



2015 Minerals Yearbook

OMAN [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF OMAN

By Loyd M. Trimmer III

In 2015, Oman's real gross domestic product (GDP) increased by 4.1% compared with increases of 2.9% in 2014 and 4.7% in 2013. The mineral industry played a significant role in Oman's economy in 2015. The mineral commodities produced in Oman included ammonia, chromite and ferrochromium, copper, manganese, primary and secondary aluminum, and urea as well as cement, crude steel, limestone, kaolin, laterite (low-grade iron ore), marble, quartz, salt, sand and gravel, and silica, all of which were mainly for domestic consumption. Oman's production of gypsum accounted for 2.5% of the world's gypsum production in 2015. The country also produced iron ore pellets for use by direct-reduced iron (DRI) plants; the pellets produced accounted for about 2.0% of the world's DRI production. The petroleum and gas sector continued to play a dominant role in the country's economy, contributing 33.9% of the GDP. Oman accounted for about 1.0% of global crude petroleum production and 1.0% of global natural gas production in 2015, as well as 6% of Middle East natural gas production. At yearend 2015, the country's proved crude petroleum and condensate reserves were estimated to be 5,300 million barrels (Mbbbl). The country is located on the southeastern tip of the Arabian Peninsula, a strategic location owing to its proximity to global energy shipping pathways at the Strait of Hormuz and the Gulf of Oman (table 1; BP p.l.c., 2016, p. 6, 8, 22; Central Bank of Oman, 2016, p. 7, 41; International Monetary Fund, 2016, p. 173; Midrex Technologies Inc., 2016, p. 8; Crangle, 2017).

In 2015, the value of exports and imports decreased by 33.4% and 4.1%, respectively. The decrease was the result of a 42% and 41% decrease in the value of crude petroleum and refined petroleum products, respectively, owing to lower prices for crude petroleum. Total merchandise exports were valued at \$35.7 billion, of which crude petroleum accounted for 48%, or \$17.4 billion; liquefied natural gas, 9%, or \$3.3 billion; base metals and articles manufactured from base metals, 5%, or \$1.7 billion; mineral products, 4%, or \$1.5 billion; and refined petroleum products, 1%, or \$475 million. The total recorded value of imports was \$29.7 billion, of which mineral products accounted for 15%, or \$4.4 billion, and base metals and articles manufactured from base metals accounted for 11%, or \$3.3 billion (Central Bank of Oman, 2016, p. 96, 98, 101).

The Government's ninth 5-year development plan, which was aimed at diversifying the economy, identified the mining sector's potential for growth and sought to promote investment into the sector by increasing the role of the private sector; expanding transportation infrastructure, energy infrastructure, and port facilities; and revising mining laws and regulations. The country continued the development of energy, port, and transportation infrastructure at the Duqm Special Economic Freezone and the Port of Duqm in 2015. Oman planned to spend \$5.2 billion by 2020 to develop the industrial zone and port, which together were expected to cover 1,745 square kilometers (km²) and serve as a trade and transportation hub.

Wholly owned foreign entities, which were permitted to operate only in the freezones, were offered corporate tax exemptions for 10 years and had customs duties waived. Oman Rail (a wholly owned Government company) continued the planned development of the 2,135-kilometer (km) national railway network project. The project, estimated to cost \$15.5 billion, would link the deepwater Ports of Duqm, Salaah, and Sohar with the Gulf Cooperation Council's planned 2,177-km railway network, which would connect six countries by railway (Gavin, 2014; James, 2015; Business Year International Inc., The, 2016, p. 117, 206; Central Bank of Oman, 2016, p. 17; Oman Ministry of Legal Affairs, 2017; Oxford Business Group, 2017).

By yearend 2015, 290 mineral exploration and production permits were active in the country. Oman was estimated to have metallic mineral resources that contain chromium, cobalt, copper, gold, laterite (low-grade iron ore), lead, magnesium, manganese, nickel, palladium, platinum, silver, vanadium, and zinc; and such industrial minerals as clays (including kaolin), dolomite, gypsum, limestone, marble, quartzite, salt, and silica sands in the ophiolite sequence zone, which is located in the northern mountainous part of the country. During 2015, the Public Authority for Mining (PAM) issued eight new exploration licenses (Public Authority for Mining, 2015; Central Bank of Oman, 2016, p. 41).

Minerals in the National Economy

In 2015, Oman's nominal GDP decreased by 14.1% to \$70.3 billion; the hydrocarbon sector played a significant role in the country's economy, accounting for 78.7% of Government revenue, 59.4% of total merchandise exports, and 33.9% of the nominal GDP. The nominal GDP of Oman's hydrocarbon sector decreased by 38.2% to \$23.8 billion in 2015, as Government revenue from petroleum and natural gas decreased by 44.6%, to \$14.7 billion, and by 12.0%, to \$3.9 billion, respectively. Oman's crude petroleum price decreased by 45% to an average of \$56.50 per barrel in 2015 compared with \$103.20 per barrel in 2014. Nonpetroleum industrial activities accounted for 71.7% of the nominal GDP, of which the value of manufacturing accounted for 10.8%; construction, 8.3%; electricity and water supply, 1.5%; and mining and quarrying, 0.5%. Growth in the value added of the nonpetroleum industrial sector increased by 0.4% and was driven by mining and quarrying, which increased by 13.8% in 2015; electricity and water, 11%; and construction, 8.6%. The value of manufacturing output decreased by 6.7% in 2015 (Central Bank of Oman, 2016, p. 7, 8, 16, 19, 48, 64).

