

2017–2018 Minerals Yearbook

OMAN

THE MINERAL INDUSTRY OF OMAN

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

In 2017, Oman's crude petroleum and natural gas sector continued to play a dominant role in its economy. According to the Central Bank of Oman (2018, p. 22, 56), the energy sector accounted for nearly one-third, or 30.1%, of the country's nominal gross domestic product (GDP) in 2017, which is a decrease from 49.1% in 2013. Oman accounted for about 1.0% of global crude petroleum production and 0.9% of global natural gas production in 2017. At yearend, the country's crude petroleum and condensate reserves were estimated to be 5,400 million barrels (Mbbl) and proved natural gas reserves were estimated to be 700 billion cubic meters (table 1; BP p.l.c., 2018b, 12, 14, 26, 28; Central Bank of Oman, 2018, p. 22, 56).

Oman produced metals, such as aluminum, chromium, copper, gold, iron and steel [direct-reduced iron (DRI) and raw steel], manganese, and silver. The country also produced iron ore pellets for use by DRI plants and accounted for about 1.7% of the world's DRI production. Oman's production of industrial minerals included ammonia, clay (kaolin and others), cement, gypsum, laterite (low-grade iron ore), limestone, marble, quartz, salt, and sand and gravel, which were used mainly for domestic consumption. Oman was the eighth-ranked producer of gypsum, accounting for 3.6% of world gypsum production in 2017. The country is located on the southeastern tip of the Arabian Peninsula, a strategic location because of its proximity to global energy shipping pathways at the Strait of Hormuz and the Gulf of Oman (table 1; Central Bank of Oman, 2018, p. 22, 56; Midrex Technologies Inc., 2018, p. 9; Crangle, 2019).

The Government issued 292 licenses for mineral exploration operations in 2017. According to the Government, Oman had undeveloped mineral resources in the ophiolite sequence zone (located in the northern mountainous part of the country) that included such metals as chromium, cobalt, copper, gold, lead, magnesium, manganese, nickel, silver, and zinc; such industrial minerals as clay (including kaolin), dolomite, gypsum, laterite, limestone, marble, quartzite, salt, and silica sand; and such fuels as coal (Public Authority for Mining, The, 2015, p. 15–25; Central Bank of Oman, 2018, p. 56).

Minerals in the National Economy

In 2017, Oman's nominal GDP increased by 7.3% to \$70.7 billion.¹ The hydrocarbon sector played a significant role in the country's economy, accounting for 72.9% of Government revenues, 58.3% of total merchandise exports, and 29.0% of the GDP. The value added by Oman's hydrocarbon sector increased by 18.1% to \$20.5 billion in 2017 as Government revenue from crude petroleum production increased by 28.2% to \$12.2 billion.

Oman's crude petroleum price increased by 27.9% to an average of \$51.30 per barrel in 2017 compared with \$40.10 per barrel in 2016. Government revenue from natural gas production decreased by 0.8% to \$4.0 billion in 2017. Industrial activities other than petroleum-related activity accounted for 20.5% of the GDP, of which the value of manufacturing accounted for 10.2%; construction, 7.8%; electricity and water supply, 2.0%; and mining and quarrying, 0.5%. Growth in the gross output of the nonpetroleum industrial sector, which increased by 2.8%, was driven by mining and quarrying, which increased by 15.1% in 2017. Other leading growth sectors were manufacturing, which grew by 11.3% and electricity and water, by 5.7%. The gross output of the construction sector decreased by 7.7% in 2017 (Central Bank of Oman, 2018, p. 61; 2019, p. 12–13, 15, 32, 41).

In 2017, the value of exports and imports increased by 19% and 13%, respectively. The value of exports increased owing to a 17% increase in the value of crude petroleum and a 117% increase in the value of refined products, both of which benefited from an increase in international prices. Total merchandise exports were valued at \$32.9 billion, of which, crude petroleum accounted for 46% or \$15.1 billion; liquefied natural gas, 9% or \$3.0 billion; mineral products, 7% or \$2.2 billion; base metals and articles manufactured from base metals, 5% or \$1.6 billion; and refined petroleum products, 3% or \$1.1 billion. The value of imports increased to about \$26 billion, of which, base metals and articles manufactured from base metals accounted for 14% or about \$3.5 billion, and mineral products accounted for 11% or about \$2.8 billion (Central Bank of Oman, 2018, p. 116, 119, 121).

Production

Notable increases in Oman's mineral production in 2017 compared with that of 2016 included production of sand and gravel (industrial, unspecified), which increased by 100%; refined and smelted copper, by 82% each; sulfur (byproduct of petroleum) and sulfuric acid, by 67% each; liquefied petroleum gas, by 51%; salt, by 50%; limestone (crushed), by 45%; chromite, by 40%; jet fuel (including kerosene), by 38%; residual fuel oil, by 34%; kaolin, by 17%; distillate fuel oil, by 14%; and clay (unspecified), by 12%. Increased production of these commodities was attributed to growth in the domestic economy and increased demand from international markets. Notable decreases in production included silver, by 97%; gold, by 96%; primary aluminum, by 35%; quartz, by an estimated 13%; and ferrochromium, by 12%. Data on mineral production are in table 1.

Structure of the Mineral Industry

The Ministry of Commerce and Industry (MOCI) regulated the country's mining sector in accordance with the Mining Law,

¹Where necessary, values have been converted from Omani rials (OMR) to U.S. dollars (US\$) at an annual average exchange rate of OMR 0.3849=US\$1.00 for 2017 and 2016.

Royal Decree No. 27 of 2003, and its amendments and implementing regulations. Under the Mining Law, the Government maintained ownership of all minerals found in Oman and issued mining permits to only those companies in which at least 70% of the total capital was held by Omani Nationals. Royal Decree No. 49 of 2014 established the Public Authority for Mining (PAM), under the authority of the MOCI, to monitor mineral industry activities, prepare plans and strategies relevant to the development of the mineral industry, and oversee the country's mineral policies. The PAM was responsible for conducting geologic studies, executing economic viability studies, issuing mining and quarrying permits, and promoting investment opportunities in the mineral sector. The Ministry of Environment and Climate Affairs (MECA) was established in September 2007 by Royal Decree No. 90/2007 as one of the Government authorities responsible for formulating plans and programs for environmental protection and natural resource conservation (Public Authority for Mining, The, 2015, p. 4-5, 26-27; Oxford Business Group, 2017; Oman Ministry of Environment and Climate Affairs, 2018).

