# THE MINERAL INDUSTRY OF YEMEN

# By Philip M. Mobbs

The Republic of Yemen's economy was dominated by the production of crude oil. The nation also produced cement, gypsum, marble, natural gas, refined petroleum products, salt, sand and gravel, and dimension stone. In 2003, the gross domestic product (GDP) at constant prices was estimated to have increased by between 3.2% and 4.2% compared with a 3.9% increase in 2002 despite the war in Iraq and the lingering costs of the 2002 attack on the French crude oil supertanker Limburg. In 2003, the GDP based on purchasing power parity was estimated to be \$16.5 billion.1 Per capita GDP based on purchasing power parity was estimated to be about \$690, which ranked the country 173d of the 178 countries for which the International Monetary Fund (2004§<sup>2</sup>) maintained per capita GDP data. The mining sector, which included oil and gas production, accounted for more than 15% of the GDP; construction, more than 2%; and oil refining, about 0.3% (Central Bank of Yemen, 2004, p. 6).

## **Government Policies and Programs**

In 2003, the Ministry of Tourism and Environment was restructured, and the Ministry of Water and Environment was formed. The Authority for Environmental Protection continued to address mineral sector environmental issues under the Environmental Protection Law of 1995.

Income from the production and sale of domestic and exported crude oil and natural gas accounted for 71.9% of total Government revenue in 2003 compared with 68.9% in 2002. The Government sought to diversify the nation's crude-oil-based economy in part by promoting increased natural gas production and use and by encouraging increased foreign and local investment in the development of the building materials and mineral ores extraction sectors (Central Bank of Yemen, 2004, p. 8-9, 16).

#### **Trade**

Yemen was not a member of the Organization of the Petroleum Exporting Countries (OPEC) and was, therefore, not subject to OPEC's production quotas. In 2003, crude oil exports (about \$3.5 billion) accounted for about 87.9% of total exports, which were valued at more than \$3.9 billion. In 2002, crude oil exports were valued at \$3.1 billion. The nearly 10% increase in the value of crude oil exports was attributed to the increase in international oil prices. Leading importers of Yemeni goods were China (31.1% of total exports), Thailand (23.5%), India (10%), the Republic of Korea (5.3%), and the

United Arab Emirates (UAE) (4.5%). Total imports into Yemen were about \$3.6 billion (Central Bank of Yemen, 2004, p. 46, 47, 84). Leading exporters to Yemen were the UAE (14.1% of total imports), Saudi Arabia (11.1%), Kuwait (7.9%), the United States (6.3%), and India (5.5%) (Central Bank of Yemen, 2004, p. 37, 46-47).

## **Commodity Review**

#### Metals

Copper and Nickel.—Cantex Mine Development Corp. continued exploration on its Al Masna'a cobalt-copper-nickel-platinum project. The exploration license was extended to August 6, 2005.

**Zinc.**—ZincOx Resources plc of the United Kingdom continued its evaluation of the Al-Jabail zinc deposit. ZincOx initiated a feasibility study of a proposed open pit mine that was designed to produce 800,000 metric tons per year (t/yr) of ore. The study was expected to be completed in 2005 (ZincOx Resources plc, 2004, p. 4).

#### **Industrial Minerals**

State-owned Yemen Corp. for Cement Industry and Marketing operated plants that were located at Amran and Bajil and near Tiaz. In 2003, Ishikawajima-Harima Heavy Industries Co. Ltd. started work to expand the production capacity of the Amran cement plant to 1.2 million metric tons per year (Mt/yr). The conversion of the Bajil plant to dry process from wet and the expansion of its production capacity to 800,000 t/yr and the expansion of the Al-Barah plant near Taiz to 750,000 t/yr were under consideration. The Hayel Saeed Anam Group continued its evaluation of the construction of a 500,000-t/yr-capacity cement plant at Batees, and Arab-Yemeni Cement Co. proposed building a 1-Mt/yr-capacity cement plant at Al Mukalla (Yemen Corp. for Cement Industry and Marketing, 2003, p. 12-19; Jurong Engineering Ltd., 2004; Middle East Economic Digest, 2004a, b).