Production

Mineral commodities for which production in Oman increased notably in 2015 compared with that of 2014 included kaolin clay, for which production increased by 153%; silica sand, by 125%; gypsum, by 79%; limestone, by 39%; quartz, by 24%; and sand and gravel, by 15%. Increased production of these

mineral commodities was attributable to growth in the domestic building and construction sector and to increased demand from international markets. Notable decreases in production included that of manganese ore (gross weight), which decreased by 80%; copper, by 43%; chromium, by 41%; gold, by 38%; and silver, by 19%. Decreased production of metal was attributed to decreased global metal prices and increased transportation prices resulting from port activity shifting to the Port of Sohar from the Port of Muscat. 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 and implementing regulations. Under the Mining Law, the Government maintains ownership of all minerals found in Oman, and only companies for which at least 70% of the total capital is held by Omani nationals are issued mining permits. Royal Decree No. 49 of 2014 established the PAM, under the MOCI authority, 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. By yearend 2015, the PAM had drafted a new mineral law that was expected to reform the permitting process and increase license durations. The law was under MOCI review at yearend 2015 (Public Authority for Mining, 2015; Oxford Business Group, 2015, 2016; Oman Ministry of Legal Affairs, 2017).

The Ministry of Oil and Gas 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 petroleum reserves and produced more than 70% of the country's crude petroleum and almost all its natural gas. The Government owned 100% of Oman Oil Co. 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. Table 2 is a list of major mineral industry facilities (U.S. Energy Information Administration, 2016, p. 2).

Commodity Review

Metals

Aluminum.—Sohar Aluminium Co. L.L.C. produced 377,186 metric tons (t) of primary aluminum in 2015 compared with 363,528 t in 2014. The increase in production was owing to greater furnace operating efficiency. The company owned and operated the Sohar aluminum smelter located in Sohar, which had a capacity of 380,000 metric tons per year (t/yr). 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. In 2015,

the company reported that 82,750 t of liquid aluminum was sold to two domestic downstream producers, Oman Aluminium Rolling Co. (a subsidiary of Takamul Investment Co. S.A.O.C.) and Oman Aluminum Processing Industries L.L.C. (table 2; Sohar Aluminium Co. L.L.C., 2016, p. 11, 20, 67).

Oman Aluminium Rolling operated a downstream aluminum rolling mill plant adjacent to the Sohar aluminum smelter. The company announced plans to increase its production capacity to 140,000 t/yr from 70,000 t/yr by 2017. Oman Aluminium Rolling produced flat-rolled aluminum sheets for both the domestic and international markets, including Asia, Australia, Europe, North America, and South America (Muscat Daily, 2015; Oman Aluminium Rolling Co., 2017).

Antimony.—In 2015, Strategic & Precious Metal Processing Co. (SPMP), which was a joint venture of Tristar Resources p.l.c. of the United Kingdom (40% interest), Oman Investment Fund (40% interest), and Castell Investments Ltd. (20% interest), continued the development of the 20,000-t/yr antimony metal and antimony trioxide plant located at the Port of Sohar in the and Sohar Freezone. The company received an environmental license from the Ministry of Environment and Climate Affairs in February. In April, SPMP signed a feedstock supply and product offtake agreement with Traxys Europe SA of Luxembourg. The company announced that it had secured funding of \$70 million for the project in September. SPMP was expected to commission the plant in 2016 and to start commercial production in 2017 (Tristar Resources p.l.c., 2015a, b; 2016, p. 5).

Chromium.—In 2015, Oman produced 443,000 t of chromite ore compared with 751,000 t in 2014. Decreased mine production was owing to the decline in global metal prices. The country was estimated to have produced 76,000 t of ferrochrome metal in 2015 compared with 54,000 t in 2014. The increase was owing to the commissioning in January of Gulf Mining Group's (GMG's) 50,000-t/yr ferrochrome smelter, which was located in the Sohar Freezone. By yearend, the company announced plans to increase the capacity of the ferrochrome smelter to 120,000 t/yr by 2017. GMG had applied for a chromite ore mining license in the Samail mining district (located about 300 km southwest of Sohar) to provide additional feedstock for the smelter. GMG operated a chromite ore concentration plant in the Ad Dakhiliyah area with the capacity to produce 55,000 t/yr of chromite concentrate grading 24% to 42% Cr₂O₃ (tables 1, 2; Ferro-alloys.com, 2015; Business Year International Inc., 2016, p. 112).

Copper and Gold.—In 2015, Savannah Resources plc of the United Kingdom continued exploration on Blocks 4 and 5, which covered 1,004 km² in the Semail ophiolite belt located about 180 km northwest of Muscat. In 2015, Savannah Resources completed a drilling campaign that focused on prospects located in Blocks 4 and 5. At Block 4, the company focused drilling efforts on the Aarja and the Zuha prospects as well as gold mineralization at the Gaddamah prospect. At Block 5, the company focused drilling efforts on the Mahab deposit and the Sarami West prospect. Savannah Resources established a mineral resource estimate at the Mahab of 1.5 million metric tons (Mt) at an average grade of 2.1% copper. In December, after compiling recent and historical data,

the company reported a combined exploration target at Blocks 4 and 5 of between 10.7 and 29.3 Mt at a grade of between 1.4% and 2.4% copper. Indicated and inferred mineral resources at Blocks 4 and 5 (combined) were 1.7 Mt grading 2.2% copper. Savannah Resources planned to continue drilling at Blocks 4 and 5; it expected to complete a feasibility study and to establish a copper concentrate facility to begin commercial production by late 2017. Savannah held 65% interest in the Omani company, Al Thuraya LLC, which was the owner of the Block 4 license, as well as a 51% interest in Al Fairuz Mining, which was the owner of the Block 5 license (Savannah Resources plc, 2016, p. 2, 5–6, 10; 2017).