The Ministry of Oil and Gas (MOG) managed the country's hydrocarbon sector. Petroleum Development Oman L.L.C. (PDO), which was owned by the Government (60%), Royal Dutch Shell plc of the Netherlands (34%), Total S.A. of France (4%), and Partex (Oman) Corp. of Portugal (2%), held more than 90% of the country's crude petroleum reserves and produced more than 70% of the country's crude petroleum and almost all of its natural gas. The Government owned 100% of Oman Oil Company S.A.O.C. (OOC) and Oman Oil Company Exploration and Production L.L.C. (OOCEP), 75% of Oman Oil Refineries and Petroleum Industries Co. (ORPIC), 51% of Oman Liquefied Natural Gas S.A.O.C. (U.S. Energy Information Administration, 2017, p. 7).

The Oman Government's ninth 5-year development plan's (2016–2020) primary focus was aimed at diversifying the economy more broadly than hydrocarbons. The mining sector was expected to benefit from the expansion of transportation infrastructure, energy infrastructure, and port facilities. During the year, the Government continued with the development of the Duqm Special Economic Zone; Duqm is a port town located in central Oman about 600 kilometers (km) south of Muscat. The Duqm Special Economic Zone was designed as an integrated development project composed of a seaport, industrial area, new town, fishing harbor, tourist zone, logistics center, and education and training zone. Other infrastructure projects included upgrading the Muscat Airport and major road projects, such as the Batinah Expressway and the Saudi Oman road. Furthermore, the Government planned to invest in expanding its electric power sector by building six solar and wind projects with a capacity of 23.2 terawatthours (TWh) of electricity per year by 2024. In May, the PAM and the Mineral Development of Oman S.A.O.C. (MDO) announced a new railway project intended to link the Manji and Shuweimiah mining areas of Dhofar Governorate in southern Oman to the Duqm Port. These mining areas contained gypsum and limestone reserves. The MDO was established with the mandate to drive investment in, and support the commercialization of, Oman's nonfuel mineral sector.

Sixty percent of the company was owned by four Government entities: The State General Reserve Fund, Oman Investment Fund, OOC, and Oman National Investments Development Company. The remaining 40% was held by private investors. Table 2 is a list of major mineral industry facilities (Prabhu, 2017b; Central Bank of Oman, 2018, p. 29, 56).

Commodity Review

Metals

Aluminum.—Sohar Aluminium Co. L.L.C. produced 252,714 metric tons (t) of primary aluminum in 2017, which was a decrease of 35% from the 386,395 t produced in 2016. The decrease in production was attributed to an accident at the Sohar aluminum smelter's potline and subsequent temporary plant shutdown in August. The smelter, located in the city of Sohar in northern Oman, had a capacity of 389,000 metric tons per year (t/yr) of aluminum. Sohar Aluminium, which was owned by OOC (40%), Abu Dhabi National Energy Co. P.J.S.C. (40%), and Rio Tinto Alcan Inc. of Canada (20%), produced ingots, sows, and hot metal and employed 955 people, of which 76% (or 727 people) were Omani (table 2; Sohar Aluminium Co. L.L.C., 2018, p. 7, 29, 97).

Antimony.—Strategic & Precious Metal Processing Co. (SPMP), which was a joint venture of Tristar Resources p.l.c. of the United Kingdom (40%), Oman Investment Fund (40%), and DNR Industries Ltd. (20%), continued to develop a \$112 million metal-processing facility to produce antimony metal, antimony trioxide, gypsum, and gold bars. The plant was located in the Sohar Port and Freezone and international sources would provide its feedstock, including the company's operations in Turkey. The plant, which had a planned capacity of 20,000 t/yr of antimony and more than 1,555 kilograms per year (kg/yr) of gold, was nearly completed by yearend 2017. SPMP was expected to start commercial production in the second half of 2018 (Tristar Resources p.l.c., 2018, p. 3, 5–6).

Chromium and Ferrochromium.—In 2017, Oman produced 632,000 t of chromite ore compared with 451,000 t in 2016. The country also produced 79,563 t of ferrochrome metal in 2017 compared with 90,063 t (revised) in 2016. Gulf Mining Group, which operated a 50,000-t/yr ferrochrome smelter located in the Sohar Freezone, planned to increase the capacity of its ferrochrome smelter to 150,000 t/yr by 2020. The company reported that the planned expansion would depend on the completion of an electric powerplant in the Sohar area and noted that elecricity accounted for 30% of the operating cost of the smelter (tables 1, 2; Platts, 2017).

Copper.—Savannah Resources plc of the United Kingdom was issued environmental operating permits in November to begin copper operations at Blocks 4 and 5 of the Semail ophiolite belt located in northern Oman about 180 km northwest of Muscat. These blocks covered 1,006 square kilometers (km²). Savannah Resources held a 51% interest in the Omani company, Al Thuraya LLC, which owned the Block 4 license. In addition, Savannah Resources held a 65% interest in Al Fairuz Mining, which owned the Block 5 license. In Block 4, the company focused drilling efforts on the Aarja, the Bayda, and the Lasail prospects. Block 5 included the Mahab 4 and the Maqail South deposits, which held a combined indicated and inferred mineral resource of 1.7 million metric tons (Mt) at an average grade of 2.1% copper. At the Mahab 4 deposit, the company planned to develop an underground mine. At the Maqail South deposit, the company planned to develop an open pit mine and begin mining operations at Block 5 in 2018. The company also planned to build a copper concentrate facility and expected to begin commercial production of copper concentrate in 2018 (Savannah Resources plc, 2018, p. 3–4, 8–9, 23, 47).

In 2017, Alara Resources Ltd. of Australia completed a feasibility study of the Al Hadeetha copper-gold project located about 70 km west of Muscat. The project comprised three exploration licenses, which covered 105 km², and applications for three mining licenses. In December 2016, the company announced a maiden Joint Ore Reserves Committee (JORC) ore reserve statement of 9.7 Mt at an average grade of 0.88% copper and 0.22 gram per metric ton gold. The company reported that the PAM had completed its review of the mining licenses in early 2017, but final clearances by MECA were still under review. Alara Resources also continued development of the Daris copper-gold project, which was located about 150 km west of Muscat. The project comprised one mineral excavation license of about 587 km² with applications for two mining licenses covering 4.5 km². A JORC-compliant mineral resource estimate of the Daris project included 240,000 t of sulfide ore at an average grade of 2.37% copper and 183,000 t of oxide ore at an average grade of 0.72% copper. The company also reported that the Daris project had already received license clearances from MECA (Alara Resources Ltd., 2017, p. 9–12).

