

# 2007 Minerals Yearbook

**OMAN [ADVANCE RELEASE]** 

### THE MINERAL INDUSTRY OF OMAN

### By Philip M. Mobbs

The economy of the Sultanate of Oman was based on the production and processing of hydrocarbons. Natural gas and crude petroleum extraction accounted for about 45.3% of the nominal gross domestic product in 2007. Oman was the seventh ranked crude oil producer in the Middle East and accounted for about 0.9% of total world crude oil production (BP p.l.c., 2008, p. 8; Central Bank of Oman, 2008, p. 17).

#### Minerals in the National Economy

In 2007, Oman's total merchandise exports were valued at about \$24.5 billion,1 of which crude oil accounted for about \$14.4 billion; liquefied natural gas, about \$3.1 billion; refined petroleum products, about \$1.21 billion; mineral products, about \$1.17 billion; chemical industry products, about \$460 million; and base metals and articles manufactured from base metals, about \$310 million. Notable changes in the value of commodity exports in 2007 compared with that of 2006 included methanol, which increased from zero in 2006 to \$55 million in 2007; refined petroleum products, which increased by 883% to \$1.21 billion; chromium ores and concentrates, which increased by 634% to about \$52 million; liquefied petroleum gases, which increased by 54% to about \$587 million; refined copper wire, which increased by 44% to about \$37 million; and portland cement, which decreased by 7% to about \$54 million (Central Bank of Oman, 2007, p. 102, 105; 2008, p. 96, 99; Ministry of National Economy, 2008, p.15).

The value of total recorded imports was \$15.9 billion in 2007, of which mineral fuels accounted for \$555 million and crude minerals, about \$300 million. In 2006, the value of total recorded imports was \$11 billion, of which mineral fuels accounted for \$361 million and crude minerals, \$319 million (Central Bank of Oman, 2007, p. 108; 2008, p. 102).

The Government's potential loss of revenue from the 4% decline in crude oil and condensate output in 2007 was offset by the average price received for Omani crude oil, which increased to \$65.15 per barrel compared with \$61.69 per barrel in 2006. Total Government revenues were \$15.3 billion in 2007; revenue from hydrocarbons increased to more than \$11.6 billion, of which crude oil and condensate accounted for \$9.5 billion, and natural gas, \$2.1 billion compared with total revenues of \$13 billion in 2006, of which crude oil accounted for \$8.4 billion, and natural gas, \$1.5 billion (table 1; Central Bank of Oman, 2007, p. 51; 2008, p. 49, 105).

#### **Production**

Notable estimated increases in Omani mineral production in 2007 compared with that of 2006 included that of copper ore, by about 300%; gold, by about 140%; and sulfur, by an estimated 25%. The potential loss of revenue associated with the 18% decline of the officially reported production of refined petroleum

by the Oman Refinery Co. L.L.C. (compared with 2006) was offset by the 69% increase in the production of refined petroleum by the Sohar Refinery Co. L.L.C. The increased output from the Sohar petroleum refinery, which opened in 2006, was attributed to a full year of production. The significant increases of copper ore and gold were attributed to a full year of production at the new copper mines of National Mining Co. L.L.C. The estimated increase in sulfur production in 2007 was attributed to the additional sulfur processing at the Sohar oil refinery, and the 4% drop in Omani crude petroleum output was a continuation of the long-term decline of production from older oilfields. Since 2000, when Omani crude petroleum production peaked at an estimated 353 million barrels, output had declined by about 27% (Central Bank of Oman, 2007, p. 38-42; National Mining Co. L.L.C., 2007).

#### Structure of the Mineral Industry

In 2007, Raysut Cement Co. commissioned cement clinker production line IV, and Oman Methanol Co. began production at its 3,000-metric-ton-per-day (t/d)-capacity methanol plant. The Government merged Oman Oil Refinery Co. L.L.C. and Sohar Refinery Co. L.L.C. to form Oman Refineries and Petrochemicals Co. L.L.C. (Oman Economic Review, 2007).

The Ministry of Commerce and Industry regulates the mining sector in accordance with the Mining Law, Royal Decree No. 27/2003. The Ministry of Oil and Gas manages the petroleum sector. Petroleum Development Oman L.L.C. (PDO), which was 60% state-owned, produced about 90% of the country's crude oil. Other Government-controlled companies includes Oman Mining Co. L.L.C. (100%), Oman Oil Co., S.A.O.C. (100%), Oman Refineries and Petrochemicals (100%), Qualhat Liquefied Natural Gas S.A.O.C. (55.84%), and Oman Liquefied Natural Gas L.L.C. (51%).