Iron and Steel.—In 2015, Oman produced 1.48 Mt of DRI compared with 1.45 Mt in 2014. Jindal Steel and Power Ltd. (Jindal) of India, which was the country's sole producer of DRI, 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 located in Sohar that was commissioned in April 2014. During the year, Jindal continued the construction and development of a 1.4-Mt/yr rebar mill. The \$225 million mill had not been commissioned by yearend but was expected to be commissioned in early 2017 (table 2; Jindal Steel and Power Ltd., 2015, p. 6, 10, 20; 2016, p. 23; Midrex Technologies Inc., 2016, p. 8).

Industrial Minerals

Cement.—Oman was estimated to have produced 5.3 Mt of cement in 2015 compared with 5.1 Mt in 2014. The production increase in the country's cement sector was attributed to the Government's ongoing infrastructure and construction projects. Oman Cement Co. S.A.O.G. and Raysut Cement Company S.A.O.G. (RCC) accounted for 5.4 Mt of the country's 6.5 Mt/yr of capacity. RCC, which had a 2.7-Mt/yr production capacity at its Salalah complex, produced 2.4 Mt of cement in 2015. In 2015, the company planned to upgrade the capacity of the gas supply station at the complex by about 54,000 cubic meters of liquefied natural gas, which was expected to increase the production capacity by about 120,000 t/yr of cement. The company domestically sourced raw materials for clinker production and imported 253,400 t of clinker in 2015 (tables 1, 2; Oman Cement Co. S.A.O.G., 2016, p. 2; Raysut Cement Co. S.A.O.G., 2016, p. 13, 18).

Gypsum.—Oman's output of gypsum increased to about 6.0 Mt in 2015 from about 3.4 Mt in 2014 (and 2.8 Mt in 2013). Zawawi Minerals L.L.C. was the main producer and exporter of gypsum. In January, USG Zawawi Drywall L.L.C. SFZ, which was a joint venture of Zawawi Minerals L.L.C. (50% interest) and USG Boral Building Products Pty Ltd. of Australia (50% interest), began commercial production at its gypsum board plant in the Salalah Freezone. The company's 10-million-square-meter-per-year gypsum board plant sourced gypsum from the Thumrait quarry in the Dhofar Governorate, operated by Zawawi Gypsum L.L.C., which was a joint venture between Zawawi Minerals L.L.C. (45% interest) and USG Boral Building Products Pty Ltd. (55% interest) (table 1; Zawawi Minerals L.L.C., 2014; Muscat Daily, 2015).

Nitrogen (Ammonia).—In 2015, Salalah Methanol Company LLC (SMC), which was a subsidiary of OOC and Takamul Investment Co., continued the development of the 365,000-t/yr ammonia plant. The plant was expected to be located adjacent to the company's Salalah methanol plant in the Salalah Freezone and to use byproduct purge gas as feedstock. In October, SMC prequalified eight international firms to bid on the engineering and construction contract. In 2014, Takamul Investment awarded the front-end engineering and design of its new ammonia plant at Salalah in southern Oman to Linde Group of Germany. The project was expected to be completed by 2017 (Watts, 2014; Trade Arabia, 2015).

Mineral Fuels

Natural Gas.—In 2015, according to the Central Bank of Oman, the country held 648 billion cubic meters of proved natural gas reserves. The country's gross natural gas production increased by 6% to 39,438 million cubic meters in 2015 from 37,318 million cubic meters (revised) in 2014. In 2015, Oman had 48 natural-gas-producing fields. PDO controlled most of the nonassociated natural gas production in the country. Domestic consumption of natural gas has increased owing to rising demand from the industrial sector for power generation, for petroleum activities that use natural gas as fuel, and for re-injection into mature oilfields as part of the implementation of enhanced oil recovery processes. In 2015, the country's consumption of natural gas increased to about 23,360 million cubic meters from 22,650 million cubic meters in 2014 (and 17,540 million cubic meters in 2011). Through Dolphin Energy Co. Ltd., Oman imported about 1,970 million cubic meters of natural gas in 2015 by pipeline from neighboring Qatar in order to meet increasing consumption requirements. The country exported 7.9 Mt of liquefied natural gas in 2015, the majority of which was exported to Japan and the Republic of Korea (table 1; BP p.l.c., 2016, p. 28; Central Bank of Oman, 2016, p. 40–41; Organization of the Petroleum Exporting Countries, 2016, p. 111).

In 2015, OOCEP continued the development of the Abu Tabul tight gasfield (known as ABB) at its Block 60, which was located west of Saih Rawl, and the Musandam petroleum- and gas-processing plant (known as MGP), which was located in Tibat in Musandam Province. The company planned to use hydraulic fracturing to extract natural gas from the Abu Tabul gas field. The MGP was under construction and expected to start operations in 2016. In January, OOCEP began the commercial export of natural gas and condensate to the Government's gas network. In June, the company also commissioned an integrated gas pipeline from the Ras Khalma gas plant and, in July, commissioned a pipeline from the Bukha offshore platforms in Block 8. The ABB gas-processing plant, which began commercial production in late 2014, had the capacity to treat 920 million cubic meters per year of natural gas and 2.2 million barrels per year of crude petroleum. In 2015, OOCEP had commissioned 21 wells in Block 60, resulting in 31 total operating wells in the block as of yearend. BP Oman (a subsidiary of BP p.l.c. of the United Kingdom, 60%, and OOCEP, 40%) continued to develop the Khazzan gasfield and the processing facility, located in Block 61 in the

Al Dhahrah governorate. By yearend, 10 rigs were operational and 18 wells had been drilled. Natural gas production from the Khazzan field was expected to enter the pipeline network by November 2017. The project was expected to involve 300 wells during a 15-year period to produce 28.3 million cubic meters per day of natural gas (Gulf State Business, 2015; BP p.l.c. 2016, p. 32; Central Bank of Oman, 2016, p. 40; Oman Oil Company Exploration and Production L.L.C., 2016, p. 8, 15–16, 29; 2017).