Iron and Steel.—In 2017, Oman produced 1.5 Mt of DRI compared with 1.4 Mt in 2016. Jindal Steel and Power Ltd. of India, which was the country's sole DRI producer, operated a 1.5-million-metric-ton-per-year (Mt/yr) plant in the Sohar Industrial Zone. The company also operated a 2-Mt/yr integrated steel melt plant in Sohar. Both plants—the DRI plant and the steel plant—had been in operation since 2011 and operated at full capacity in 2016. The company planned to increase the capacity of its DRI plant to 1.8 Mt/yr and the capacity at its steel melt plant to 2.4 Mt/yr within the next few years. Jindal also operated a newly built 1.4-Mt/yr rebar mill (table 2; Jindal Steel and Power Ltd., 2018, p. 5, 10–11; Midrex Technologies Inc., 2018, p. 9).

Industrial Minerals

Gypsum.—Oman produced 8.7 Mt of gypsum in 2017 compared with 7.9 Mt (revised) in 2016. The increase of nearly 0.8 Mt was owing to strong international demand. The PAM reported that Bangladesh, India, Indonesia, Japan, Taiwan, and Vietnam were the leading importers of Omani gypsum and that the expected continued strong growth in demand would soon place Oman as the leading exporter of gypsum in the world. The PAM noted that Oman was well positioned to supply the export demand because Oman's gypsum resources exceed one billion metric tons. Large deposits of gypsum were mostly located in southern Oman (Times of Oman, 2017).

Nitrogen.—In 2017, Salalah Methanol Co. L.L.C., a subsidiary of OOC and Takamul Investment Co. S.A.O.C., announced that it had nearly completed securing financing for the development of a \$750 million ammonia plant with a

planned capacity of 365,000 t/yr. The plant would be located adjacent to the company's Salalah methanol plant, in the Salalah Freezone in southern Oman, and would use byproduct purge gas as feedstock. The company also planned to build a pipeline to export liquid ammonia to the Port of Salalah (Prabhu, 2017a).

Mineral Fuels

Natural Gas.—In 2017, the country's gross natural gas production increased by 0.1% to 40.53 billion cubic meters from 40.47 billion cubic meters in 2016. Oman had 32 natural-gasproducing fields in 2017; PDO operated 51% of them; BP p.l.c., 44%; and others, 5%. The country exported 8.6 Mt of liquefied natural gas (LNG) in 2017; Oman Liquified Natural Gas L.L.C. exported a total of 5.5 Mt and Qalhat Liquified Natural Gas S.A.O.C. exported 3.1 Mt. In 2017, the country's consumption of natural gas increased to 21.95 billion cubic meters from 21.81 billion cubic meters in 2016 (table 1; Central Bank of Oman, 2018, p. 54–55; Organization of the Petroleum Exporting Countries, 2018, p. 121).

BP Oman, which was a subsidiary of BP p.l.c. of the United Kingdom (60%) and OOCEP (40%), started production from Phase One of the Khazzan-Makarem gasfield in September. Phase One was made up of 200 wells feeding into a two-train central processing facility, with a production capacity of 10.34 billion cubic meters per year of natural gas. Production was expected to increase to about 15.5 billion cubic meters per year of natural gas when the second phase is completed in 2021. Approximately 300 wells were expected to be drilled over the estimated lifetime of the Khazzan-Makarem field. The field and processing facility were located in Block 61 in the Al Dhahlrah Governorate. BP Oman had its main office in Muscat and employed about 700 people, of which approximately 70% were Omani nationals. In 2016, the Government amended the Block 61 exploration and production-sharing agreement to extend the license area, which added more than 1,000 km² for additional drilling (BP p.l.c, 2018a; Central Bank of Oman, 2018, p. 54).

Petroleum.—In 2017, Oman produced 354.3 Mbbl of crude petroleum and condensate from 239 oilfields, which represented a 3.6% decrease compared to 367.5 Mbbl produced in 2016. The decrease in production was attributed to an agreement between the Organization of the Petroleum Exporting Countries (OPEC) and non-OPEC countries to decrease output. The MOG signed four exploration and production-sharing agreements in 2017 with energy companies to develop crude petroleum blocks in various parts of the country. The agreement with Tethys Oil Montasar Ltd. (an Omani subsidiary of Tethys Oil AB of Sweden) was signed for developing onshore Block 49, whereas that with ARA Petroleum Oman B31 Ltd. was signed to explore for crude petroleum in Block 31. An exploration agreement for Block 30 was signed with Occidental Hafar LLC (an Omani subsidiary of Occidental Petroleum Corp. of the United States) and an agreement for Block 52 was signed with ENI Oman B.V. (an Omani subsidiary of ENI S.p.A. of Italy) (Central Bank of Oman, 2018, p. 51).

In 2017, Occidental Petroleum signed a 15-year contract extension for Block 9 with the MOG (in addition to the exploration agreement for Block 30). The company reported that Occidental Petroleum had operated in Oman for more than 30 years and was the largest independent crude petroleum producer in the country. Occidental Petroleum's major operations in Oman were located at the Mukhaizna Field in south-central Oman, and in northern Oman, primarily at the Safah Field and Block 62 (Occidental Petroleum Corp., 2018, p. 16).

In 2017, ORPIC completed construction of the \$2.7 billion Sohar Refinery Improvement Project. The project was expected to increase the Sohar refinery's capacity to 198,000 barrels per day (bbl/d) from 116,000 bbl/d. The project also included the addition of five new units: a crude distillation unit, a vacuum distillation unit, a delayed coker unit, a hydrocracking unit, and a bitumen blowing unit. Commissioning of the new units took place in September, and the plant was expected to reach full operating capacity in 2018 (Steelguru.com, 2017).

Duqm Refinery and Petrochemical Industries Company L.L.C., which was a joint venture between OOC (50%) and Kuwait Petroleum International (50%), continued the development of a 230,000-bbl/d refinery in the Duqm Economic Freezone. In August, the company notified bidders of its intent to award contracts for engineering, procurement, and construction of the refinery and associated facilities. The total required investment for the new refinery and associated facilities was estimated to be \$7 billion. The economic benefit to the area was estimated to be as high as \$15 billion during the next 15 years and to generate 12,000 jobs. The refinery was expected to be completed by 2020 (Al Fathi, 2017; Saudi Gazette, 2017; Duqm Refinery and Petrochemical Industries Co. L.L.C., 2018a, b).

