THE MINERAL INDUSTRY OF

THE REPUBLIC OF YEMEN

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Crude oil production and natural gas liquids recovered from associated natural gas were Yemen's principal mineral industries. Natural gas as liquified natural gas (LNG), however, was expected to play a greater role in the near future. Other mineral output includes cement, dimension stone, gypsum, and salt. (See table 1.) Increased petroleum output in 1998 was attributed to the Jannah Field and the Shabwa East Field coming on-stream.

In 1998, total imports dropped by more than $200 million to $2.2 billion, and exports dropped by more than $750 million to $1.5 billion mainly because of lower oil prices (Middle East Economic Digest, 1999a).

According to the Ministry of Oil and Mineral Resources, exploration for gold was being conducted by American, Canadian, and Indonesian companies in eastern and western Yemen in the areas of Dhamar, the Hadramout, and Hajja (Mining Journal, 1998). Among these, Cantex Mine Development Ltd. of Canada identified a number of base metal and precious-metal occurrences in northwestern Yemen. The company held a prospecting permit for a 41,500-square-kilometer (km^2) area (Mining Journal, 1999).

Cement output from Yemen's three existing cement plants totaled about 1.2 million metric tons (Mt) in 1998, less than one-half of the nation's consumption requirements of 2.8 Mt. To ease import requirements (1.6 Mt in 1998), the Government issued two new licenses for the construction of the country's first two private cement factories.

Yemen LNG Co. Ltd. was developing gas reserves in the Marib al-Jawf Fields for the production of LNG. Partners in the project were the Total Group of France at 36%; Yemen Gas Co., 26%; Hunt Oil Co. of the United States, 15.11%; Exxon Corp. of the United States, 14.51%; and SK Corp. of the Republic of Korea, 8.38%. Yemen LNG planned to build a two-train plant with capacity to export 5.3 million metric tons per year of LNG at Balhaf on the Gulf of Aden. The port of Pipavav in Gujarat State, India, will be the destination. Plant construction startup has been put back to January 2001 from January 1999 with exports due to begin by 2003 (Oil & Gas Journal, 1998).

More than 20 international companies were involved in hydrocarbon exploration in Yemen in 1998. Most active among these was Canadian Occidental Petroleum Ltd. with exploration permits covering more than 8 million hectares, or 80,000 km^2. In early 1998, the company acquired interest in Blocks 50 and 52 and, later in the year, four large contiguous exploratory blocks (11, 12, 36, and 54) in the northeast. The company also held 52% in the Masila tract (Block 14). In the Masila Block, total output from 13 oilfields rose by 6% to a record 201,000 barrels per day (bbl/d) in 1998, and petroleum reserves were increased from 156 million barrels (Mbbl) to 189 Mbbl (Middle East Economic Digest, 1999b). Canadian Occidental Petroleum signed an exploration agreement with Kerr McGee Yemen Ltd. for exploration in Block 51. Each company held 43.75% interest in Block 51. The remaining interest, 12.5%, was assigned to an affiliate of the Ministry of Oil and Mineral Resources (Kerr McGee Corporation, April 8, 1998, Kerr-McGee announces exploration agreement in Yemen, press release, accessed April 17, 1998, at URL http://biz.Yahoo. com/prnews/980408/ok_kerr_mc_2.html).

In January 1998, the Yemeni Parliament approved the awarding of Block 53 (East Saar) to Dove (United Kingdom) (75%) and Yemen General Corp. for Oil & Gas (25%). TransGlobe Energy Corp. announced that the Parliament of Yemen ratified the Block S-1 production-sharing agreement in June 1998. The company will have 150 km^2 of three-dimensional seismic data acquired and interpreted and drill three wells at an approximate total cost of $11 million. Block S-1, which covers an area of 4,484 km^2, is near existing pipelines and adjacent to the Marib al Jawf production area. In addition to Block S-1, the company held a 9.8% interest in Block 32 (TransGlobe Energy Corp, June 15, 1998, Transglobe announces ratification of production sharing agreement for Block S-1, Republic of Yemen, press release, accessed June 15, 1998, at URL http:// biz.yahoo.com/bw/980615/trans globe_2. html).

The Yemen General Corp. for Oil & Gas signed a $25 million production-sharing agreement with Petrocorp of the United States covering Block 15 in the Hadramout province (OPEC Bulletin, 1998). In April, the Ministry of Oil & Mineral Resources signed a memorandum of understanding with Bula Resources (Holdings) PLC of Ireland for exploration in Block 6 in the Shabwa Governorate and Block 35 in the Hadramout. By August, Bula Resources abandoned the project reportedly because analysis undertaken since April indicated that the blocks would not satisfy the company's required investment criteria (Middle East Economic Digest, 1998c).

In March, a production-sharing agreement was approved for Preussag Energie GmbH of Germany for Block S-2, known as Al Ouqlah in Shabwa (Middle East Economic Digest, 1998b).