#### Outlook

Several significant mineral-sector projects are underway in Oman. In 2008, construction of the 350,000-metric-ton-per-year (t/yr)-capacity Sohar Aluminum smelter is expected to be completed, as is initial output from the 1.5-million-metric-ton-per-year (Mt/yr)-capacity direct-reduced iron plant and the 720,000-t/yr-capacity crude steel plant at Sohar, which is owned by Shadeed Iron & Steel L.L.C. (a subsidiary of Al-Ghaith Holding PJSC of the United Arab Emirates). Commercial operations also are scheduled to begin at Sohar International Urea and Chemical Industries S.A.O.C.'s 2,000-t/d-capacity ammonia and 3,500-t/d-capacity granular urea plant at Sohar in early 2008 (Oman Economic Review, 2007).

Sharq Sohar Steel Rolling Mills L.L.C. continued work on the installation of a 300,000-t/yr-capacity steel plant at Sohar, which was expected to begin commercial production by 2009, and Oman Cement Co. S.A.O.G. proposed to add a 1.3-millionmetric-ton-per-year-capacity cement line to its facilities at

<sup>&</sup>lt;sup>1</sup>Where necessary, values have been converted from Omani rials (OR) to U.S. dollars (US\$) at the average rate of OR0.386=US\$1.00.

Rusayl. Longer term projects in Oman were expected to be adversely affected by regional shortages of engineering services, equipment, and labor, and the associated increased material costs. The processing capacity of the Government's third petroleum refinery, which was proposed to be built at Duqm, could be reduced to 150,000 barrels per day (bbl/d) from the initially proposed 250,000-bbl/d-capacity because of projected increased construction costs (Metal Bulletin Monthly, 2007; Middle East Economic Digest, 2007; Williams, 2007).

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TABLE 1
OMAN: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Metric tons unless otherwise specified)

Commodity <sup>2</sup>	2003	2004	2005	2006	2007
Cement, hydraulic thousand metric tons	2,515 <sup>r</sup>	2,621 <sup>r</sup>	2,686 <sup>r</sup>	3,611 <sup>r</sup>	3,880
Chromium, gross weight	13,800	18,575	34,000 e	67,000 <sup>e</sup>	69,000 <sup>e</sup>
Copper, metal:					
Ore, metal content				5,000 <sup>e</sup>	20,000 e
Smelter output, metal content	18,000	16,000	25,000	25,000	25,000 e
Refined metal	17,040	15,090	24,543	24,500	24,500 <sup>e</sup>
Gas, natural:					
Gross million cubic meters	24,128	24,150	23,998	29,783	30,320
Dry <sup>e</sup> do.	17,000	17,000	17,390 <sup>3</sup>	21,754 <sup>3</sup>	26,000
Gold kilograms	31	211	384	144	350
Gypsum	181,900	103,000	133,100	170,000 r, e	180,000 <sup>e</sup>
Iron and steel, crude steel <sup>e</sup>	80,000	84,000	84,000	84,000	84,000
Natural gas liquids <sup>e</sup> thousand 42-gallon barrels	6,000	6,000	6,000	7,000	7,100
Nitrogen:					
N content of ammonia			620,000	1,000,000	1,000,000
N content of urea			320,000	830,000	830,000
Petroleum:					
Crude and condensate thousand 42-gallon barrels	300,000 <sup>e</sup>	285,385	282,616	269,242	259,293
Refinery products: <sup>4</sup>					
Liquefied petroleum gas do.	550 <sup>e</sup>	473	580	630	915
Gasoline do.	5,400 e	5,215	5,436	5,078	3,908
Jet fuel and kerosene do.	2,000 e	1,407	1,770	2,339	2,160
Distillate fuel oil do.	6,700 e	6,442	7,089	6,750	4,849
Residual fuel oil do.	15,000 e	14,247	15,445	14,947	13,177
Other do.	1,000 e	1,162	1,253	1,283	344
Total do.	30,700 e	28,946	31,573	31,027	25,353
Salt	12,300	12,400	10,900	11,000	11,000
Sand and gravel <sup>e</sup>	22,000,000	23,000,000	24,000,000	25,000,000	27,000,000
Silver kilograms	9	89	122	220	240
Stone:					
Marble	146,600	163,800	220,900	220,000	240,000
Other <sup>e</sup>	3,200,000	3,500,000	3,600,000	3,700,000 r	4,000,000
Sulfur <sup>e</sup>	30,000	30,000	30,000	40,000	50,000

<sup>&</sup>lt;sup>e</sup>Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. do. Ditto. <sup>r</sup>Revised. -- Zero.

