



# 2006 Minerals Yearbook

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## YEMEN

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# THE MINERAL INDUSTRY OF YEMEN

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Production and processing of crude oil accounted for a significant portion of the Republic of Yemen's gross domestic product (GDP). In 2006, the oil sector accounted for 11% of the GDP and mining accounted for about 0.5%. The oil sector also accounted for 92% of merchandise exports and 75% of Government revenue (van Rooden and others, 2007, p. 3, 11, 23).

In 2006, the International Finance Corporation, which was an affiliate of the World Bank, and the Ministry of Oil and Minerals of Yemen agreed to begin a project to develop a national mining policy and to review Yemen's mining laws and regulations. The program was expected to review and reform administrative procedures that were associated with the mining sector and to increase the private sector involvement in the development of the country's mineral industry.

## Production

Although domestic and international companies had advanced several metal exploration projects, mine production in 2006 was limited to industrial minerals—primarily limestone for domestic cement plants, and gypsum and salt for domestic use or the export market. The estimated 27% increase in marble production and almost 16% increase in gypsum output could be attributed to increased domestic and regional construction. Crude oil production continued to decline in 2006. The economic impact of the nearly 9% decline in crude oil production in 2006 compared with 2005 was offset by increased international oil prices.

## Structure of the Mineral Industry

The Ministry of Oil and Minerals was responsible for the mineral sector in Yemen. The Geological Survey and Minerals Resources Board supervised solid mineral activity. Metal and industrial mineral exploration and production operations were governed by the Mines and Quarries law No. 24 of 2002. Mineral projects also were subject to the provisions of the Investment law No. 22 of 2002.

Natural gas and petroleum exploration and production activities were supervised by the Petroleum Exploration and Production Authority. Oil projects were governed by production-sharing agreements, which, when approved by the Government, were promulgated as individual laws. Crude oil was refined by the Government's Aden Refinery Co. and the private sector's Yemen Refining and Marketing Co.

## Commodity Review

### Metals

**Gold.**—Cantex Mine Development Corp. completed a 43-hole drilling program at the Al Hariqah gold prospect. Thani Dubai

Mining Co. of the Cayman Islands explored for gold in the Wadi Maddan and the Wadi Sharis areas. In late 2006, Volrock Mining Ltd. of the United Kingdom received a permit to explore for gold in the Ahim-Washah, the Haydan-Saqayn, and the Wadi Hard-Jabal Balan areas.

**Iron Ore.**—In late 2006, Yemen Iron Steel Ltd. Co. received a permit to begin exploration for iron ore in the Al-Thaniah region.

**Zinc.**—In October, the Cabinet approved the contract for the development of the Jabaili zinc deposit by Jabal Salab Co. Ltd., which expected to begin zinc oxide production in late 2008 or early 2009. The contract was passed to the Parliament for approval. Anglo American plc of the United Kingdom subsequently withdrew from the Jabal Salab joint venture because the project's planned annual production levels did not meet Anglo's development criteria. At yearend, Jabal Salab Co. Ltd. comprised two partners—ZincOx Resources plc of the United Kingdom (52% interest) and Ansan Wikfs (Hadramaut) Ltd. (48%) (ZincOx Resources plc, 2006).

### Mineral Fuels

**Petroleum.**—In 2005, Yemen Exploration and Production Co.'s (YEPC), which was a joint venture of Yemen Hunt Oil Co. (51% equity interest) and Exxon Yemen, Inc. (49%), filed for arbitration against the Government. The Government terminated YEPC's operations on Block 18 (Marib al Jawf) during the initial year of a 5-year extension of the production-sharing agreement, and installed Safer Exploration and Production Operations Co. of Yemen (also known as Safir Exploration and Production Operations Co.) as the field operator (U.S. Securities and Exchange Commission, 2007, p. 11).

In 2006, crude oil production began from Block S-2, which was operated by OMV (Yemen) Al Mabarr Exploration GmbH of Austria. Production from Blocks 9 and 43, which started production in 2005, was ramped up; however, large declines, which ranged from 10% to 37%, were reported for Blocks 4, 14, 18, 32, and 53. In 2007, exploration was expected to increase in Yemen because high international oil prices had allowed the transformation of marginal prospects into economically viable oilfields.

## References Cited

- U.S. Securities and Exchange Commission, 2007, Form 10-K for the fiscal year ended December 31, 2006, Exxon Mobil Corp.: Washington, DC, U.S. Securities and Exchange Commission, 97 p.
- van Rooden, R., Davoodi, H., Guin-Siu, T., Jardeneh, D., Naqi, J., and Kato, R., 2007, Republic of Yemen—Statistical appendix: Washington, DC, International Monetary Fund country report no. 07/337, September, 27 p.
- ZincOx Resources plc, 2006, Jabali update and partial sale: Bagshot, Surrey, United Kingdom, ZincOx Resources plc press release, November 27, 2 p.