Petroleum production from the Marib al Jawf Fields was expected to decline. Two new fields, however, came on-stream in late 1997; this should more than offset reduced production

[1]Deceased.

from the Marib al Jawf Fields. The Yemen General Corp. for Oil & Gas reported a production rise to 75,000 bbl/d from 25,000 bbl/d at the Jannah Field and to 30,000 bbl/d from 20,000 bbl/d at Shabwa East. Another promising discovery was reported in January 1998 by Clyde Petroleum of the United Kingdom when the company announced that it had struck oil at the Tasour-1 well in Block 32 about 10 kiliometers north of the Masila Field. An appraisal program was planned.

In 1998, total crude oil production averaged nearly 380,000 bbl/d, the bulk of which was derived from two areas—the Masila Field at 201,000 bbl/d and the Marib al Jawf Fields at 140,000 bbl/d. Remaining production was derived from the Jannah and the Shabwa East Fields. Crude-oil-production capacity was expected to rise to 420,000 bbl/d in 1999.

Yemen had two state-owned refining facilities—the 100,000-bbl/d-capacity Aden refinery and a 10,000-bbl/d topping plant. In May 1998, the Council of Ministers approved the sale of 50% of Aden Refinery Co. to private investors. The proceeds from the sale will be used to finance the upgrade of the Aden refinery. In 1998, the refinery produced about 100,000 bbl/d—70,000 bbl/d for local consumption and 30,000 bbl/d for Malaysia's Petroliam Nasional Bhd. (Petronas) (Middle East Economic Digest, 1998a).

Yemen's proven oil reserves were estimated to be 4 billion barrels in 1998. The known reserves are concentrated in the Marib al Jawf area in the north, the East Shabwa and the Masila areas in the south, and the Jannah and the Iyad areas in central Yemen. Natural gas reserves are at 480 million cubic meters (Arab Oil & Gas Directory, 1998, p. 533).

The economic success of the Republic of Yemen is dependent upon fulfillment of its planned development and its ability to avoid serious political unrest. The 150,000-bbl/d-capacity Marib oil export pipeline was damaged in an explosion set off by tribesmen on September 20, 1998. Although unrest within the recently united regions of the country continues, political unrest with neighboring Eritrea was eased when an international arbitration panel ruled in favor of Yemen in its dispute with Eritrea over three Red Sea islands—Greater Hanish, Lesser Hanish, and Zuqar.

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Major Publication

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TABLE 1
UNITED ARAB EMIRATES: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/		1994	1995	1996	1997	1998 e/
Aluminum, primary		246,200 r/	247,400 r/	258,500 r/	381,000 r/	352,000
Cement, hydraulic e/	thousand tons	5,000	5,918 3/	6,000	6,000	6,000
Chromite, gross weight		55,000	37,000	56,000	61,000	60,000
Fertilizer materials:						
Ammonia:						
Gross weight e/		347,500	441,000	405,000	453,121 r/	404,000
N content		286,500	362,700	331,200	372,500	331,300
Urea:						
Gross weight e/		450,000	575,000	490,000	651,331 r/	650,000
N content		230,000	293,600	258,400	303,520 r/	302,900
Gas, natural:						
Gross	million cubic meters	34,360	40,860	46,530	48,500	49,000
Dry	do.	25,820	31,320	36,250	37,300	37,000
Gypsum e/	thousand tons	95	90	90	90	90
Lime e/	do.	45	50	50	50	50
Natural gas plant liquids e/	thousand 42-gallon barrels	80,000	100,000	110,000	110,000	110,000
Petroleum:						
Crude	do.	792,000	800,500	831,470	845,340	880,000
Refinery products:						
Gasoline	do.	11,970	12,738	12,446	12,812 r/	12,800
Kerosene	do.	10,110	21,243	20,330	24,419 r/	24,000
Distillate fuels	do.	21,681	24,345	24,090	27,521 r/	27,000
Residual fuels	do.	21,863	12,995	16,717	17,812 r/	17,500
Other	do.	10,475	12,665	12,154	26,061 r/	26,000
Total	do.	76,099	83,986	85,737	108,625 r/	107300
Steel e/		70,000	70,000	70,000	70,000	70,000
Sulfur, byproduct: e/						
From petroleum refining		24,500	26,000	26,000	27,000 r/	27,000
From natural gas processing		225,500	230,500	233,000	210,000	210,000
Total		250,000	256,500	259,000	237,000 r/	237,000

e/ Estimated. r/ Revised.
1/ Table includes data available through March 17, 2000.
2/ In addition to the commodities listed, crude industrial minerals, such as common clays, diabase, gravel, limestone, marble, sand and shale, presumably are produced, but output is not reported, and general information is inadequate to make reliable estimates of output levels.
3/ Reported figure.