USGS
science for a changing world

2017–2018 Minerals Yearbook

OMAN [ADVANCE RELEASE]

U.S. Department of the Interior
U.S. Geological Survey

December 2021

The Mineral Industry of Oman

By Philip A. Szczesniak

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, Royal Decree No. 27 of 2003, and its amendments

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

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 L.L.C., and 46.84% of Qalhat 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 (km^2). 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 km^2, 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 km^2 with applications for two mining licenses covering 4.5 km^2. 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-gas-producing 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 km^2 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%; liquified 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

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

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).

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).

References Cited

Alara Resources Ltd., 2017, Annual report 2017: Perth, Western Australia, Australia, Alara Resources Ltd., September 19, 72 p. (Accessed November 15, 2018, at http://www.alararesources.com/irm/PDF/2421_0/2017AnnualReport.)

Al Busaidy Mansoor Jamal and Co., 2018, Rebound in Oman's mining sector: Al Busaidy Mansoor Jamal and Co., July 16. (Accessed November 14, 2018, at https://www.amjoman.com/rebound-in-omans-mining-sector/.)

Al Fathi, Saadallah, 2017, Oman's new refinery gets into full project mode: Gulf News [Dubai, United Arab Emirates], August 27. (Accessed November 16, 2018, at https://gulfnews.com/business/analysis/oman-s-new-refinery-gets-into-full-project-mode-1.2080588.)

BP p.l.c, 2018a, BP in Oman: BP p.l.c. (Accessed November 16, 2018, at https://www.bp.com/en/global/corporate/what-we-do/bp-worldwide/bp-in-oman.html.)

BP p.l.c., 2018b, BP statistical review of world energy—June 2018: London, United Kingdom, BP p.l.c., 56 p. (Accessed November 8, 2018, at https://www.bp.com/content/dam/bp/en/corporate/pdf/energy-economics/statistical-review/bp-stats-review-2018-full-report.pdf.)

BP p.l.c., 2019, BP statistical review of world energy—June 2019: London, United Kingdom, BP p.l.c., 64 p. (Accessed October 31, 2019, at https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2019-full-report.pdf.)

Central Bank of Oman, 2018, Annual report 2017: Muscat, Oman, Central Bank of Oman, June, 160 p. (Accessed November 8, 2018, at https://cbo.gov.om/report/AnnualReport/66.)

Central Bank of Oman, 2019, Annual report 2018: Muscat, Oman, Central Bank of Oman, June, 131 p. (Accessed March 31, 2020, at https://cbo.gov.om/report/AnnualReport/89.)

Crangle, R.D., Jr., 2019, Gypsum: U.S. Geological Survey Mineral Commodity Summaries 2019, p. 74–75.

Duqm Refinery and Petrochemical Industries Co. L.L.C., 2018a, Company profile: Duqm Refinery and Petrochemical Industries Co. L.L.C. Web page. (Accessed November 16, 2018, at https://www.duqmrefinery.om/company-profile/.)

Duqm Refinery and Petrochemical Industries Co. L.L.C., 2018b, What we do: Duqm Refinery and Petrochemical Industries Co. L.L.C. Web page. (Accessed November 16, 2018, at http://www.duqmrefinery.om/what-we-do/.)

International Monetary Fund, 2019, World economic outlook—Growth slowdown, precarious recovery: International Monetary Fund, April, 216 p. (Accessed October 31, 2019, at https://www.imf.org/en/Publications/WEO/Issues/2019/03/28/world-economic-outlook-april-2019#Full%20Report%20and%20Executive%20Summary.)

Jindal Steel and Power Ltd., 2018, Annual report 2017–2018: New Delhi, India, Jindal Steel and Power Ltd., 236 p. (Accessed November 15, 2018, at https://www.jindalsteelpower.com/img/admin/report/pdf/jspl_annual_report_17_18.pdf.)

Jindal Steel and Power Ltd., 2019, Annual report 2018–2019: New Delhi, India, Jindal Steel and Power Ltd., 256 p. (Accessed November 15, 2018, at https://www.jindalsteelpower.com/img/admin/report/pdf/JSPL_Annual_Report_2018_19.pdf.)

Midrex Technologies Inc., 2018, World direct reduction statistics 2017: Midrex Technologies Inc., May 24, 16 p. (Accessed April 1, 2020, at https://www.midrex.com/wp-content/uploads/MidrexStatsBook2017.5_.24_.18_.pdf.)

Occidental Petroleum Corp. 2018, Annual report 2017 and Form 10–K: Houston, Texas, Occidental Petroleum Corp., 109 p. (Accessed November 16, 2018, at https://docoh.com/filing/797468/0000797468-18-000005/OXY-10K-2017FY.)

Oil and Gas Journal, 2018, PDO starts flow from Mabrouk North East find: Oil and Gas Journal, March 20. (Accessed April 1, 2020, at https://www.ogj.com/drilling-production/production-operations/field-start-ups/article/17295576/pdo-starts-flow-from-mabrouk-north-east-find.)