In August, Oman's Ministry of Oil and Gas signed a contract for the construction of a pipeline to import natural gas from Iran. Under the contract, the Iranian Offshore Engineering and Construction Co. (a joint venture between the National Iranian Oil company and the Industrial Development and Renovation Organization of Iran) would conduct feasibility studies and construct a 400-km subsea natural gas pipeline. The pipeline was expected to transfer natural gas from Rudan, Iran, to the Port of Sohar. Under the contract, Oman was to be guaranteed 28 million cubic meters per day of natural gas for 15 years (Economist, The, 2015; Business Year International Inc., The, 2016, p. 8).

Petroleum.—In 2015, Oman produced 358.1 Mbbbl of crude petroleum and condensate from 217 oilfields, which represented a 4% increase compared with the 344.4 Mbbbl produced in 2014. The increase in production was attributed to increased output from Occidental Oman, CC Energy, and Petroleum Development Oman. Of the 358 Mbbbl of crude petroleum and condensate produced, crude petroleum accounted for 323 Mbbbl and condensate accounted for 35 Mbbbl (Central Bank of Oman, 2016, p. 37–38).

In October, GlassPoint Solar, Inc. of the United States and PDO began construction on the Miraah project at the Amal oilfield. The company aimed to construct a 1,021-megawatt solar thermal facility to produce steam to be used in thermal enhanced oil recovery to extract heavy and viscous crude petroleum at the Amal oilfield. The project was expected to generate 6,000 metric tons per day of steam and was expected to begin operating in 2017 (Central Bank of Oman, 2016, p. 38; Petroleum Development Oman, 2017).

In 2015, ORPIC continued construction and development of the \$2.1 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 when commissioned as expected in 2017. In May, the company also began construction of the \$320 million Muscat Sohar Products Pipeline (MSPP) and the Al Jifinan Terminal project. The MSPP project aimed to connect the Mina Al Fahal refinery to the Sohar refinery through a 290-km multiple-product pipeline and storage terminal facility. The MSPP and the Al Jifinan Terminal were expected to be completed by 2017 (Finlayson, 2015; Oman Oil Refineries and Petrochemical Industries Company L.L.C., 2015a, b).

Duqm Refinery and Petrochemical Industries Company L.L.C. (a joint venture between OOC, 50%, and International Petroleum Investment Company PJSC, 50%) of the United Arab Emirates continued the development of the 230,000-bbl/d refinery in the Duqm Economic Freezone. In 2015, the company released an invitation to tender for the engineering, procurement, and construction contracts. Refinery products were expected to include diesel fuel, jet fuel, gasoline, liquefied petroleum gas,

and naphtha as well as hydrogen and sulfur. Site preparation began in late 2015, construction was expected to begin in 2016, and the refinery was expected to be operational by 2020 (Watts, 2015; Duqm Refinery and Petrochemical Industries Company L.L.C., 2017; Oman Oil Company S.A.O.C., 2017).

Outlook

The International Monetary Fund projected that Oman's real GDP would increase by 1.8% and 1.7%, respectively, in 2016 and 2017. The Government is likely to continue to encourage diversification of 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. As a result, the mining industry is likely to grow as feedstock demand from downstream producers is likely to increase. Oman faces several internal and external challenges to developing its mineral sector, however. The Government's ability to implement a modernized mining law that streamlines mine permitting is central to attracting investment into the mining sector. Continued low prices for crude petroleum globally are expected to further decrease Government revenue from the mineral fuels sector, increase the fiscal deficit, and challenge the capability of the Government to invest in needed infrastructure development. The development of the Khazzan gasfield, which is expected to increase natural gas production, is considered crucial to continued subsidized industrial development (International Monetary Fund, 2016, p. 173).

References Cited

- BP p.l.c., 2016, BP statistical review of world energy—June 2016: London, United Kingdom, BP p.l.c., 44 p. (Accessed March 1, 2017, at <https://www.bp.com/content/dam/bp/pdf/energy-economics/statistical-review-2016/bp-statistical-review-of-world-energy-2016-full-report.pdf>.)
- Business Year International Inc., 2016, The business year—Oman 2016: Tortola, British Virgin Islands, Business Year International Inc., 214 p. (Accessed February 15, 2017, at <https://www.thebusinessyear.com/Content/Publication/fl71ea40-681c-4791-a80c-cb3bdd16d7fe.pdf>.)
- Central Bank of Oman, 2016, Annual report 2015: Muscat, Oman, Central Bank of Oman, June, 136 p. (Accessed February 1, 2017, at http://www.cbo-oman.org/annual/Annual_Report_2015.pdf.)
- Crangle, R.D., Jr., 2017, Gypsum: U.S. Geological Survey Mineral Commodity Summaries 2017, p. 76–77. (Accessed June 19, 2017, at <https://minerals.usgs.gov/minerals/pubs/commodity/gypsum/mcs-2017-gypsu.pdf>.)
- Duqm Refinery and Petrochemical Industries Company L.L.C., 2017, What we do: Duqm Refinery and Petrochemical Industries Company L.L.C. (Accessed March 6, 2017, at <http://www.duqmrefinery.om/what-we-do/>.)
- Economist, The, 2015, Oman and Iran confirm gas pipeline deal: The Economist, September 4. (Accessed March 23, 2017, at <http://country.eiu.com/article.aspx?articleid=123477796&Country=Oman&topic=Economy&subtopic=Forecast&subsubtopic=Policy+trends&u=1&pid=1893926373&oid=1893926373&uid=1>.)
- Ferro-alloys.com, 2015, Omani gulf mining plans to double ferrochrome output by 2017: Ferro-alloys.com, November 16. (Accessed February 25, 2017, at <http://www.ferro-alloys.com/en/News/Details/211330#>.)
- Finlayson, Richard, 2015, Oman's Sohar refinery expansion ahead of schedule: Industrial Info Resources, March 24. (Accessed September 14, 2015, at <http://www.industrialinfo.com/news/article.jsp?newsitemID=247290&qidSessionId=764ED2A5817447D2A006BEDB8E80884D.boar>.)
- Gavin, James, 2014, A railway without borders: MEED Web page, October 12. (Accessed March 20, 2017, at <https://www.meed.com/sectors/transport/rail/a-railway-without-borders/3195973.article>.)

