BAHRAIN, KUWAIT, OMAN, QATAR, THE UNITED ARAB EMIRATES, AND YEMEN

By Philip M. Mobbs

BAHRAIN

In 2000, strong international demand lead to significantly higher than expected international petroleum prices, which benefited Bahrain's oil-based economy. Bahraini exports of crude oil and refined petroleum products, which were valued at $4.0 billion[1] in 2000, accounted for 70% of Bahrain's total export earnings of $5.7 billion compared with 1999 when exports of crude oil and petroleum products were valued at $2.5 billion and accounted for 62% of total export earnings. In 2000, other mineral exports were valued at $211 million (Bahrain Monetary Agency, 2001). The nation's gross domestic product (GDP) was estimated to have increased by 5% in 2000 compared with 1999 because of the surge in oil prices (Everett-Heath, 2001a).

Aluminium Bahrain B.S.C. (ALBA) completed a facilities upgrade at its marine terminal. The new facilities included two 50,000-metric-ton alumina silos and a jetty capable of handling ships of up to 60,000 deadweight tons (dwt). The old terminal facilities were limited to ships of 30,000 dwt or less. The construction of a 450,000-metric-ton-per-year (t/yr) coke calcining plant continued. ALBA planned to use imported green coke to produce anode-grade calcined coke, which, in turn, would be used to produce anodes for the aluminum smelter (Aluminium Bahrain B.S.C., 2001, A review of 2000, accessed July 7, 2001, at URL http://www.aluminiumbahrain.com/review/projects.htm). The feasibility of adding a fifth potline and expanding ALBA's nominal capacity to 750,000 t/yr from 500,000 t/yr was under active Government consideration (Mining Journal, 2000). Also in 2000, Gulf Aluminium Rolling Mill Co. B.S.C. began the installation of a 6,000-t/yr foil mill at its 120,000-t/yr-capacity aluminum rolling mill (Gulf Aluminium Rolling Mill Co. B.S.C., 2000, History, accessed July 6, 2001, at URL http://www.garmco.com/page3.htm).

Gulf Industrial Investment Co. pelleted imported iron ore. Pellets from its 4-million-metric-ton-per-year (Mt/yr) plant at Al-Hidd were exported for use in direct-reduction plants.

Cement was produced from imported clinker and raw materials at the Hundai Cement Factory. The plant's three clinker grinders had a rated capacity of 438,000 t/yr.

The Government's Bahrain Petroleum Company, B.S.C. (BAPCO) (closed) continued the upgrade of its 248,900-barrel-per-day (bbl/d)-capacity refinery at Sitra (U.S. Energy Information Administration, July 2000, Bahrain—Oil, accessed June 7, 2001, at URL http://www.eia.doe.gov/emeu/cabs/bahrain.html). Production of crude oil from the Awali Field, which was Bahrain's sole oilfield, reportedly increased slightly to nearly 38,000 bbl/d (Rashid H. Al-Dhubaid, Ministry of Oil and Industry, written commun., June 10, 2001). The BAPCO refinery supplemented throughput of Bahraini crude oil with imports, which included more than 140,000 bbl/d from the offshore Abu Saafa Field in Saudi Arabian waters (Everett-Heath, 2001a).

Bahrain has been producing crude oil from the Awali Field since 1932. Compagnie Générale de Géophysique of France was contracted to study the remaining production potential of the field. Additional petroleum exploration by Chevron Corp. and Texaco Inc. of the United States was underway.

Bahrain National Gas Co. B.S.C. (Banagas) had an input capacity of 8 million cubic meters per day at its liquefied petroleum gas (LPG) plant. Banagas' two gas-processing trains near Awali and Jabal al-Dukhan recovered propane, butane, and naphtha from natural gas produced from the Abu Saafa and the Awali Fields. The resultant dry gas was used as an industrial fuel by ALBA, Banagas, and BAPCO (Bahrain National Gas Co. B.S.C., [undated], Our process, accessed July 6, 2001, at URL http://www.banagas.com.bh/b_processmain.html).