<sup>&</sup>lt;sup>1</sup>Table includes data available through September 2, 2008.

<sup>&</sup>lt;sup>2</sup>In addition to the commodities listed, chlorine products, clay for bricks and tile, and laterite for construction were produced, but available information is inadequate to make reliable estimates of output.

<sup>&</sup>lt;sup>3</sup>Reported figure

<sup>&</sup>lt;sup>4</sup>Official production data do not include production from the Sohar refinery, which began operations in 2006. Sohar refinery production included 14.25 million barrels of petroleum products in 2006 and 24.2 million barrels of petroleum products in 2007.

## ${\bf TABLE~2}$ OMAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2007

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement	Oman Cement Co. S.A.O.G.	Kilns and mills at Rusayl	1,870,000
Do.	Raysut Cement Co.	Kilns and mills at Salalah	2,000,000
Chromite	Hatton FZE	Mines south of Muscat	480,000
Do.	Gulf Mining and Materials Co.	Wadi Mahram area	60,000
Do.	Oman Chromite Co. S.A.O.G.	Mines near Sohar	29,000
Copper			
Ore	National Mining Co. L.L.C. (MB Holding Co. L.L.C.)	Open pit mines at Ajib and Shinas	20,000
Refined metal	Oman Mining Co. L.L.C.	Lasail, near Sohar	25,000
Gold			
Ore	National Mining Co. L.L.C. (MB Holding Co. L.L.C.)	Open pit mines at Ajib and Shinas	NA
Metal kilograms	Oman Mining Co. L.L.C.	Lasail, near Sohar	400
Iron and Steel			
Crude steel	Modern Steel Mills LL.C. (Oman International Development and Industrial Co. S.A.O.G., Assarain Group of Companies, Dharamsey Group, and others)	Rusayl	84,000
Rolled steel products (rebar)	Sharq Sohar Steel Rolling Mills L.L.C.	Sohar	250,000
Do.	Hadid Majan L.L.C.	Bait Al Falaj	100,000
Rolled steel products (tubes)	Al Jazeera Tube Mills Co. S.A.O.G.	Sohar	NA
Marble	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., International Marble, and Omani Marble Co.	Quarries primarily located in the Wilayat of Ibri	NA
Natural gas million cubic meters	Petroleum Development Oman L.L.C. [Government, 60%; Royal Dutch Shell p.l.c., 34%; Private Oil Holdings Oman Ltd., 4%; Partex (Oman) Corp., 2%]	Gasfields and oilfields with associated natural gas in the Kauther/Yibal, the Saih Niyahda, and the Saih Rawl clusters	27,000
Natural gas, liquefied	Oman Liquefied Natural Gas L.L.C. [Government, 51%; Royal Dutch Shell plc, 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. do.	Qalhat Liquefied Natural Gas S.A.O.C. (Government, 55.84%; Oman Liquefied Natural Gas L.L.C., 36.8%; Union Fenosa S.A., 7.36%)	One train at Qalhat	3,300,000
Petroleum:			
Crude barrels per day	Petroleum Development Oman L.L.C. [Government, 60%; Royal Dutch Shell p.l.c., 34%; Private Oil Holdings Oman Ltd., 4%; Partex (Oman) Corp., 2%]	About 100 oilfields in the Bahja, the Fahud, the Harweel, the Lekhwair, the Marmul, the Nimr, the Qarn Alam, and the Yibal clusters	900,000
Do. do.	Oxy 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	55,000
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, the Daleel, the Mezoon and the Shadi Fields	16,000
Do. do.	Occidental Mukhaizna, L.L.C. [Occidental Petroleum Corp., 45%; Oman Oil Corp. S.A.O.C., 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	8,500

See footnotes at end of table.

### TABLE 2--Continued OMAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2007

#### (Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
PetroleumContinued	1:			
Refined 1	million barrels per year	Partnership of Indago Oman Ltd., 40% (operator); LG International Corp., 50%; Eagle Energy (Oman) Ltd., 10%	Block 8, Bukha Field	1,100
Do.	do.	Oman Refineries and Petrochemicals Co. L.L.C. (Ministry of Finance, 75%, and Oman Oil Co. S.A.O.C., 25%)	Refinery at Sohar	41
Do.	do.	do.	Refinery at Mina Al-Fahal	37
Salt, crude, industrial		Modern Salt Co. L.L.C.	Wilayat of Ibri	NA
Silver	kilograms	Oman Mining Co. L.L.C.	Sohar and Yankul	300

Do, do. Ditto. NA Not available.