ^e | 2,400,000 ^e |
| Lignite | 6,903,000 ^r | 5,741,000 ^r | 6,672,000 ^r | 6,700,000 ^e | 6,700,000 ^e |
| Metallurgical | 13,481,000 ^r | 16,329,000 ^r | 26,431,000 ^r | 26,000,000 ^e | 26,000,000 ^e |
| Coke, metallurgical | 106,000 ^r | 72,000 ^r | 28,000 ^r | 28,000 ^e | 28,000 ^e |
| Petroleum, crude thousand 42-gallon barrels | 7,405 | 8,769 | 8,249 | 7,624 | 6,389 |

^eEstimated. ^rRevised. do. Ditto.

¹Table includes data available through October 11, 2019. All data are reported unless otherwise noted. Totals and estimated data are rounded to no more than three significant digits.

²In addition to the commodities listed, lead and crude construction materials, such as gypsum and sand and gravel, and limestone may have been produced, but available information was inadequate to make reliable estimates of output.

³Flotation concentrate, includes some material less than 97%.

⁴May include some submetallurgical-grade fluorspar.

TABLE 2
MONGOLIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2018

(Thousand metric tons unless otherwise specified)

| Commodity | Major operating companies and major equity owners | Location of main facilities ¹ | Annual capacity ² | |
|---------------------------------|---|--|---|--------|
| Calcium oxide | Qinhua MAK Naryn Sukhait LLC (Mongolia-China joint venture) | 316 km from Ulaanbaatar at the Olon Ovoot station of the Trans Mongolia railway | 50 | |
| Cement | Khutul Cement and Lime JSC | Darhan, Darhan-Uul Aimag | 1,000 | |
| Coal | Baganuur Joint Stock Co. (Government, 51%, and public, 49%) | Baganuur Mine, Tov Aimag | 3,000 | |
| Do. | Erdenes Tavan Tolgoi JSC (a subsidiary of Erdenes Mongol LLC, on behalf of the Government) | Tavan Tolgoi Mine, Omnogovi (South Gobi) Aimag, 200 km north of the China border | 12,000 | |
| Do. | Government, 90%, and public, 10% | Shivee Ovoo Mine, Dornogovi and Govisumber Aimag, 20 km from Choir City | 2,000 | |
| Do. | Ikh Gobi Energy LLC | Mandakhnuur Mine, Mandakh Soum Dornogovi Aimag | 1,000 | |
| Do. | Moenco LLC | Khushuut Mine, Darvi Soum, Khovd Aimag | 3,000 | |
| Do. | Mongolian Mining Corp., 100% (Energy Resources LLC) | Baruun Naran Mine, Omnogovi (South Gobi) Aimag, 60 km east of Dalanzadgad | 3,000 | |
| Do. | do. | Ukhaa Khudag Mine, Omnogovi (South Gobi) Aimag, 80 km east of Dalanzadgad | 8,600 | |
| Do. | Mongolyn Alt (MAK) Group, 100% | Naryn Sukhait Mine, Gurvantes Soum, Omnogovi Aimag | 3,000 | |
| Do. | SouthGobi Resources Ltd. (China Investment Corp., 23.75%, and China Cinda Asset Management Co. Ltd., 17%) | Ovoot Tolgoi Mine, Omnogovi (South Gobi) Aimag | 4,600 | |
| Do. | Terra Energy LLC (TerraCom Ltd., 100%) | Baruun Noyon Uul (BNU) coking coal mine, Omnogovi (South Gobi) Aimag, 80 km east of Naryn Sukhait Mines | 1,500 | |
| Do. | Usukh Zoos LLC | Khuren Shand Mine, Gurvantes Soum, Umnugobi Aimag | 3,000 | |
| Copper: | | | | |
| Mine, concentrate, Cu content | Erdenet Mining Corp. (Government, 51%, and Mongolian Copper Corp., 49%) | Erdenetiin-Ovoo Mine and processing plant, 180 km west of Darkhan City | 150 | |
| Do. | Mongolyn Alt (MAK) Group, 100% | Tsagaan Suvarga Mine, Omnogovi (South Gobi) Aimag, 560 km southeast of Ulaanbaatar | 70 | |
| Do. | Turquoise Hill Resources Ltd., 66%, and Erdenes Oyu Tolgoi LLC (on behalf of the Government), 34% | Oyu Tolgoi Mine, Omnogovi (South Gobi) Aimag, 80 km north of the China border | 210 | |
| Refined | Achit Ikht LLC (Head of the Presidential Office, 51%, and Erdenet Mining Corp., 34%) | Plant in Orkhon Aimag (near Erdenetiin-Ovoo Mine) | 10 | |
| Do. | Erdenet Mining Corp. (Government, 51%, and Mongolian Copper Corp., 49%) | Erdmin solvent extraction-electrowinning plant, 180 km west of Darkhan City | 3 | |
| Fluorspar | Mongolrosvetmet LLC (Government, 51%, and Mongolian Copper Corp., 49%) | Bor-Undur Mine and processing plant, Hentiy Aimag, 310 km southeast of Ulaanbaatar; 3 underground and 2 open pit mines | 600 ² | |
| Gold, mine, concentrate: | | | | |
| Au content | kilograms | Bayan Airag Exploration LLC | Bayan-Airag Mine, Durvunjil & Zavkhan Soum | NA |
| Do. | do. | Mongolrosvetmet LLC (Government, 51%, and Mongolian Copper Corp., 49%) | Zaamar placer gold operation, Tov Aimag, 240 km southwest of Ulaanbaatar | 170 |
| Do. | do. | do. | Zeregtsee placer mine, 240 km southwest of Ulaanbaatar | 180 |
| Do. | do. | Turquoise Hill Resources Ltd., 66%, and Erdenes Oyu Tolgoi LLC (on behalf of the Government), 34% | Oyu Tolgoi Mine, Omnogovi (South Gobi) Aimag, 80 km north of the China border | 10,000 |
| Gross weight | | Mongolian Resource Corp. Ltd., 90% | Blue Eyes Mine, Bornuur Soum, Tov Aimag | 36 |
| Do. | | North Asia Resources Holdings Ltd. | Khar Yamaat placer mine | NA |
| Do. | | Zinjin Mining Group Co. Ltd., 70% | Nari Tolgoi Mine, Jierigrong Sumu, Tov Aimag | 90 |