More-extensive coverage of the mineral industry of Bahrain is in the 1998 Minerals Yearbook, volume III, Mineral Industries of Africa and the Middle East.

KUWAIT

Kuwait's economy revolved around the production and refining of crude oil. In 2000, the petroleum and natural gas sector contributed about 48% of the GDP and 93% of Government revenue. The GDP was estimated to have increased to $37.4 billion[2] at current prices in 2000, compared with $29.3 billion in 1999 (Central Bank of Kuwait, 2001, Table A). Kuwait was the world's 13th leading oil producer (U.S. Energy Information Administration, 2001).

In 2000, total exports were valued at $19.4 billion, of which oil exports accounted for $18 billion and manufactured fertilizer exports accounted for $65 million. In 1999, total exports were valued at $12 billion, of which oil exports accounted for $10.8 billion. Total imports in 2000 were estimated to be $6.8 billion

[1]Where necessary, values have been converted from Bahraini dinars (BhD) to U.S. dollars at the rate of BhD0.377=US$1.00.

[2]Where necessary, values have been converted from Kuwaiti dinars (KD) to U.S. dollars at the average exchange rate of KD0.307=US$1.00.

(Central Bank of Kuwait, 2001, Table A, Table 40).

Construction continued on Kuwait Cement Co.'s 1.8-Mt/yr grey clinker kiln. The kiln will burn imported limestone, and the output will be processed in Kuwait Cement's existing clinker grinding mills. Cement clinker imports were expected to end once production is established (Bell and others, 2001).

Petrochemical Industries Co. (PIC) proposed to upgrade the urea plant at Shuaiba to 1,750 metric tons per day (t/d) from 1,100 t/d and the ammonia plant to 880 t/d from 800 t/d. PIC also planned to construct a 2,000-t/d methanol plant (Middle East Economic Digest, 2001h).

As international demand for petroleum increased in 2000, Kuwait increased crude oil production. Additional production capacity was being installed as crude oil Gathering Center 25 came on-line in March. China Petroleum Engineering & Construction Corp. was building the 190,000-bbl/d-crude-oilcapacity Gathering Center 27 at Umm Gudair and the 200,000-bbl/d-crude-oil-capacity Gathering Center 28 at the Minagish Field (Middle East Economic Digest, 2001c). Proven crude oil reserves at the beginning of the year were estimated by the U.S. Energy Information Administration to be 96.5 billion barrels (Gbbl) (including 2.5 Gbbl in the Neutral Zone). Natural gas reserves were estimated to be 1.5 trillion cubic meters (U.S. Energy Information Administration, August 2000, Kuwait—Energy overview, accessed May 11, 2001, at URL http://www.eia.doe.gov/emeu/cabs/kuwait.html).

The proposed redevelopment of the Abdali, the Bahrah, the Ratga, the Raudhatain, and the Sabriyah Fields by international oil companies known as "Project Kuwait" remained stalled in 2000. Petroleum product output also flagged after the June 25 explosion at the Mina al-Ahmadi refinery.

More-extensive coverage of the mineral industry of Kuwait is in the 1998 Minerals Yearbook, volume III, Mineral Industries of Africa and the Middle East.

OMAN

Petroleum and natural gas dominated Oman's economy. In response to increased international oil prices, the Omani GDP rose to $19.7 billion[3] at current prices in 2000 compared with $15.6 billion in 1999. Hydrocarbon activity, which was valued at $9.7 billion in 2000 and $6.8 billion in 1999, accounted for 49% of GDP in 2000 (Arif Ali, Gulf News, May 13, 2001, Oman's GDP jumps 26.7pc as industrial activity surges, accessed May 14, 2001, at URL http://www.gulf-news.com/Articles/news.asp?ArticleID=16984). In 2000, crude oil exports were valued at an estimated $9.2 billion of total exports of $11.1 billion (Middle East Economic Digest, 2001a).