- Gulf State Business, 2015, Oman—OOCEP opens \$1.3B tight gas field processing plant: Gulf State Business, January 16. (Accessed March 13, 2017, at <http://gulfstatedbusiness.net/news/new-region/oman/item/1123-oman-oocep-opens-1-3b-tight-gas-field-processing-plant.>)
- International Monetary Fund, 2016, World economic outlook—Too long for too slow: International Monetary Fund, April, 208 p. (Accessed June 1, 2016, at [http://www.imf.org/external/pubs/ft/weo/2016/01/pdf/text.pdf.](http://www.imf.org/external/pubs/ft/weo/2016/01/pdf/text.pdf))
- James, A.E., 2015, Oman's new mining law to help attract much needed investment: Times of Oman, December 1. (Accessed February 1, 2017, at [http://timesofoman.com/article/72818/Business/Economy/Public-Authority-for-Mining-is-formulating-a-mineral-strategy-to-enhance-the-sector-s-contribution-to-GDP.](http://timesofoman.com/article/72818/Business/Economy/Public-Authority-for-Mining-is-formulating-a-mineral-strategy-to-enhance-the-sector-s-contribution-to-GDP))
- Jindal Steel and Power Ltd., 2015, 2014–2015 annual report: New Delhi, India, Jindal Steel and Power Ltd., 255 p. (Accessed March 2, 2017, at [http://www.jindalsteelpower.com/img/admin/report/pdf/JSPL_Annual_Report_2014_15.pdf.](http://www.jindalsteelpower.com/img/admin/report/pdf/JSPL_Annual_Report_2014_15.pdf))
- Jindal Steel and Power Ltd., 2016, 2015–2016 annual report: New Delhi, India, Jindal Steel and Power Ltd., 255 p. (Accessed March 2, 2017, at [http://www.jindalsteelpower.com/img/admin/report/pdf/Annual_Report_2015_16_0.pdf.](http://www.jindalsteelpower.com/img/admin/report/pdf/Annual_Report_2015_16_0.pdf))
- Midrex Technologies Inc., 2016, World direct reduction statistics 2015: Midrex Technologies Inc., June 30, 15 p. (Accessed July 1, 2016, at [http://www.midrex.com/assets/user/news/MidrexStatsBook2015.pdf.](http://www.midrex.com/assets/user/news/MidrexStatsBook2015.pdf))
- Muscat Daily, 2015, Oman Aluminium plans to double output by 2017: Muscat [Oman] Daily, April 15. (Accessed September 10, 2015, at [http://www.muscatdaily.com/Archive/Business/Oman-Aluminium-plans-to-double-output-by-2017-3z9w.](http://www.muscatdaily.com/Archive/Business/Oman-Aluminium-plans-to-double-output-by-2017-3z9w))
- Oman Aluminium Rolling Co., 2017, Corporate overview: Oman Aluminium Rolling Co. (Accessed February 28, 2017, at [http://www.oman-arc.com/about-us/corporate-overview/.](http://www.oman-arc.com/about-us/corporate-overview/))
- Oman Cement Co. S.A.O.G., 2016, Management discussion and analysis report for the year ended December 31, 2015: Oman Cement Co. S.A.O.G. (Accessed March 2, 2017, at [http://omancement.com/financial_statements.aspx.](http://omancement.com/financial_statements.aspx))
- Oman Ministry of Legal Affairs, 2017, Royal decrees: Ministry of Legal Affairs [Oman]. (Accessed February 22, 2017, at [http://www.mola.gov.om/royals.aspx?page=10.](http://www.mola.gov.om/royals.aspx?page=10))
- Oman Oil Company Exploration and Production L.L.C., 2016, 2015 OOCEP annual report: Muscat, Oman, Oman Oil Company Exploration and Production L.L.C., 49 p. (Accessed February 15, 2017, at [http://www.oocep.com/wp-content/uploads/2016/09/2015-Annual-Report.pdf.](http://www.oocep.com/wp-content/uploads/2016/09/2015-Annual-Report.pdf))
- Oman Oil Company Exploration and Production L.L.C., 2017, Our portfolio: Oman Oil Company Exploration and Production L.L.C. (Accessed March 1, 2017, at [http://www.oocep.com/index.php/our-portfolio/.](http://www.oocep.com/index.php/our-portfolio/))
- Oman Oil Company S.A.O.C., 2017, Duqm refinery and Petrochemical Industries Company: Oman Oil Company S.A.O.C. (Accessed March 13, 2017, at [http://www.oman-oil.com/Investment.html.](http://www.oman-oil.com/Investment.html))
- Oman Oil Refineries and Petrochemical Industries Company L.L.C., 2015a, Orpic celebrates ground breaking of Muscat-Suhar pipeline project for the transportation of oil products and Al Jafnain terminal: Oman Oil Refineries and Petrochemical Industries Company L.L.C. press release, June 25. (Accessed March 1, 2017, at [http://www.orpic.om/media-center/archived-news.](http://www.orpic.om/media-center/archived-news))
- Oman Oil Refineries and Petrochemical Industries Company L.L.C., 2015b, Orpic's Suhar refinery improvement project: Oman Oil Refineries and Petrochemical Industries Company L.L.C. press release, August 25. (Accessed March 1, 2017, at [http://www.orpic.om/media-center/archived-news.](http://www.orpic.om/media-center/archived-news))
- Organization of the Petroleum Exporting Countries, 2016, Annual statistical bulletin: Organization of the Petroleum Exporting Countries, 124 p. (Accessed July 12, 2016, at [http://www.opec.org/opec_web/static_files_project/media/downloads/publications/ASB2016.pdf.](http://www.opec.org/opec_web/static_files_project/media/downloads/publications/ASB2016.pdf))
- Oxford Business Group, 2015, The report—Oman 2015: Oxford Business Group, January 21, p. 161–162. (Accessed February 23, 2017, at [http://www.omanminingexpo.com/.](http://www.omanminingexpo.com/))