MINERAL INDUSTRY HIGHLIGHTS IN 2018

In 2018, Oman's nominal GDP increased by 12.0% to \$79.3 billion.² The hydrocarbon sector played a significant role in the country's economy, accounting for 78.2% of Government revenues, 65.4% of total merchandise exports, and 35.5% of the GDP. The value added by Oman's hydrocarbon sector increased by 37.1% to \$28.2 billion in 2018 as Government revenue from crude petroleum production increased by 39.6% to \$17.0 billion. Oman's crude petroleum price increased by 35.9% to an average of \$69.70 per barrel in 2018 compared with \$51.30 per barrel in 2017. Government revenue from natural gas production increased by 33.2% to \$5.3 billion in 2018. Industrial activity other than petroleum-related activity accounted for 18.8% of the GDP, of which the value of manufacturing accounted for 9.9%; construction, 6.5%; electricity and water supply, 1.9%; and mining and quarrying, 0.6%. Growth in the gross output of the nonpetroleum industrial sector, which increased by 2.7%, was driven by mining and quarrying, which increased by 16.0% in 2017. Other leading growth sectors were manufacturing (8.4%) and electricity and water (4.8%). The gross output of the construction sector decreased by 6.1% in 2018 (Central Bank of Oman, 2019, p. 6, 12–13, 15, 41).

A new mining law, the Mineral Wealth Law, was under review by the PAM at the end of the year and was expected to be adopted in 2019. The Government expected that the new law would attract investment to Oman's mining sector. Under the existing law, mining companies were required to get approvals from eight different ministries prior to submitting an application to obtain a mining license from the PAM. The new law aimed to streamline the process as well as extend the current five-year license period and mandatory annual renewal requirements (Al Busaidy Mansoor Jamal and Co., 2018; U.S. International Trade Administration, 2018).

Notable increases in Oman's mineral production in 2018 compared with that of 2017 included production of manganese, which increased by 165%; jet fuel (including kerosene), by 86%; aluminum, by 50%; sulfur (by product of petroleum), by 43%; other refined petroleum products by 40%; liquefied petroleum gas, by 26%; liquefied natural gas, by 21%; and natural gas (gross), by 12%. Increased production of these commodities was primarily attributed to growth in the domestic economy and increased demand from international markets. Notable decreases in production included that of kaolin, which decreased by 54%; sand and gravel (unspecified), by 38%; salt, by 33%; residual fuel oil, by 26%; stone (crushed limestone), by 23%, and clay (unspecified), by 15%. Data on mineral production are in table 1.

Jindal Steel and Power completed expansions of its DRI plant and raw steel plant in 2018. The capacity of the DRI plant was increased to 1.8 Mt/yr and the capacity at the steel melt plant was increased to 2.4 Mt/yr. Jindal also reported that the plant was the largest integrated steel plant in Oman and that the company was the largest privately owned company on the Arabian Peninsula (and the fourth-largest when considering publicly owned companies) (Jindal Steel and Power Ltd., 2019, p. 27).

Oman produced 9.1 Mt of gypsum in 2018, which was a 5-year high and a production record. The increase of 0.4 Mt compared with 8.7 Mt in 2017 was attributed to strong international demand. Oman became the leading exporter of gypsum in the world in 2018, surpassing Thailand (the leading exporter in 2017). Vietnam was the leading destination for Oman's gypsum exports at 3.0 Mt; followed by India, 2.8 Mt; and Bangladesh, 1.3 Mt. USG Boral Zawawi, a leading gypsum producer in Oman, noted that demand for Oman's exports of gypsum would likely remain strong during the next 15 years as the cement and gypsum board manufacturing industries in Asia continued to grow. Furthermore, Thailand, which was a long-time competing supplier of exported gypsum, had begun to reduce its gypsum exports to meet domestic demand (Central Bank of Oman, 2019, p. 92; Prabhu, 2019).

In 2018, Oman's gross natural gas production increased by nearly 12% to 45.3 billion cubic meters. The increase was owing both to the continued rampup of phase one of BP Oman's Khazzan-Makarem Gasfield and to a 47% increase in natural gas exports. During the year, Petronas of Malaysia acquired a 10% stake in BP Oman from OOC. In addition, during the year, the PDO announced the discovery of an estimated 113 billion cubic meters (reported as 4 trillion cubic feet) natural gas reservoir in the Mabrouk North East field in northern Oman. The discovery increased Oman's natural gas reserves by about 17%; the reserves were previously estimated to be about 651 billion cubic meters (23 trillion cubic feet) according to the BP Statistical Review of World Energy (Oil and Gas Journal, 2018; BP p.l.c., 2019, p. 30; Central Bank of Oman, 2019, p. 92; Pipeline Oil and Gas News, 2019).

²Where necessary, values have been converted from Omani rials (OMR) to U.S. dollars (US\$) at an annual average exchange rate of OMR 0.3845=US\$1.00 for 2018.

Outlook

The International Monetary Fund forecast Oman's GDP to increase in the coming years, including by as much as 6% in 2020; the economy is expected to remain closely tied to the performance of the hydrocarbon sector. Natural gas exports will continue to benefit from the demand generated by economic growth in Asian countries. The development of the Khazzan gasfield is expected to increase natural gas production; this field is needed for continued subsidized industrial development. Gypsum exports will also benefit from increasing export demand and declining competition from suppliers in countries such as Thailand. Oman's Government will continue its efforts to diversify the country's economy by providing incentives for industrial growth in value-added projects through expanding Free Economic and Trade Zones and developing energy. logistical, and transportation infrastructure. The Government's ability to implement a modernized mining law that streamlines mine permitting is likely to be central to attracting investment to the mining sector (International Monetary Fund, 2019, p. 161).

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TABLE 1 OMAN: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons, gross weight, unless otherwise specified)

METALS	
Aluminum, metal, primary 364 377 386 253	380
Chromium, mine, chromite:	
Gross weight 751 443 451 632	688
$\frac{100^{\circ}}{35\%} Cr_2 O_3, Cr \text{ content} $	250 °
Copper:	
Mine, concentrates:	
Gross weight 72 41	
Cu content 15 r 9 r	
Smelter, primary, Cu content21 r27 r11 r20	22
Refinery, primary, Cu content21 r27 r11 r20	22
Ferroalloys, ferrochromiummetric tons44,06363,75090,063 r79,563	77,750
Gold, mine, Au content2kilograms165 °102673	
Iron ore, pellets ³ $9,000$ $9,000$ $10,700$ $11,000^{\circ}$	11,000 °
Iron and steel:	
Direct-reduced iron 1,420 ^r 1,509 ^r 1,439 ^r 1,526	1,500
Steel, raw steel ^e 1,500 2,000 2,000 2,000	2,000
Manganese, mine:	,
Gross weight metric tons 37,500 15,800 14,628 r 13,600	36,082
$\frac{1}{10000000000000000000000000000000000$	9,000
Silver, mine, Ag content ² kilograms 3.285 2.645 3.621 120	
INDUSTRIAL MINERALS	
Cement hydraulic ^e 5.100 5.300 5.500 5.700	6.000
Clav:	- ,
Kaolin 67 170 188 219	101
Unspecified 305 286 482 538	460
Gypsum 3.387 6.049 7.934 ^r 8.665	9,086
Nitrogen, N content: ^e	,
Ammonia 1.700 1.700 1.700 1.700	1,700
Urea 1,500 1,600 r 1,600 r 1,600	1,600
Salt 13 13 12 18	12
Sand and gravel, industrial:	
Quartz 283 351 362 314	314 ^e
Unspecified 9 17 34	21
Stone, sand, and gravel, construction:	
Sand and gravel, unspecified 62,547 76,332 77,612 73,300	67,925
Stone:	
Crushed, limestone 8,724 12,156 12,471 18,062	13,933
Other, size and shape unspecified, marble1,5651,633 r1,387 r1,344	1,236
Sulfur:	
Compounds, sulfuric acide 1,400 1,400 1,500 2,500	2,500
Byproduct, petroleum, S content4243 r36 r60	86
MINERAL FUELS AND RELATED MATERIALS	
Liquefied natural gas 7,950 7,910 8,500 8,600	10,400
Methanol ^e 2,100 2,100 2,000 2,000	2,000