#### Mineral Fuels

Crude oil production was from seven blocks. Companies that operated the oilfields for their partners included DNO ASA on block 32; Dove Energy Ltd. of the United Kingdom on block 53; Jannah Hunt and Yemen Hunt (both subsidiaries of Hunt Oil Co. of the United States) on blocks 5 and 18, respectively; Nexen Inc. of Canada on block 14; Total S.A. of France on block 10; and state-owned Yemen Investment Co. for Oil and Minerals on block 4.

The Government had awarded exploration contracts on an additional 24 blocks. In 2003, 115 development and exploration oil wells were drilled compared with 124 in 2002;

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<sup>&</sup>lt;sup>1</sup>Where necessary, values have been converted from Yemeni Rials (YR) to U.S. dollars (US\$) at the average rate of YR175=US\$1.00.

<sup>&</sup>lt;sup>2</sup>References that include a section mark (§) are found in the Internet References Cited section.

140 wells were proposed for drilling in 2004 (Ministry of Oil and Minerals, 2003, p. 12-17; U.S. Energy Information Administration, 2004§).

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International Monetary Fund, 2004 (September), Yemen, World Economic Outlook Database, accessed September 29, 2004, via URL http://www.imf.org/external/pubs/ft/weo/2004/02/data/index.htm.

U.S. Energy Information Administration, 2004 (July), Yemen, Country Analysis Brief, accessed October 20, 2004, at URL http://www.eia.doe.gov/emeu/cabs/ yemen.html.

# **Major Source of Information**

Ministry of Oil and Minerals P.O. Box 81 Alzubaeri Street Sana'a, Yemen

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 $TABLE \ 1 \\ YEMEN: \ PRODUCTION \ OF \ MINERAL \ COMMODITIES^{I}$ 

(Thousand metric tons unless otherwise specified)

Commodity <sup>2</sup>		1999	2000	2001	2002	2003 <sup>p</sup>
Cement	metric tons	1,453,787	1,406,000 r	1,493,000 r	1,561,000 <sup>r</sup>	1,541,000
Gypsum	do.	40,000 r	42,000 r	44,000 r	41,000 <sup>r</sup>	42,000
Marble	thousand square meters	88	99 r	101 <sup>r</sup>	99 <sup>r</sup>	100
Natural gas: <sup>e</sup>						
Gross <sup>3</sup>	million cubic meters	16,000	18,000	18,000	29,991 r, 4	30,000
Flared and used	do.	800	900	900	956 <sup>4</sup>	1,000
Liquids	thousand 42-gallon barrels	2,200	2,400	2,400	2,400	2,400
Petroleum:						
Crude	do.	149,000	167,000	165,000	159,924 <sup>r</sup>	157,000
Refinery products:						
Liquefied petroleum gas	do.	440	670	910	1,100	1,100
Gasoline	do.	8,460 r	7,740 r	8,540 r	8,640 <sup>r</sup>	8,810
Kerosene	do.	3,230 r	3,150 r	3,630 r	3,450 <sup>r</sup>	3,510
Distillate fuel oil	do.	9,680 r	10,000 r	12,500 r	13,800 <sup>r</sup>	14,100
Residual fuel oil	do.	8,920 r	4,920 r	9,320 r	6,770 <sup>r</sup>	6,910
Other <sup>e</sup>	do.	290 r	315 r	420 r	420 <sup>r</sup>	430
Total	do.	31,000 r	26,800 r	35,300 r	34,200 <sup>r</sup>	34,900
Salt	metric tons	149,000	95,000 r	95,000 r	125,000 <sup>r</sup>	116,000
Sand and gravel		801	607	607	612	624
Stone, quarried		2,476 <sup>r</sup>	2,480 r	2,486 r	2,288 <sup>r</sup>	2,333

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

<sup>&</sup>lt;sup>1</sup>Table includes data available through October 22, 2004.

<sup>&</sup>lt;sup>2</sup>In addition, feldspar and glass sand may have been produced, but available information is inadequate to make estimates of output level.

<sup>&</sup>lt;sup>3</sup>Most natural gas that was produced was stripped of hydrocarbon liquids and reinjected.

<sup>&</sup>lt;sup>4</sup>Reported figure.