- Oxford Business Group, 2016, New regulations aim to boost mining investment in Oman: Oxford Business Group, May 22. (Accessed February 23, 2017, at [http://www.oxfordbusinessgroup.com/news/new-regulations-aim-boost-mining-investment-oman.](http://www.oxfordbusinessgroup.com/news/new-regulations-aim-boost-mining-investment-oman))
- Oxford Business Group, 2017, Oman's rail strategy gathers steam: Oxford Business Group. (Accessed February 23, 2017, at [https://www.oxfordbusinessgroup.com/analysis/making-tracks-sultanate-s-rail-strategy-continues-evolve.](https://www.oxfordbusinessgroup.com/analysis/making-tracks-sultanate-s-rail-strategy-continues-evolve))
- Public Authority for Mining, The, 2015, Mining opportunities in Oman: The Public Authority for Mining presentation, 28 p. (Accessed August 25, 2015, at [http://fnrc.gov.ae/forum/present/2015/259.pdf.](http://fnrc.gov.ae/forum/present/2015/259.pdf))
- Petroleum Development Oman, 2017, Miraah Solar project: Petroleum Development Oman. (Accessed February 23, 2017, at [http://www.pdo.co.om/en/technical-expertise/solar-project-miraah/Pages/default.aspx.](http://www.pdo.co.om/en/technical-expertise/solar-project-miraah/Pages/default.aspx))
- Raysut Cement Co. S.A.O.G., 2016, Annual report 2015: Raysut Cement Co. S.A.O.G., February 24, 94 p. (Accessed March 2, 2016, at [http://raysutcement.com.om/docs/default-source/annual-financial-reports/annual-report-2015-full/annual-report-2015-e.pdf?sfvrsn=2.](http://raysutcement.com.om/docs/default-source/annual-financial-reports/annual-report-2015-full/annual-report-2015-e.pdf?sfvrsn=2))
- Savannah Resources plc, 2016, Annual report and financial statement for the year ended 31 December 2015: London, United Kingdom, Savannah Resources plc, February 17, 57 p. (Accessed March 8, 2017, at [http://www.savannahresources.com/cms/wp-content/uploads/docs/239690%20Savannah%20Web.pdf.](http://www.savannahresources.com/cms/wp-content/uploads/docs/239690%20Savannah%20Web.pdf))
- Savannah Resources plc, 2017, Block 4 and 5 copper projects—Oman: Savannah Resources plc. (Accessed March 8, 2017, at [http://www.savannahresources.com/assets/block-4-and-5-copper-projects-oman/.](http://www.savannahresources.com/assets/block-4-and-5-copper-projects-oman/))
- Sohar Aluminium Co. L.L.C., 2016, 2015 sustainability report: Sohar Aluminium Co. L.L.C., June 26, 82 p. (Accessed February 23, 2017, at [http://www.sohar-aluminium.com/system/tdf/Sustainability/Sustainability-Report-2015_0.pdf?file=1&type=node&id=455.](http://www.sohar-aluminium.com/system/tdf/Sustainability/Sustainability-Report-2015_0.pdf?file=1&type=node&id=455))
- Trade Arabia, 2015, Eight firms prequalified for Salalah ammonia project: Trade Arabia Web page, October 6. (Accessed March 2, 2017, at [http://www.tradearabia.com/news/CONS_291754.html.](http://www.tradearabia.com/news/CONS_291754.html))
- Tristar Resources p.l.c., 2015a, Interim results for the six month period ended 30 June 2015: Tristar Resources p.l.c. press release, September 22. (Accessed February 24, 2017, at [http://irpages2.equitystory.com/websites/rns_news/English/21/rns-news-detail.html?article=23333078.](http://irpages2.equitystory.com/websites/rns_news/English/21/rns-news-detail.html?article=23333078))
- Tristar Resources p.l.c., 2015b, Oman antimony roaster project update: Tristar Resources p.l.c. press release, August 24. (Accessed February 24, 2017, at [http://irpages2.equitystory.com/websites/rns_news/English/21/rns-news-detail.html?article=23208474.](http://irpages2.equitystory.com/websites/rns_news/English/21/rns-news-detail.html?article=23208474))
- Tristar Resources p.l.c., 2016, Annual report and financial statements for the year ended 31 December 2015: London, United Kingdom, Tristar Resources p.l.c., March 8, 56 p. (Accessed November 29, 2017, at [http://tri-starresources.com/wp-content/uploads/2016/03/Tri-Star-Resources-plc-Annual-Report-and-Accounts-2015.pdf.](http://tri-starresources.com/wp-content/uploads/2016/03/Tri-Star-Resources-plc-Annual-Report-and-Accounts-2015.pdf))
- U.S. Energy Information Administration, 2016, Oman: U.S. Energy Information Administration country analysis brief, January 28, 13 p. (Accessed February 23, 2017, at [https://www.eia.gov/beta/international/analysis_includes/countries_long/oman/archive/pdf/oman_2016.pdf.](https://www.eia.gov/beta/international/analysis_includes/countries_long/oman/archive/pdf/oman_2016.pdf))
- Watts, Mark, 2014, Linde wins design deal on Salalah ammonia plant: MEED Web page, June 23. (Accessed September 14, 2015, at [http://www.meed.com/sectors/industry/petrochemicals/linde-wins-design-deal-on-salalah-ammonia-plant/3193117.article.](http://www.meed.com/sectors/industry/petrochemicals/linde-wins-design-deal-on-salalah-ammonia-plant/3193117.article))
- Watts, Mark, 2015, Firms invited to bid on Duqm refinery: MEED Web page, November 19. (Accessed February 23, 2017, at [https://www.meed.com/sectors/oil-and-gas/oil-downstream/firms-invited-to-bid-on-duqm-refinery/5000157.article.](https://www.meed.com/sectors/oil-and-gas/oil-downstream/firms-invited-to-bid-on-duqm-refinery/5000157.article))
- Zawawi Minerals L.L.C., 2014, USG Zawawi Drywall LLC SFZ: Zawawi Minerals L.L.C. (Accessed March 31, 2016, at [http://zawawiminerals.com/zawawi-gypsum-llc/usg-zawawi-drywallsfz-llc/.](http://zawawiminerals.com/zawawi-gypsum-llc/usg-zawawi-drywallsfz-llc/))