TABLE 1—Continued OMAN: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons, gross weight, unless otherwise specified)

Commod	2014	2015	2016	2017	2018	
MINERAL FUELS AND RELATED MATERIALS—Continued						
Natural gas:						
Gross	million cubic meters	37,318 ^r	39,438	40,471	40,528	45,297
Dry basis	do.	30,611 ^r	32,501	33,464 ^r	33,716	37,333
Petroleum:						
Crude, including condensate	thousand 42-gallon barrels	344,400	358,100	367,500	354,258	357,100
Natural gas liquids	do.	245,711 ^r	241,185 ^r	254,029 r	237,761	239,367
Refinery:						
Distillate fuel oil	do.	19,642 ^r	22,102 ^r	21,800 r	24,847	27,248
Gasoline	do.	25,356	26,107	25,743	25,502	27,072
Jet fuel, including kerosene	do.	4,806 ^r	5,170	5,202	7,175	13,327
Liquefied petroleum gas	do.	3,796 ^r	3,745 ^r	3,223 r	4,862	6,124
Residual fuel oil	do.	2,667 ^r	2,563	1,838	2,459	1,833
Other	do.	25,256	27,226	25,667 ^r	26,843	37,622
Total	do.	81,500 ^r	86,900 ^r	83,500 ^r	91,700	113,000

^eEstimated. ^rRevised. do. Ditto. -- Zero.

¹Table includes data available through October 28, 2019. All data are reported unless otherwise noted. Totals and estimated data are rounded to no more than three significant digits.

²Reported sales.

³Pellets were produced from imported iron ore for use by direct-reduced-iron plants.

TABLE 2

OMAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2018

(Metric tons unless otherwise specified)