The first evidence of copper production dated at Wadi Jizzi indicated that Oman has been a mineral producer for more than 5,000 years (M.J. Mizra, January 15, 2001, Status of mining activities in the Sultanate of Oman, accessed June 13, 2001, at URL http://www.geoconfoman.unibe.ch/contredetail.epl?id=315). In 2000, oil and gas output was supplemented by the production of chromite, gold, gypsum, sand and gravel, silver, and dimension stone; the smelting and refining of copper; and the manufacturing of cement.

Gold was mined from the Rakah deposit near Yanqui. The plant at Rakah processed about 100,000 t/yr of ore. The recovered gold doré and copper-refinery slimes that contained gold and silver were exported to be refined. Oman Mining Co. LLC fed its copper smelter and refinery operation at Sohar with imported copper concentrates. In 2000, National Mining Co. of Oman explored for copper, gold, and silver near Sohar. The Metal Mining Agency of Japan wrapped up its exploration for copper and gold in the South Batinaha area.

Construction of an industrial port at Sohar to service the mineral industry continued during 2000. A number of mineral-processing projects were under consideration; these included an aluminum smelter at Sohar, the construction of a 2,000-t/d ammonia plant and a 3,500-t/d urea plant at Sohar for Bahwan Trading Group, a ferrochrome project, a 5,000-t/d methanol plant at Sohar for Oman Oil Co., Oman Refining Co.'s 75,000-bbl/d oil refinery at Sohar, the expansion of the Sharq Sohar Steel Rolling Mills to 216,000 t/yr from 180,000 t/yr, and a 115-t/d Claus unit to recover sulfur. Also proposed was a 248,000-t/yr ammonia plant and a 1.6-Mt/yr granulated urea plant at Sur. Indian Farmers Fertiliser Co-operative Ltd. of India joined Oman Oil Co. in the Sur ammonia/urea project. Rashtriya Chemicals and Fertilisers Ltd. of India had withdrawn from the venture in 1999 (Bulk Materials International, 2000a, b; Middle East Economic Digest, 2001e, i, j; Metal Bulletin, 2000c; Stell, 2000; Alexander's Gas & Oil Connections, July 7, 2000, Oman invites tenders for new refinery, accessed August 7, 2000, at URL http://gasandoil.com/goc/news/ntm02744.htm; Arif Ali, November 19, 2000, Oman plans heavy industrial investment in diversification bid, accessed May 14, 2001, at URL http://www.gulf-news.com/articles/news.asp?ArticleID=2969).

Oman LNG LLC brought its two-train 6.6-Mt/yr-productioncapacity liquefied natural gas (LNG) plant at Qalhat, about 200 kilometers (km) southeast of Muscat, on-line and began exporting LNG in 2000 (Oil & Gas Journal, 2000b). Oman LNG used about 70% of natural gas recovered in Oman. The Government was attempting to reduce flaring of natural gas, and in 2000, the Government formed Oman Gas Co. to supervise natural gas projects. A number of gas pipeline projects, which included a 305-km pipeline connecting the Fahud Field to Sohar, a 700-km line that would link the Saih Nihadya Field to Salalah (Port Raysut), and the linkage of Oman's natural gas pipeline network with that of the United Arab Emirates, were planned (Metal Bulletin, 2000b; Gulf News, November 16, 2000, Oman looks to use gas, train manpower to diversify, accessed May 14, 2001, at URL http://www.gulf-news.com/Articles/news?asp?ArticleID=2774).

The output of Petroleum Development Oman LLC accounted for about 94% of the crude oil produced in Oman; the remainder was produced by international oil companies. The Al-Noor, the Burhan, and the Mukhaizna fields began commercial production in 2000. At yearend, the country's proven oil reserves were estimated to be 5.5 Gbbl and natural gas reserves were estimated to be 829.7 billion cubic meters (U.S. Energy Information Administration, 2001, Oman—Energy overview, accessed July 9, 2001, at URL http://www.eia.doe.gov/emeu/cabs/oman2.html).

[3]Where necessary, values have been converted from Omani rials (OR) to U.S. dollars at the average exchange rate of OR0.385=US$1.00.