TABLE 1
OMAN: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons unless otherwise specified)

Commodity	2011	2012	2013	2014	2015
METALS					
Aluminum	373	360	354	364	377
Chromium:					
Ore, gross weight	617	602	793 ^r	751	443
Metal content (35% chromic oxide)	216	211	278 ^r	263	155 ^e
Ferrochromium metal	--	--	14	54	76 ^e
Copper:					
Mine output, gross weight of ore	111	104	57	72	41
Metal, Cu content ^e	22 ^r	21 ^r	11 ^r	14 ^r	8
Smelter output, Cu content ^e	12	12	12	15 ^r	15
Refined, Cu content ^e	8 ^r	12 ^r	12 ^r	15	15
Gold, metal or Au content ²	40	19	76 ^r	165 ^r	102
kilograms					
Iron and steel:					
Crude steel ^c	160 ^r	300	500	1,500	2,000
Direct-reduced iron	1,110	1,460	1,470	1,450	1,480
Laterite (iron oxides)	722	710	572	753	720
Iron ore, pellets ³	--	9,000	9,000	9,000	9,000 ^e
Manganese:					
Gross weight	41,300	37,500	51,400 ^r	37,500	7,400
metric tons					
Metal content (25% Mn)	10,235	9,375	12,300	9,375	1,900 ^e
do.					
Silver, metal or Ag content ²	1,979 ^r	486 ^r	2,820 ^r	3,285 ^r	2,645
kilograms					
INDUSTRIAL MINERALS					
Cement, hydraulic	5,000	6,100	5,800	5,100 ^r	5,300 ^e
Clay:					
Kaolin	143	140	115	67	170
Unspecified	170	195	222	305	286
Gypsum	1,254	1,915	2,813 ^r	3,387	6,049
Limestone	4,995	6,488	5,489	8,724	12,156
Marble	931	1,165	1,255	1,565	1,629
Methanol	2,000	2,100	2,150	2,100	2,100 ^e
Nitrogen: ^c					
N content of ammonia	1,700	1,600	1,700	1,700	1,700
N content of urea	1,600	1,500	1,600	1,500	1,500
Quartz	217	623	347	283	351
Salt	12	13	12	13	13
Sand and gravel	69,391	72,990	74,217 ^r	62,547 ^r	72,082
Silica sand	38	47	47	4 ^{r,e}	9
Sulfur:					
Elemental	36	59	33 ^r	43 ^r	44
Sulfuric acid	1,200	1,400	1,400	1,400	1,400 ^e
MINERAL FUELS AND RELATED MATERIALS					
Gas, natural:					
Gross	34,399 ^r	35,608 ^r	38,751 ^r	37,318 ^r	39,438
million cubic meters					
Dry	28,330 ^r	29,332 ^r	31,960 ^r	30,611 ^r	32,501
do.					
Liquefied ⁴	8,890	8,620	9,200	7,950 ^r	7,910
thousand metric tons					
Natural gas liquids	251,397 ^r	251,468 ^r	267,969 ^r	245,711 ^r	241,185
thousand 42-gallon barrels					
Petroleum:					
Crude and condensate	325,215	335,070	343,830	344,400	358,100
do.					
Refinery products:					
Liquefied petroleum gas	3,448	3,276	2,496	2,913 ^r	2,790
do.					
Gasoline	23,250	23,324	21,737	18,330 ^r	17,536
do.					
Jet fuel and kerosene	4,891	5,544	4,394 ^r	4,806 ^r	5,170
do.					
Distillate fuel oil	15,804	15,476	14,108	19,642 ^r	20,102
do.					
Residual fuel oil	3,342	3,242	2,084	2,667 ^r	2,563
do.					
Other	26,375	25,258	25,556 ^r	26,139 ^r	28,181
do.					
Total	77,110	76,120	70,375 ^r	74,497 ^r	76,342
do.					

See footnotes at end of table.

TABLE 1—Continued
OMAN: PRODUCTION OF MINERAL COMMODITIES¹

⁶Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ⁷Revised. do. Ditto. -- Zero.

¹Table includes data available through February 20, 2017.

²Reported sales.

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

⁴Liquefied natural gas is produced by treating gross natural gas in treatment plants to remove water, carbon sulfide, hydrogen sulfide, and other components.