Oman Ministry of Environment and Climate Affairs, 2018, About the Ministry: Ministry of Environment and Climate Affairs [Oman]. (Accessed November 15, 2018, at https://meca.gov.om/en/module.php?module=pages-showpage&CatID=1&ID=1.)

Organization of the Petroleum Exporting Countries, 2018, Annual statistical bulletin: Organization of the Petroleum Exporting Countries, 130 p. (Accessed November 8, 2018, at https://www.opec.org/opec_web/static_files_project/media/downloads/publications/ASB%202018.pdf.)

Oxford Business Group, 2017, Oman looks to fast-track the extraction sector: Oxford Business Group. (Accessed June 10, 2018, at https://oxfordbusinessgroup.com/overview/digging-growth-substantial-mineral-resource-base-sultanate-looking-fast-track-its-extraction-sector.)

Pipeline Oil and Gas News, 2019, Petronas acquires stake in Oman's Khazzan field: Pipeline Oil and Gas News, January 3. (Accessed October 30, 2019, at https://www.pipelineoilandgasnews.com/regionalinternational-news/regional-news/2019/january/petronas-acquires-stake-in-oman-s-khazzan-field/.)

Platts, 2017, Oman's Gulf Mining to triple high carbon ferrochrome capacity by 2020: S&P Global Platts, January 12. (Accessed November 14, 2018, at https://www.platts.com/latest-news/metals/tokyo/omans-gulf-mining-to-triple-high-carbon-ferrochrome-26637757.)

Prabhu, Conrad, 2017a, $750 million Salalah ammonia project nearing financial closure in Oman: Omanobserver.com, July 12. (Accessed November 15, 2018, at http://www.omanobserver.om/750m-salalah-ammonia-project-nearing-financial-closure/.)

Prabhu, Conrad, 2017b, Oman mining agency eyes mineral concessions: Omanobserver.com, July 17. (Accessed November 14, 2018, at http://www.omanobserver.om/oman-mining-agency-eyes-mineral-concessions/.)

Prabhu, Conrad, 2019, Oman's gypsum exports jump 25pc in 2018: Omanobserver.com, February 9. (Accessed October 30, 2019, at https://www.omanobserver.om/omans-gypsum-exports-jump-25pc-in-2018/.)

Public Authority for Mining, The, 2015, Mining opportunities in Oman: The Public Authority for Mining, 28 p. (Accessed November 14, 2018, at http://fnrc.gov.ae/forum/present/2015/259.pdf.)

Saudi Gazette, 2017, GCC refining sector faces uncertain outlook: Saudi Gazette [Jeddah, Saudi Arabia], July 19. (Accessed November 16, 2018, at http://saudigazette.com.sa/article/513244.)

Savannah Resources plc, 2018, Annual report and financial statement for the year ended 31 December 2017: London, United Kingdom, Savannah Resources plc, April 12, 68 p. (Accessed November 14, 2018, at http://www.savannahresources.com/cms/wp-content/uploads/2018/04/Annual-Report-and-Financial-Statements-2017-print-version-2.pdf.)

Sohar Aluminium Co. L.L.C., 2018, Sustainability report 2017: Sohar Aluminium Co. L.L.C., 57 p. (Accessed November 14, 2018, at https://www.sohar-aluminium.com/system/tdf/Sustainability/Sustainability-Report-2017-Final.pdf?file=1&type=node&id=796.)

Steelguru.com, 2017, Milestones celebrated on Omani downstream projects: Steelguru.com, November 6. (Accessed April 1, 2020, at https://steelguru.com/gas-oil/milestones-celebrated-on-omani-downstream-projects/494359.)

Times of Oman, 2017, Oman expected to become largest exporter of gypsum in the world: Times of Oman [Ruwi, Sultanate of Oman], October 15. (Accessed November 15, 2018, at https://timesofoman.com/article/119470.)
Tristar Resources p.l.c., 2018, Annual report and financial statements for the year ended 31 December 2017: London, United Kingdom, Tristar Resources p.l.c., May 11, 53 p. (Accessed November 14, 2018, at http://quicktake.morningstar.com/stocknet/secdocuments.aspx?symbol=tstr&country=gbr.)
U.S. Energy Information Administration, 2017, Oman country analysis brief: U.S. Energy Information Administration, August 15, 11 p. (Accessed November 16, 2018, at https://www.eia.gov/beta/international/analysis_includes/countries_long/Oman/oman.pdf.)
U.S. International Trade Administration, 2018, Oman—Mining and materials: U.S. International Trade Administration, November 19. (Accessed April 1, 2020, at https://www.export.gov/apex/article2?id=Oman-Mining-and-Materials.)