More-extensive coverage of the mineral industry of Oman is in the 1998 Minerals Yearbook, volume III, Mineral Industries of Africa and the Middle East.

QATAR

Much of the Qatari economy was based on the production of natural gas, petrochemicals, crude oil, and refined petroleum products. In response to the continued oil price rebound, the Qatari GDP was estimated to have reached $14.6 billion[4] compared with $12.2 billion in 1999. Oil and natural gas accounted for $7.3 billion (50% of the GDP) in 2000 compared with $5.5 billion (45% of GDP) in 1999. Petroleum and natural gas accounted for about 80% of Government revenues (Everett-Heath and Hindley, 2001).

A number of oil and gas projects, which included pipeline projects to export natural gas from the North Field to Kuwait, Oman, and the United Arab Emirates, were under consideration in 2000. Qatar Liquefied Gas Co. proposed to add 3.2-Mt/yr LNG capacity to its current 6-Mt/yr capacity, and Ras Laffan Liquefied Natural Gas Co. was pursing an 8.8-Mt/yr LNG capacity expansion (Middle East Economic Digest, 2001d). In 2000, LNG production was estimated to be 10.4 million metric tons (Mt) compared with an estimated 6.4 Mt in 1999 (Everett-Heath and Hindley, 2001).

During 2000, Qatar General Petroleum Corp. (QGPC) absorbed National Oil Distribution Co., which operated the Mesaieed petroleum refinery. QGPC (51% interest) and Sasol Synfuels International Ltd. (49% interest) continued negotiations on a 34,000-bbl/d gas-to-liquids (GTL) plant proposed to be built in Ras Laffan. Although Phillips Petroleum Co. withdrew from the GTL venture in May 2000, the company continued as project manager for QGPC's fourth natural gas liquids (NGL) plant at Mesaieed, which was expected to be on-line in 2002 (Sasol Ltd., 2000). The NGL plants processed natural gas to extract condensate and LPG. In 2000, QGPC continued an economic evaluation of the construction of a fifth NGL plant. Qatar Fertiliser Co. proposed a $500 million expansion of its fertilizer complex, also in Mesaieed, which would increase ammonia production capacity by about 660,000 t/yr and urea output by about 1 Mt/yr (Evans, 2001).

At the beginning of the year, Qatar's proven oil reserves were estimated to be 3.7 Gbbl, and natural gas reserves were estimated to be 8.5 trillion cubic meters (U.S. Energy Information Administration, 2000, Qatar—Energy overview, accessed May 11, 2001, at URL http://www.eia.doe.gov/emeu/cabs/qatar.html).

More-extensive coverage of the mineral industry of Qatar is in the 1998 Minerals Yearbook, volume III, Mineral Industries of Africa and the Middle East.

UNITED ARAB EMIRATES

Abu Dhabi, which dominated the hydrocarbon industry of the United Arab Emirates[5] (UAE), accounted for most of the country's crude oil and natural gas production (Arab Petroleum Research Center, 2000, p. 471-474). Other minerals and mineral commodities produced in the UAE included aluminum and steel from Dubai; ammonia from Abu Dhabi; cement manufactured in Abu Dhabi, Ajman, Dubai, Fujairah, Ras Al-Khaimah, and Sharjah; and chromite mined in Fujairah. All mineral resources were controlled by the individual emirates and loosely administered by the Federal Government.

The increase in the average price of a barrel of oil sold by the UAE to $26.10 in 2000 from $17.60 in 1999 and $12.40 in 1998 was reflected in the surge of the country's GDP. According to data from the Central Bank, GDP was $60.9 billion[6] in 2000 compared with $51.9 billion in 1999 and $47.2 billion in 1998. Crude oil accounted for 34% of the GDP in 2000 compared with 26% in 1999. Other mining and quarrying accounted for about 0.03% of the GDP. In 2000, total exports were valued at $43.3 billion, of which crude oil exports accounted for $19.1 billion and natural gas exports accounted for $2.5 billion. In 1999, total exports were valued at $35.1 billion, of which crude oil exports accounted for $12.4 billion and natural gas exports accounted for $2.0 billion (Everett-Heath, 2001b, c).