TABLE 2
OMAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum:			
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	380,000.
Secondary	Oman Aluminium Rolling Co. (OARC) (Takamul Investment Co. S.A.O.C.)	Sohar Industrial Estate	70,000.
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%)	Muscat	60,000.
Calcium carbonate	Northern Minerals Co. L.L.C.	Ruwi	70,000.
Cement	Oman Cement Co. S.A.O.G. (Government, 51%; pension funds, 33.65%; individual investors, 9.85%; Public Authority of Social Insurance, 5.50%)	Kilns and mills at Rusayl	2,740,000.
Do.	Raysut Cement Co. S.A.O.G. (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.
Chromium:			
Ore	Al Tamman Trading Establishment L.L.C.	Al Ram and Wadi Rajmi	296,000.
Do.	Hatton FZE	Mines south of Muscat	200,000.
Do.	Gulf Mining Group (GMG)	Wadi Mahram Estate	200,000.
Do.	Oman Chromite Co. S.A.O.G. (Al Qurum Establishment L.L.C., Government, Oman Mining Co. L.L.C.)	Mines near Sohar	200,000.
Do.	Northern Minerals Co. L.L.C.	Somail	20,000.
Do.	Sun National Minerals L.L.C. (Zawawi Minerals L.L.C., 80%)	Northern Oman	NA.
Concentrated	Gulf Mining Group	Ad Dakhiliyah	55,000.
Ferrochromium	Al Tamman Indsil Ferro Chrome L.L.C.	Sohar Freezone	150,000.
Do.	Gulf Mining Group	do.	50,000.
Clay:			
Unspecified	NA	NA	300,000.
Kaolin	NA	NA	150,000.
Copper:			
Ore, gross weight	Mawarid Mining L.L.C. (MB Holding Co. L.L.C., 100%)	Mine at Mandoos	75,000.
Concentrated ore	do.	Lasail, near Sohar	15,000.
Refined metal	Oman Mining Co. L.L.C. (Government, 100%)	Sohar Industrial Estate	20,000.
Gold:			
Ore	kilograms Mawarid Mining L.L.C. (MB Holding Co. L.L.C., 100%)	Mine at Mandoos	100.
Refined	do. Oman Mining Co. L.L.C. (Government, 100%)	Sohar Industrial Estate	500.
Gypsum			
	Cement Gypsum Products Co. S.A.O.G.	Buraimi and Thumrait	180,000.
Do.	Gulf Mining and Material Co.	Thumrait	200,000.
Do.	Global Mining Co., L.L.C.	Quarry at Thumrait	65,000.
Do.	Al-Rawas Mining Co. L.L.C. (Al-Rawas Holding L.L.C., 100%)	Salalah	2,000,000.
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.
Do.	USG Zawawi Drywall L.L.C. SFZ (USG Boral Building Products Pty Ltd., 50%, and Zawawi Minerals L.L.C., 50%)	Salalah Freezone, Dhofar Governorate	3,000,000.

See footnotes at end of table.

TABLE 2—Continued
OMAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Iron and steel:				
Iron ore pellets		Vale Oman Pelletizing Co. L.L.C. [Vale S.A., 70%, and Oman Oil Co. S.A.O.C. (OOC), 30%]	Sohar Industrial Zone	9,000,000.
Iron ore (laterite)		Gulf Mining Group	Barka	300,000.
Crude steel		Jindal Shadeed Iron and Steel L.L.C. (Jindal Steel and Power Ltd., 100%)	Sohar Industrial Zone	2,000,000.
Do.		Modern Steel Mills L.L.C.	Rusayl	160,000.
Direct-reduced iron		Jindal Shadeed Iron and Steel L.L.C. (Jindal Steel and Power Ltd., 100%)	Sohar Industrial Zone	1,500,000.
Rolled (rebar)		Sharq Sohar Steel Rolling Mill L.L.C. (Sohar Steel L.L.C.)	do.	500,000.
Do.		Hadid Majan L.L.C.	Bait Al Falaj	100,000.
Rolled (tube)		Al Jazeera Steel Tube Mills Co. S.A.O.G.	Sohar	300,000.
Galvanized (wire)		Gulf Specialty Steel Industries L.L.C. (Global Steel Industries Pte Ltd. and Takamul Investment Co. S.A.O.C.)	do.	60,000.
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%)	Rusayl	2,400,000.
Do.		Northern Minerals Co. L.L.C.	Wadi Al Jizzi, Al Batinah	900,000.
Do.		Global Mining Co., L.L.C.	Sohar	NA.
Manganese		Al Tamman Trading Establishment L.L.C.	Al Qabil	60,000.
Marble		do.	Buraimi	700,000.
Do.		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.
Methanol		Salalah Methanol Co. L.L.C. [Oman Oil Co. S.A.O.C. (OOC) 90%, and Takamul Investment Co., S.A.O.C., 10%]	Salalah Free Zone	1,150,000.
Do.		Oman Methanol Co. L.L.C. (Oman Methanol Holding Co. LLC and Methanol Holding International Ltd.)	Sohar Port	1,050,000.
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, Saih Niyahda, and Saih Rawl clusters	27,000.
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.
Do.		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%]	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%)	Sohar	730 ammonia, 1,300 urea.

See footnotes at end of table.

TABLE 2—Continued
OMAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Petroleum:				
Crude	thousand 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.	Occidental Oman, Inc. (Occidental Petroleum Corp., 65%, and Mitsui E&P Middle East B.V., 35%)	Blocks 9 and 27, includes the Safah and Al Sunienah fields	90,400.
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 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 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%, and Oman Oil Co. S.A.O.C. (OOC), 40%]	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	116,000.
Do.	do.	do.	Refinery at Mina Al-Fahal	106,000.
Quartz		Gulf Stone Co. S.A.O.G.	Sohar	650,000.
Salt, crude, industrial		Modern Salt Co. L.L.C.	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%)	Sohar and Yankul	50.
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%)	Sohar Industrial Estate	30.
Sulfuric acid	do.	Sohar Chemical Industries (SCI) (Suhail Bahwan Group)	do.	1,460.

Do., do. Ditto. NA Not available.