TABLE 1
OMAN: PRODUCTION OF MINERAL COMMODITIES[1]

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

Commodity		2014	2015	2016	2017	2018
METALS						
Aluminum, metal, primary		364	377	386	253	380
Chromium, mine, chromite:						
Gross weight		751	443	451	632	688
35% Cr_2O_3, Cr content		263 r	155 r	160 e	230 e	250 e
Copper:						
Mine, concentrates:						
Gross weight		72	41	--	--	--
Cu content		15 r	9 r	--	--	--
Smelter, primary, Cu content		21 r	27 r	11 r	20	22
Refinery, primary, Cu content		21 r	27 r	11 r	20	22
Ferroalloys, ferrochromium	metric tons	44,063	63,750	90,063 r	79,563	77,750
Gold, mine, Au content[2]	kilograms	165 e	102	67	3	--
Iron ore, pellets[3]		9,000	9,000	10,700	11,000 e	11,000 e
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
Mn content, 25% Mn[e]	do.	9,380 r	4,000	3,700 r	3,400	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
Clay:						
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, marble		1,565	1,633 r	1,387 r	1,344	1,236
Sulfur:						
Compounds, sulfuric acid[e]		1,400	1,400	1,500	2,500	2,500
Byproduct, petroleum, S content		42	43 r	36 r	60	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

See footnotes at end of table.

TABLE 1—Continued
OMAN: PRODUCTION OF MINERAL COMMODITIES[1]

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

Commodity		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.

[1]Table 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.

[2]Reported sales.

[3]Pellets 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)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
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 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 Wadi Saa	1,120,000.
Chromite:			
Ore	Al Tamman Trading Establishment L.L.C. (Muscat Overseas Group)	Al Ram and Wadi Rajmi Mines near Muscat	300,000.
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	20,000.
Do.	Oman Chromite Co. S.A.O.G. (Al Qurum Establishment L.L.C., Government, Oman Mining Co. L.L.C., and other private investors)	Mines near Sohar	200,000.
Concentrated	Gulf Mining Group (GMG)	Beneficiation plant at Samail	180,000.

See footnotes at end of table.

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

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual 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, ferrochromium		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. L.L.C. (Government, 100%)	Refinery at Sohar Industrial Estate	500.
Gypsum		Al-Rawas Mining Co. L.L.C. (Al-Rawas Holding L.L.C., 80%, and Oman Investment Fund, 20%)	Quarry at Salalah	2,300,000.
Do.		Cement Gypsum Products Co. S.A.O.G.	Quarries at Buraimi and Thumrait	180,000.
Do.		Global Mining Co., L.L.C. (GMC)	Quarry at Thumrait	3,000,000.
Do.		Gulf Mining and Material Co.	Quarry at Salalah	1,200,000.
Do.		Gypsum Mining Co. (Awam Minerals LLC, 100%)	Quarry at Thumrait	1,000,000.
Do.		Muscat Global Mining Co., L.L.C.	do.	3,000,000.
Do.		USG Zawawi Drywall L.L.C. SFZ (USG Boral Building Products Pty Ltd., 50%, and Zawawi Minerals L.L.C., 50%)	Quarry at Salalah Freezone, Dhofar Governorate	3,000,000.
Do.		Zawawi Gypsum L.L.C. (USG Boral Building Products Pty Ltd., 55%, and Zawawi Minerals L.L.C., 45%)	Quarry at Thumrait, Dhofar Governorate	3,000,000.
Iron and steel:				
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 Ltd., 100%)	Plant at Sohar Industrial Zone	2,400,000.
Do.		Modern Steel Mills L.L.C.	Plant at Rusayl	160,000.
Roller (rebar)		Hadid Majan L.L.C.	Plant at Bait Al Falaj	180,000.
Do.		Jindal Shadeed Iron and Steel L.L.C. (Jindal Steel and Power Ltd., 100%)	Plant at Sohar Industrial Zone	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 (laterite)		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. (Muscat Overseas Group)	Al Qabil Mine near Muscat	60,000.
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 cubic meters	Petroleum Development Oman L.L.C. (PDO) [Government, 60%; Royal Dutch Shell plc, 34%; Total S.A., 4%; Partex (Oman) Corp., 2%]	Associated natural gas in the Kauther-Yibal, the Saih Niyahda, and the Saih Rawl clusters	27,000.
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)	10,335.
Do.	do.	Oman Oil Company Exploration and Production L.L.C. OOCEP [Oman Oil Co. S.A.O.C. (OOC), 100%]	Block 60 (Abu Tabul)	723.
Natural gas, liquefied		Oman Liquefied Natural Gas L.L.C. [Government, 51%; Shell 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%]	Two trains at Qalhat	6,600,000.

See footnotes at end of table.

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

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Natural gas, liquefied—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 LG International Corp., 50%	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, industrial		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. (Muscat Overseas Group)	Quarry at Buraimi	1,700,000.

See footnotes at end of table.

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

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual 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.
[1]Operation temporarily suspended in 2017.