The Sharjah Petroleum Council was created to replace Sharjah's Department of Oil and Minerals in October 1999. In 2000, the Department of Oil was created to supervise the oil and gas sector in Ajman.

In 1999, Dubai Aluminium Co. (Dubal) added 240 new reduction cells in two potlines, and the total plant capacity was increased to 536,000 t/yr. This expansion, which was code named "Condor," increased production capacity by 146,000 t/yr. In 2000, the feasibility study was completed for Dubal's proposed "Heron" 400,000-t/yr expansion project (Metal Bulletin, 2000a).

In 1998, financial problems exacerbated by low international oil prices forced Metro Oil Corp. to suspend operations at its 75,000-bbl/d oil refinery in Fujairah. In 2000, Metro established the Fujairah Refinery Co. to restart the refinery. Metro also was evaluating the expansion of the refinery's capacity to 90,000 bbl/d (Oil & Gas Journal, 2000a). In 1999, ENOC Processing Co. Ltd. started production at its $300 million 120,000-bbl/d-capacity condensate refinery at Jebel Ali in Dubai (Oil & Gas Journal, 2000c). ENOC was a subsidiary of Emirates National Oil Co. Abu Dhabi Oil Refining Co. (Takreer), which was a subsidiary of Abu Dhabi National Oil Co., expanded its Ruwais refinery to a throughput capacity of 415,000 bbl/d with the addition of two 140,000-bbl/d condensate-processing trains (Iran Daily, July 6, 2001, Oil & gas—UAE refinery almost complete, accessed July 10, 2000, at URL http://www.irandaily.com/3). Takreer deferred the construction of an 135,000-bbl/d distillation capacity project at Ruwais. In addition to the Ruwais refinery, Takreer also operated a 85,000 bbl/d oil refinery at Umm al-Nar (Arab Petroleum Research Center, 2000, p. 487).

At the beginning of 2000, the country's proven oil reserves were estimated to be 97.8 Gbbl, and natural gas reserves were estimated to be 6 trillion cubic meters (U.S. Energy Information Administration, 2000, United Arab Emirates—Energy overview,

[4]Where necessary, values have been converted from Qatari rials (QR) to U.S. dollars at the average exchange rate of QR3.64=US$1.00 for 2000.

[5]Comprises the following: Abu Dhabi, Ajman, Dubai, Fujairah, Ras Al-Khaimah, Sharjah, and Umm al-Qaywayn.

[6]Where necessary, values have been converted from United Arab Emirate Dirham (AED) to U.S. dollars at the rate of AED3.67=US$1.00 for 1999 and 2000.

accessed May 11, 2001, at URL http://www.eia.doe.gov/emeu/cabs/uae2.html).

More-extensive coverage of the mineral industry of the United Arab Emirates is in the 1998 Minerals Yearbook, volume III, Mineral Industries of Africa and the Middle East.

YEMEN

Crude oil production formed a preeminent segment of the Yemeni economy. Oil and gas production accounted for an estimated 25% of the $6.7 billion[7] GDP in 1999 (the last year for which data are available). Crude oil refining accounted for about 3% of the GDP. Mining and quarrying, which included the production of gypsum, salt, and stone, was valued at $17 million and accounted for 0.3% of the GDP in 1999 (Enders and others, 2001, p. 146).

Most of Yemen's crude oil production was exported. Preliminary data for 1999 indicated crude oil exports were valued at $2.1 billion and refined oil products exports were valued at $194 million; thus oil accounted for more than 90% of total exports of $2.5 billion.

ZincOx Resources plc of the United Kingdom continued the evaluation of Al-Jabail zinc deposit. Anglo American Corp. had explored the region in the late 1990s.