CommodityMajor operating companies and major equity ownersLocation of main facilitiescapacityAluminum:PrimarySohar Aluminium Co. L.L.C. [Oman Oil Co. S.A.O.C. (OOC), 40%; Abu Dhabi National Energy Co. P.J.S.C., 40%; Rio Tinto Alcan Inc., 20%]Smelter at Sohar ¹ 389,000.SecondaryOman Aluminium Rolling Co. (OARC) (Takamul Investment Co. S.A.O.C.)Rolling mill, Sohar Industrial Estate140,000.Do.Oman Aluminium Processing Industries L.L.C. (Oman Cables Industries S.A.O.C., 51%, and Takamul Investment Co. S.A.O.C., 49%)Plant at Sohar57,000.Calcium carbonateNorthern Minerals Co. L.L.C.Plant at Sohar Industrial Estate100,000.CementOman Cement Co. S.A.O.C. (Government, 51%; pension funds, Social Insurance, 5.50%)Kilns and mills at Salalah Social Insurance, 5.50%)2,700,000.Do.Raysut Cement Co. S.A.O.C. (RCC)Kilns and mills at Wadi Saa I,120,000.1,120,000.Do.Al Madinah Cement Co. L.L.C.Kilns and mills at Wadi Saa I,120,000.300,000.Do.Al Tamman Trading Establishment L.L.C.Al Ram and Wadi Rajmi Mines Mines south of Muscat300,000.Do.Hatton FZEMines south of Muscat480,000.Do.Hatton FZEMines south of Muscat480,000.Do.Northern Minerals Co. L.L.C.Quary at Samail20,000.Do.Hatton FZEMines south of Muscat480,000.Do.Gulf Mining Group (GMG)Wadi Mahram Mine at Samail600,000.Do.Northern Minerals Co. L.L.C.Quary at Samail20,00				Annual
Aluminum: Primary Sohar Aluminium Co. L.L.C. [Oman Oil Co. S.A.O.C. (OOC), 40%; Abu Dhabi National Energy Co. P.J.S.C., 40%; Rio Tinto Alcan Inc., 20%] Smelter at Sohar ¹ 389,000. Secondary Oman Aluminium Rolling Co. (OARC) (Takamul Investment Co. S.A.O.C.) Rolling mill, Sohar Industrial Estate 140,000. Do. Oman Aluminium Rolling Co. (OARC) (Takamul Investment Industries S.A.O.C., 51%, and Takamul Investment Co. S.A.O.C., 49%) Plant at Sohar 57,000. Calcium carbonate Northern Minerals Co. L.L.C. Plant at Sohar Industrial Estate 100,000. Cement Oman Cement Co. S.A.O.C. (Government, 51%; pension funds, 33.65%; individual investors, 9.85%; Public Authority of Social Insurance, 5.50%) Kilns and mills at Salalah 2,700,000. Do. Raysut Cement Co. S.A.O.C. (RCC) Kilns and mills at Salalah 2,700,000. Do. Raysut Cement Co. L.L.C. Kilns and mills at Salalah 2,700,000. Do. Raysut Cement Co. L.L.C. Kilns and mills at Salalah 2,700,000. Chromite: Ore Al Madinah Cement Co. L.L.C. Al Ram and Wadi Rajini Mines 300,000. On Hatton FZE Mines south of Muscat 480,000. Do. Hatton FZE Mines south of Muscat 480,000. Do. <td>Commodity</td> <td>Major operating companies and major equity owners</td> <td>Location of main facilities</td> <td>capacity</td>	Commodity	Major operating companies and major equity owners	Location of main facilities	capacity
Primary Sohar Aluminium Co. L.L.C. [Oman Oil Co. S.A.O.C. (OOC), 40%; Abu Dhabi National Energy Co. P.J.S.C., 40%; Rio Tinto Alcan Inc., 20%] Smelter at Sohar ¹ 389,000. Secondary Oman Aluminium Rolling Co. (OARC) (Takamul Investment Co. S.A.O.C.) Rolling mill, Sohar Industrial I 40,000. 140,000. Do. Oman Aluminum Processing Industries L.L.C. (Oman Cables Industries S.A.O.C., 51%, and Takamul Investment Co. S.A.O.C., 49%) Plant at Sohar 57,000. Calcium carbonate Northern Minerals Co. L.L.C. Plant at Sohar Industrial Estate 100,000. Cement Oman Cement Co. S.A.O.C. (Government, 51%; pension funds, 33.65%; individual investors, 9.85%; Public Authority of Social Insurance, 5.50%) Kilns and mills at Salalah 2,700,000. Do. Raysut Cement Co. S.A.O.C. (RCC) Kilns and mills at Salalah 2,700,000. Do. Al Madinah Cement Co. L.L.C. Kilns and mills at Salalah 2,700,000. Do. Raysut Cement Co. S.A.O.C. (RCC) Kilns and mills at Salalah 2,700,000. Do. Al Madinah Cement Co. L.L.C. Al Ram and Wadi Rajmi Mines 300,000. Ore Al Tamman Trading Establishment L.L.C. Al Ram and Wadi Rajmi Mines 300,000. Do. Hatton FZE Mines south of Museat 480,000. Do. </td <td>Aluminum:</td> <td></td> <td></td> <td></td>	Aluminum:			
40%; Abu Dhabi National Energy Co. P.J.S.C., 40%; Rio Tinto Alcan Inc., 20%] Secondary Oman Aluminium Rolling Co. (OARC) (Takamul Investment Co. S.A.O.C.) Rolling mill, Sohar Industrial Estate 140,000. Do. Oman Aluminum Processing Industries L.L.C. (Oman Cables Industries S.A.O.C., 51%, and Takamul Investment Co. S.A.O.C., 49%) Plant at Sohar 57,000. Calcium carbonate Northern Minerals Co. L.L.C. Plant at Sohar Industrial Estate 100,000. Cement Oman Cement Co. S.A.O.C. (Government, 51%; pension funds, 33.65%; individual investors, 9.85%; Public Authority of Social Insurance, 5.50%) Xilns and mills at Rusayl 2,400,000. Do. Raysut Cement Co. S.A.O.C. (RCC) Kilns and mills at Salalah 2,700,000. Do. Raysut Cement Co. S.A.O.C. RCC) Kilns and mills at Salalah 2,700,000. Do. Al Madinah Cement Co. L.L.C. Kilns and mills at Wadi Saa 1,120,000. Chromite: Ore Al Tamman Trading Establishment L.L.C. Al Ram and Wadi Rajmi Mines 300,000. On Hatton FZE Mines south of Muscat 480,000. Do. Gulf Mining Group (GMG) Wadi Mahram Mine at Samail 600,000. Do. Northern Minerals Co. L.L.C. Quarry at Samail 20,000.	Primary	Sohar Aluminium Co. L.L.C. [Oman Oil Co. S.A.O.C. (OOC),	Smelter at Sohar ¹	389,000.
Rio Tinto Alcan Inc., 20%] Secondary Oman Aluminium Rolling Co. (OARC) (Takamul Investment Co. S.A.O.C.) Rolling mill, Sohar Industrial Estate 140,000. Do. Oman Aluminum Processing Industries L.L.C. (Oman Cables Industries S.A.O.C., 51%, and Takamul Investment Co. S.A.O.C., 49%) Plant at Sohar 57,000. Calcium carbonate Northern Minerals Co. L.L.C. Plant at Sohar Industrial Estate 100,000. Cement Oman Cement Co. S.A.O.C. (Government, 51%; pension funds, 33.65%; individual investors, 9.85%; Public Authority of Social Insurance, 5.50%) Kilns and mills at Rusayl 2,400,000. Do. Raysut Cement Co. S.A.O.C. (RCC) Kilns and mills at Salalah 2,700,000. Do. Al Madinah Cement Co. L.L.C. Kilns and mills at Salalah 2,700,000. Do. Al Madinah Cement Co. L.L.C. Kilns and mills at Salalah 2,700,000. Do. Al Tamman Trading Establishment L.L.C. Al Ram and Wadi Rajmi Mines 300,000. (Muscat Overseas Group) near Muscat 480,000. Do. Hatton FZE Mines south of Muscat 480,000. Do. Gulf Mining Group (GMG) Wadi Mahram Mine at Samail 600,000. Do. Northern Minerals Co. L.L.C. Quarry at Samail 200,		40%; Abu Dhabi National Energy Co. P.J.S.C., 40%;		
Secondary Oman Aluminium Rolling Co. (OARC) (Takamul Investment Co. S.A.O.C.) Rolling mill, Sohar Industrial 140,000. Do. Oman Aluminum Processing Industries L.L.C. (Oman Cables Industries S.A.O.C., 51%, and Takamul Investment Co. S.A.O.C., 49%) Plant at Sohar 57,000. Calcium carbonate Northern Minerals Co. L.L.C. Plant at Sohar Industrial Estate 100,000. Cement Oman Cement Co. S.A.O.C. (Government, 51%; pension funds, 33.65%; individual investors, 9.85%; Public Authority of Social Insurance, 5.50%) Kilns and mills at Rusayl 2,400,000. Do. Raysut Cement Co. S.A.O.C. (RCC) Kilns and mills at Salalah 2,700,000. Do. Al Madinah Cement Co. L.L.C. Kilns and mills at Salalah 2,700,000. Do. Al Madinah Cement Co. L.L.C. Kilns and mills at Wadi Saa 1,120,000. Chromite: Ore Al Tamman Trading Establishment L.L.C. Al Ram and Wadi Rajmi Mines 300,000. On. Hatton FZE Mines south of Muscat 480,000. Do. Gulf Mining Group (GMG) Wadi Mahram Mine at Samail 600,000. Do. Northern Minerals Co. L.L.C. Quarry at Samail 20,000. Do. Gulf Mining Group (GMG) Wadi Mahram Samail 600,000. <td></td> <td>Rio Tinto Alcan Inc., 20%]</td> <td></td> <td></td>		Rio Tinto Alcan Inc., 20%]		
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Ore Al Tamman Trading Establishment L.L.C. Al Ram and Wadi Rajmi Mines 300,000. (Muscat Overseas Group) near Muscat 100.	Chromite:			
(Muscat Overseas Group)near MuscatDo.Hatton FZEMines south of Muscat480,000.Do.Gulf Mining Group (GMG)Wadi Mahram Mine at Samail600,000.Do.Northern Minerals Co. L.L.C.Quarry at Samail20,000.Do.Oman Chromite Co. S.A.O.G. (Al Qurum Establishment L.L.C.,Mines near Sohar200,000.	Ore	Al Tamman Trading Establishment L.L.C.	Al Ram and Wadi Rajmi Mines	300,000.
Do.Hatton FZEMines south of Muscat480,000.Do.Gulf Mining Group (GMG)Wadi Mahram Mine at Samail600,000.Do.Northern Minerals Co. L.L.C.Quarry at Samail20,000.Do.Oman Chromite Co. S.A.O.G. (Al Qurum Establishment L.L.C.,Mines near Sohar200,000.		(Muscat Overseas Group)	near Muscat	
Do.Gulf Mining Group (GMG)Wadi Mahram Mine at Samail600,000.Do.Northern Minerals Co. L.L.C.Quarry at Samail20,000.Do.Oman Chromite Co. S.A.O.G. (Al Qurum Establishment L.L.C.,Mines near Sohar200,000.	Do.	Hatton FZE	Mines south of Muscat	480,000.
Do.Northern Minerals Co. L.L.C.Quarry at Samail20,000.Do.Oman Chromite Co. S.A.O.G. (Al Qurum Establishment L.L.C.,Mines near Sohar200,000.	Do.	Gulf Mining Group (GMG)	Wadi Mahram Mine at Samail	600,000.
Do.Oman Chromite Co. S.A.O.G. (Al Qurum Establishment L.L.C.,Mines near Sohar200,000.	Do.	Northern Minerals Co. L.L.C.	Quarry at Samail	20,000.
	Do.	Oman Chromite Co. S.A.O.G. (Al Qurum Establishment L.L.C.,	Mines near Sohar	200,000.
Government, Oman Mining Co. L.L.C., and other		Government, Oman Mining Co. L.L.C., and other		
private investors)		private investors)		
ConcentratedGulf Mining Group (GMG)Beneficiation plant at Samail180,000.	Concentrated	Gulf Mining Group (GMG)	Beneficiation plant at Samail	180,000.