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

(Thousand metric tons unless otherwise specified)

Commodity <sup>2</sup>	2002	2003	2004 <sup>e</sup>	2005 <sup>e</sup>	2006 <sup>e</sup>
Cement	1,561	1,541	1,546 <sup>3</sup>	1,550 <sup>3</sup>	1,550
Gypsum	41	42	37	38	44
Marble thousand square meters	99	98	97	100	127
Natural gas: <sup>e</sup>					
Gross <sup>4</sup> million cubic meters	29,991 <sup>3</sup>	30,000	28,500	29,500	28,100
Flared and used do.	956 <sup>3</sup>	1,000	1,000	1,000	1,220
Liquids <sup>5</sup> thousand 42-gallon barrels	6,890 <sup>r,3</sup>	7,360 <sup>r,3</sup>	7,830 <sup>r,3</sup>	7,960 <sup>r,3</sup>	8,220 <sup>3</sup>
Petroleum:					
Crude do.	159,924	157,270 <sup>r</sup>	147,500 <sup>r,3</sup>	146,090 <sup>r,3</sup>	133,330 <sup>3</sup>
Refinery products: <sup>5</sup>					
Naphtha do.	3,100	1,200 <sup>r</sup>	1,100	1,200 <sup>r</sup>	1,200
Gasoline <sup>6</sup> do.	7,200	9,000 <sup>r</sup>	9,700 <sup>r</sup>	10,200 <sup>r</sup>	10,000
Kerosene do.	3,450	3,800 <sup>r</sup>	3,100	1,700 <sup>r</sup>	1,700
Distillate fuel oil do.	13,800	16,000	16,900	18,200 <sup>r</sup>	18,000
Residual fuel oil do.	6,770	10,000	9,000	6,800 <sup>r</sup>	6,800
Other <sup>e</sup> do.	420	640	640	690 <sup>r</sup>	700
Total <sup>e</sup> do.	34,700 <sup>r</sup>	40,600 <sup>r</sup>	40,400 <sup>r</sup>	38,800 <sup>r</sup>	38,400
Salt	125	116	88	90	90
Sand and gravel	612	624	668	1,030 <sup>r,3</sup>	1,000
Stone, quarried	2,288	2,333	2,269 <sup>3</sup>	2,300	2,300

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

<sup>1</sup>Table includes data available through September 28, 2007.

<sup>2</sup>In addition to the commodities listed, feldspar and silica sand may have been produced; aggregate, limestone, mica, pumice, rolled steel bars, scoria, and talc were also produced, but available information is inadequate to make reliable estimates of output.

<sup>3</sup>Reported figure.

<sup>4</sup>Most natural gas that was produced was stripped of hydrocarbon liquids and reinjected.

<sup>5</sup>Natural gas liquids include liquefied petroleum gas produced at the Aden refinery.

<sup>6</sup>Formerly listed as Benzene.

TABLE 2  
YEMEN: STRUCTURE OF THE MINERAL INDUSTRY IN 2006

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement		Amran Cement Factory (Yemen Cement Manufacturing and Marketing Co., 100%)	Kilns and mills at Amran	600,000
Do.		Al Barh Cement Factory (Yemen Cement Manufacturing and Marketing Co., 100%)	Kilns and mills Mafraq, near Taiz	580,000
Do.		Bajil Cement Factory (Yemen Cement Manufacturing and Marketing Co., 100%)	Kilns and mills at Bajil	262,000
Do.		Al Mukalla Raysut Cement Co. (Raysut Cement Co.)	Mukalla	NA <sup>1</sup>
Natural gas:	million cubic meters	Safer Exploration and Production Operations Co. (Government, 100%)	Block 18	20,000 <sup>2</sup>
Do.	do.	Yemen Exploration and Production Co. (Yemen Hunt Oil Co., 51%, and Exxon Yemen, Inc., 49%)	Block 14	10,000 <sup>2</sup>
Petroleum:				
Crude	million 42-gallon barrels	Crude oil was produced under 11 production-sharing agreements, which comprised nine contracts with joint ventures that included domestic or international partners, two agreements with single companies, and one Government-owned operation.	Oilfield on Blocks 4, 5, 9, 10, 14, 18, 32, 43, 51, 53, S-1, and S-2	160
Refined	42-gallon barrels per day	Aden Refinery Co. (Government, 100%)	Refinery at Aden	70,000
Do.	do.	Yemen Refining and Marketing Co., (Yemen Hunt Oil Co. and Exxon Yemen, Inc., 75.5%, and Yukong Group, 24.5%)	Topping plant at Marib	10,000
Salt:				
Crude:				
Marine		Local private companies	Eleven saltworks near Aden	150,000
Rock		Local private companies	Five salt mines near Salif	140,000
Refined		Salt Refining and Packing Factory (Government)	Salif	NA
Do.		Aden Salt Factory (Government)	Aden	NA
Stone		Local private companies	Dhamar, Mayana, Sana'a, Taiz, and Wadi Marek areas	NA

NA Not available.

<sup>1</sup>Company imported cement through Aden terminal.

<sup>2</sup>Most natural gas that was produced was stripped of hydrocarbon liquids and reinjected.