State-owned General Corp. for Cement Production and Marketing operated cement plants at Amran, Bajil, and Taiz with a total clinker production capacity of 1.25 Mt/yr (Middle East Economic Digest, 2001b). The corporation was up for privatization.

With the strong international demand in 2000, Yemen set a new national record for crude oil production, and several new oil discoveries were announced (Middle East Economic Digest, 2001f). The successful completion of a border treaty with Saudi Arabia opened additional prospective territory for petroleum exploration. According to the Government, recoverable crude oil reserves were 2.8 Gbbl, and proven natural gas reserves were 142 billion cubic meters (Enders and others, 2001, p. 16, 22; Middle East Economic Digest, 2001g).

In 2000, the Al-Kuthairi Group of Yemen planned to build a 60,000-bbl/d oil refinery in the Hadhramaut, and the Yemen Liquefied Natural Gas Co. evaluated the construction of a 6.2-Mt/yr two-train natural gas liquefaction plant (Middle East Economic Digest, 2001g). The Government's Aden Refinery Co. operated an aging oil refinery in Aden with an effective throughput capacity estimated to be about 70,000 bbl/d. Privatization of the Aden refinery was underway. The 10,000-bbl/d-capacity Marib refinery was operated by Yemen Hunt Oil Co. (Enders and others, 2001, p. 17).

More-extensive coverage of the mineral industry of Yemen is in the 1998 Minerals Yearbook, volume III, Mineral Industries of Africa and the Middle East.

[7]Where necessary, values have been converted from Yemeni rials (YR) to U.S. dollars at the exchange rate of YR159.7 for 1999.

References Cited

Arab Petroleum Research Center, 2000, United Arab Emirates, *in* Arab oil & gas directory: Paris, France, Arab Petroleum Research Center, p. 469-520.

Bahrain Monetary Agency, 2001, Quarterly statistical bulletin: Manama, Bahrain, Bahrain Monetary Agency, March, 28 p.

Bell, Peter, Fernandes, Jolyne, Pratt, Ellie, and Whitehorn, Anna, eds., 2001, Kuwait, *in* Global cement report: Dorking, United Kingdom, Tradeship Publications Ltd., p. 186.

Bulk Materials International, 2000a, Oman fertilisers: Bulk Materials International, no. 65, July-August, p. 6.

———, 2000b, Seven bidding for Sohar deal: Bulk Materials International, no. 67, November-December, p. 5.

Central Bank of Kuwait, 2001, Quarterly statistical bulletin—June: Kuwait, Kuwait, Central Bank of Kuwait, unpaginated.

Enders, Klaus, Williams, Sherwyn, Choueire, Nada, Sobolev, Yuri, and Walliser, Jan, 2001, Republic of Yemen—Selected issues—From unification to economic reform—Yemen in the 1990s: Washington, DC, International Monetary Fund Country Report 01/61, 193 p.

Evans, Mark, 2001, An unrivaled ascendance: Middle East Economic Digest, v. 45, no. 17, April 27, p. 26-27.

Everett-Heath, Tom, 2001a, Emir challenges the status quo: Middle East Economic Digest, v. 45, no. 13, March, 30, p. 4-5.

———2001b, Special report UAE—Building for the future: Middle East Economic Digest, v. 45, no. 21, May 25, p. 25-27.

———2001c, Special report UAE—Economy-pulling out into the fast lane: Middle East Economic Digest, v. 45, no. 21, May 25, p. 28-30.

Everett-Heath, Tom, and Hindley, Angus, 2001, Special report Qatar—Pay-back time arrives: Middle East Economic Digest, v. 45, no. 10, March 9, p. 22-23.

Metal Bulletin, 2000a, Alba is likely to proceed with smelter expansion: Metal Bulletin, no. 8488, June 29, p. 3.

———2000b, Nippon Steel and Kawasaki eye Oman pipe contract: Metal Bulletin, no. 8506, September 7, p. 37.

———2000c, Oman opens expanded bar mill: Metal Bulletin, no. 8458, March 13, p. 21.