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

(Metric tons unless otherwise specified)

				Annual
Commodity		Major operating companies and major equity owners	Location of main facilities	capacity
Clay:				
Kaolin		NA	Mines in Al Wusta Governorate	250,000.
Unspecified		do.	do.	600,000.
Copper, refined metal		Oman Mining Co. L.L.C. (Government, 100%)	Refinery at Sohar Industrial Estate	20,000.
Ferroalloys, ferrochromiu	m	Al Tamman Indsil Ferro Chrome L.L.C. (Indsil Group, 50%, and Muscat Overseas Group, 50%)	Smelter at Sohar Freezone	75,000.
Do		Gulf Mining Group (GMG)	do	50,000
Gold refined	kilograms	Oman Mining Co. I. I. C. (Government, 100%)	Refinery at Sohar Industrial Estate	50,000.
Gynsum	Kilografiis	Al-Rawas Mining Co. L.L.C. (Al-Rawas Holding L.L.C. 80%	Quarry at Salalah	2 300 000
Gypsum		and Oman Investment Fund 20%)	Quarry at Sulatan	2,500,000.
Do		Cement Gynsum Products Co. S A O G	Quarries at Buraimi and Thumrait	180.000
 		Global Mining Co. L.L.C. (GMC)	Quarry at Thumrait	3 000 000
 		Gulf Mining and Material Co	Quarry at Salalah	1 200 000
 		Gunsum Mining Co. (Awam Minerals LLC, 100%)	Quarry at Thumrait	1,200,000.
 		Muscat Global Mining Co. L L C	do	3 000 000
 		USG Zawawi Drawall L L C SEZ (USG Boral Building	Quarry at Salalah Ereezone	3,000,000.
D0.		Products Pty Ltd 50% and Zawawi Minerals LLC 50%)	Dhofar Governorate	3,000,000.
Do		Zawawi Gynsum I. I. C. (USG Boral Building Products	Quarry at Thumrait	3 000 000
D0.		Pty Ltd 55% and Zawawi Minerals L L C 45%	Dhofar Governorate	3,000,000.
Iron and staal:		Fty Etu., 55%, and Zawawi Minicials E.E.C., 45%)	Dilotat Governorate	
Direct-reduced iron		Jindal Shadeed Iron and Steel L.L.C. (Jindal Steel and Power Ltd., 100%)	Plant at Sohar Industrial Zone	1,800,000.
Iron ore pellets		Vale Oman Pelletizing Co. L.L.C. [Vale S.A., 70%, and Oman Oil Co. S.A.O.C. (OOC) 30%]	do.	9,000,000.
Raw steel		Jindal Shadeed Iron and Steel L.L.C. (Jindal Steel and Power	Plant at Sohar Industrial Zone	2,400,000.
Do		Ltd., 100%) Modern Steel Mills L.L.C.	Plant at Pucavi	160.000
Do. Dollor (robor)		Hodid Major L L C	Diant at Rusayi	180,000
		Indult Majali L.L.C.	Plant at Sahar Industrial Zona	1 400 000
D0.		Ltd., 100%)	Flaint at Solial Industrial Zolie	1,400,000.
Do.		Sharq Sohar Steel Rolling Mill L.L.C. (Sohar Steel L.L.C.)	do.	300,000.
Rolled (tubes)		Al Jazeera Steel Tube Mills Co. S.A.O.G.	Plant at Sohar	300,000.
Iron oxide pigment (lateri	te)	Arabia Global Resources	Quarry at Ibra	360,000.
Do.		Gulf Mining Group (GMG)	Quarry at Barka	300,000.
Manganese		Al Tamman Trading Establishment L.L.C.	Al Qabil Mine near Muscat	60,000.
		(Muscat Overseas Group)		
Do.		Mina Engineering L.L.C. (Gulf Mining Group, 100%)	Quarry at Ibra	180,000.
Methanol		Oman Methanol Co. L.L.C. (Oman Methanol Holding Co. LLC and Methanol Holding International Ltd.)	Plant at Sohar Port	1,100,000.
Do.		Salalah Methanol Co. L.L.C. [Oman Oil Co. S.A.O.C. (OOC), 90% and Takamul Investment Co. S.A.O.C. 10%]	Plant at Salalah Freezone	1,150,000.
Natural gas	million	Petroleum Development Oman I. J. C. (PDO) [Government	Associated natural gas	27.000
r tanarar gao	cubic meters	60%: Royal Dutch Shell plc 34%: Total S A 4%: Partex	in the Kauther-Yibal	27,000
	cubic meters	(Oman) Corn 2%	the Saih Nivahda and	
			the Saih Rawl clusters	
Do	do	BP Oman [BP n] c 60%: Oman Oil Co S A O C (OOC)	Khazzan and Makarem	10 335
<i>D</i> 0.	u0.	30% Petronas 10%]	gasfields (Block 61)	10,000.
Do	do	Oman Oil Company Exploration and Production I. I. C.	Block 60 (Abu Tabul)	723
D 0.	uo.	OOCEP [Oman Oil Co. S.A.O.C. (OOC), 100%]	Brock of (Abu Tabul)	,23.
Natural gas, liquefied		Oman Liquefied Natural Gas L.L.C. [Government, 51%; Shell	Two trains at Qalhat	6,600,000.
		Gas B.V., 30%; Total S.A., 5.54%; Korea LNG, 5%;		
		Mitsubishi Corp., 2.77%; Mitsui E&P Middle East B.V.,		
		2.77%; Partex (Oman) Corp., 2%; Itochu Corp., 0.92%]		