See footnotes at end of table.

TABLE 2—Continued
MONGOLIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2018

(Thousand metric tons unless otherwise specified)

| Commodity | | Major operating companies and major equity owners | Location of main facilities ¹ | Annual capacity ² |
|------------------------------|----------------|---|--|---------------------------------|
| Iron ore: | | | | |
| Concentrate, gross weight | | Lung Ming Mining Co. Ltd., 66.7%, and China Investment Corp., 33.3% | Eruu Gol Mine | 2,500 |
| Do. | | Mongolrostsvetmet LLC (Government, 51%, and Mongolian Copper Corp., 49%) | Bargilt Mine and ore dressing plant 20 km from Bor-Undur | 400 |
| Ore, gross weight | | Darkhan Metallurgical Plant JSC | Tumurtei Mine, Khuder Soum, Selenge Aimag | 11,000 |
| Do. | | do. | Tumur Mine, Khongor Soum, Darkhan-Uul Aimag | 1,000 |
| Lead, mine, Pb content | | Shandong Xianglong Co. Ltd. | Tsav Mine, Dornod Aimag | 15 |
| Lime | | Khutul Cement and Lime JSC | Saikhan soum, Selenge Aimag | 65 |
| Limestone | | Mongolyn Alt (MAK) Group, 100% | Quarry, 14 km from the Olon Ovoot station of the Trans Mongolia railway | NA |
| Molybdenum, mine, Mo content | | Erdenet Mining Corp. (Government, 51%, and Mongolian Copper Corp., 49%) | Erdenetiin-Ovoo open pit mine and processing plant, 180 km west of Darkhan City | 3 |
| Do. | | Turquoise Hill Resources Ltd., 66%, and Erdenes Oyu Tolgoi LLC (on behalf of the Government), 34% | Oyu Tolgoi Mine, Omnogovi (South Gobi) Aimag, 80 km north of the China border | NA |
| Petroleum, crude | | PetroChina Company Limited Daching Tamsag-Mongolia (PetroChina) | Tamsag Basin | NA |
| Do. | | Sinopec | Southeast Gobi Basin | NA |
| Silver, mine, Ag content | kilograms | Turquoise Hill Resources Ltd., 66%, and Erdenes Oyu Tolgoi LLC (on behalf of the Government), 34% | Omnogovi (South Gobi) Aimag, 80 km north of the China border | 30,000 |
| Steel, raw | | Darkhan Metallurgical Plant JSC | Plant in Darkhan, Darkhan-Uul Aimag | 100 |
| Tungsten, mine, W content | metric tons | Erdenet Mining Corp. (Government, 51%, and Mongolian Copper Corp., 49%) | Erdenetiin-Ovoo open pit mine and processing plant, 180 km west of Darkhan City | 140 |
| Do. | do. | SS Mongolia LLC | Khovd River Mine, Tsengel Soum, Bayan-Ulgii Aimag | 3,300 |
| Zinc, ore: | | | | |
| Gross weight | | Tsairt Minerals Co. Ltd. (China Nonferrous Metals Group, 51%, and Government, 49%) | Tumurtiin Ovoo Mine, Sukhe Bator, 180 km southwest of Choibalsan | 400 |
| Do. | | Shandong Xianglong Co. Ltd. | Tsav Mine, Dornod Aimag | 300 |

²Estimated. Do., do. Ditto. NA Not available.

¹Abbreviations used for units of measure in this table include the following: km—kilometer.

²By gross weight of ore processed by mill capacity.