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

(Metric tons unless otherwise specified)

				Annual
Comm	odity	Major operating companies and major equity owners	Location of main facilities	capacity
Natural gas, liquefie	d—Continued	Qalhat Liquefied Natural Gas S.A.O.C. (Government, 46.84%; Oman Liquefied Natural Gas L.L.C., 36.8%; Union Fenosa S.A., 7.36%; Mitsubishi Corp., 3%; Oskas Gas Co. Ltd., 3%; Itochu Corp., 3%)	One train at Qalhat	3,300,000.
Nitrogen fertilizer	thousand metric tons	Oman India Fertiliser Co. S.A.O.G. (OMIFCO) [Oman Oil Co. S.A.O.C. (OOC), 50%; Indian Farmers Fertiliser Cooperative Ltd., 25%; Krishak Bharati Cooperative Ltd., 25%]	Plant at Sur	1,150 ammonia, 1,652 urea.
Do.	do.	Sohar International Urea & Chemical Industries S.A.O.G. (SIUCI) (Suhail Bahwan Group Holding L.L.C., 100%)	Plant at Sohar	730 ammonia, 1,300 urea.
Petroleum:				
Crude	42-gallon barrels per day	Petroleum Development Oman L.L.C. (PDO) [Government, 60%; Royal Dutch Shell plc, 34%; Total S.A., 4%; Partex (Oman) Corp., 2%]	About 100 oilfields in the Bahja, Fahud, Harweel, Lekhwair, Marmul, Nimr, Qarn Alam, and Yibal clusters	655,000.
Do.	do.	Daleel Petroleum Co. L.L.C. (Mazoon Petrogas S.A.O.C., 50%, and Mazoon Petrogas B.V.I., 50%)	Block 5, includes the Bushra, Daleel, Mezoon and Shadi fields	45,000.
Do.	do.	Occidental Oman, Inc. (Occidental Petroleum Corp., 65%, and Mitsui E&P Middle East B.V., 35%)	Blocks 9, 27, and 62 includes the Safah and Al Sunienah fields	90,400.
Do.	do.	Occidental Mukhaizna, L.L.C. [Occidental Petroleum Corp., 45%; Oman Oil Co. S.A.O.C. (OOC), 20%; Shell Oman Trading Co. Ltd., 17%; Liwa Energy Ltd., 15%; Total Exploration and Production Oman, 2%; Partex (Oman) Corp., 1%]	Block 53, Mukhaizna field	122,800.
Do.	do.	Joint venture of Occidental Petroleum Corp., 48%; Mubadala Development Co. 32%; Oman Oil Co., 20%	Block 62 (Habiba), Fushaigah and Maradi Hurayma fields	NA.
Do.	do.	Joint venture of DNO International ASA, 50%, and	Block 8, Bukha field	12,800.
Do.	do.	CC Energy Development S.A.L.	Blocks 3 and 4 Saiwan and Farha fields	25,300.
Do.	do.	Petrogas E & P L.L.C., 50%; Tethys Oil, 30%; Mitsui E&P Middle East B.V., 20%	Rija, Ramlat, and Sahmah fields (Block 7)	1,100.
Do.	do.	PTT Exploration and Production Public Company Ltd.	Block 44	3,400.
Do.	do.	BP Oman [BP p.l.c., 60%; Oman Oil Co. S.A.O.C. (OOC), 30%; Petronas, 10%]	Khazzan and Makarem gasfields (Block 61)	300.
Refined	do.	Oman Oil Refineries and Petroleum Industries Co. (ORPIC) (Ministry of Finance, 75%, and Oman Oil Co. S.A.O.C., 25%)	Refinery at Sohar	198,000.
Do.	do.	do.	Refinery at Mina Al-Fahal	106,000.
Quartz		Gulf Stone Co. S.A.O.G.	Plant at Sohar	45,000.
Salt, crude, industria	ıl	Modern Salt Co. L.L.C.	Plant at Ibri Wilayat	12,000.
Sand and gravel		NA	NA	70,000,000.
Silica sand		Industrial Minerals Co. LLC (Northern Minerals Co. L.L.C., 100%)	NA	50,000.
Silver	kilograms	Oman Mining Co. L.L.C. (Government, 100%)	Mines at Sohar and Yankul	50.
Stone: Limestone		Oman Cement Co. S.A.O.C. (Government, 51%; pension funds, 33.65%; individual investors, 9.85%; Public Authority of Social Insurance, 5.50%)	Quarry at Rusayl	2,400,000.
Do.		Northern Minerals Co. L.L.C.	Quarries at Wadi Al Jizzi, Al Batinah	900,000.
Do.		Global Mining Co., L.L.C. (GMC)	Quarry at Sohar	NA.
Marble		Al Tamman Trading Establishment L.L.C.	Quarry at Buraimi	1,700,000.
		(Muscat Overseas Group)		

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

(Metric tons unless otherwise specified)

				Annual
Commodity	7	Major operating companies and major equity owners	Location of main facilities	capacity
Stone:-Continued				
Marble—Continued		Companies that quarried marble included Al Ajmi Marble Co., Al Madinah Marble Co., Al Nasser Marble Co., Al Rushaidi Marble Co., Al Shanfri Marble Co., Al Zarabi Marble Co., Gulf Mining Materials Co., International Marble, and Omani Marble Co.	Quarries located primarily in Ibri Wilayat and the Buraimi Estate	450,000.
Sulfur:				
Elemental	thousand metric tons	Oman Oil Refineries and Petroleum Industries Co. (ORPIC) (Ministry of Finance, 75%, and Oman Oil Co. S.A.O.C., 25%)	Refinery at Sohar	50.
Fertilizer	do.	Sohar Sulphur Fertilizers L.L.C. (SSF) (Takamul Investment Co. S.A.O.C., 69%, and Aqua Ventures International, 31%)	Plant at Sohar Industrial Estate	60.
Sulfuric acid	do.	Sohar Chemical Industries (SCI) (Suhail Bahwan Group)	do.	1,460.

Do., do. Ditto. NA Not available.

¹Operation temporarily suspended in 2017.