Middle East Economic Digest, 2001a, Cautious welcome to economic upturn: Middle East Economic Digest, v. 45, no. 18, May 4, p. 25-27.

———2001b, Companies line up for Amran cement: Middle East Economic Digest, v. 45, no. 11, March 16, p. 17.

———2001c, News in brief: Middle East Economic Digest, v. 45, no. 6, February 9, p. 14.

———2001d, Spain signs for Qatar LNG: Middle East Economic Digest, v. 45, no. 20, May 18, p. 9.

———2001e, Special report oil & gas—Managing the downside—Oman: Middle East Economic Digest, v. 45, no. 2, p. 26.

———2001f, Special report oil & gas—Managing the downside—Yemen: Middle East Economic Digest, v. 45, no. 2, January 12, p. 29.

———2001g, Special report oil & gas—Setting its sights high—Yemen: Middle East Economic Digest, v. 45, no. 12, March 23, p. 25-27.

———2001h, Special Report petrochemicals—Uncertain times—Middle East countries—Petrochemical projects—Kuwait: Middle East Economic Digest, v. 45, no. 17, April 27, p. 36.

———2001i, Special report petrochemicals—Uncertain times—Middle East countries—Petrochemical projects—Oman: Middle East Economic Digest, v. 45, no. 17, April 27, p. 36.

———2001j, HSBC signs up on new fertiliser project: Middle East Economic Digest, v. 45, no. 5., p. 6.

Mining Journal, 2000, Alba expansion approved in principle: Mining Journal, v. 335, no. 8609, November 17, p. 394.

Oil & Gas Journal, 2000a, Industry briefs—Refining: Oil & Gas Journal, v. 98, no. 7, February 14, p. 33.

———2000b, Quick takes: Oil & Gas Journal, v. 98, no. 21, May 22, p. 8.

———2000c, UAE gets new refinery: Oil & Gas Journal, v. 98, no. 13, March 27, p. 59.

Sasol Ltd., 2000, Strategic re-alignment of QGPC's foreign partners: Rosebank, South Africa, Sasol Ltd. press release, May 15, 1 p.

Stell, Jeannie, ed., 2000, Worldwide construction—Sulfur: Oil & Gas Journal, v. 98, no. 44, October 30, p. 81-83.

U.S. Energy Information Administration, 2001, Table 1.1—World crude oil production [including lease condensate]—1990-present: U.S. Energy Information Administration International Petroleum Monthly, June, p. 4-6.

General Sources of Information

Ministry of Oil and Industry
P.O. Box 1435
Manama, Bahrain
Telephone: (+973) 525-521
Fax: (+973) 290-294

Ministry of Oil
P.O. Box 5077
Safat, 13051 Kuwait
Telephone: +(965) 241-5201
Fax: +(965) 241-7088

Ministry of Commerce and Industry,
Directorate of Minerals
P.O. Box 550
Muscat 113, Oman
Telephone: +(968) 771-3500
Fax: +(968) 771-7238

Ministry of Petroleum and Gas
P.O. Box 551
Muscat 113, Oman
Telephone: +(968) 603-333

Ministry of Energy and Industry
P.O. Box 3212
Doha, Qatar
Telephone: +(974) 449-1491
Fax: +(974) 483-6999

Ministry of Petroleum and Mineral Resources
P.O. Box 59
Abu Dhabi, United Arab Emirates
Telephone: +(971) 2-667-1999
Fax: +(971) 2-666-3414

Ministry of Oil and Mineral Resources
P.O. Box 81
Alzubaeri St.
Sana'a, Yemen
Telephone: +(967) 1-202-309
Fax: +(967) 1-202-314

TABLE 1
BAHRAIN, KUWAIT, OMAN, QATAR, THE UNITED ARAB EMIRATES, AND YEMEN: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Commodity		1996	1997	1998 e/	1999 e/	2000 e/
BAHRAIN 3/						
Aluminum, smelter output, primary metal		461,245	489,847	501,308 r/ 4/	502,663 r/ 4/	509,038 4/
Cement		192,000	171,854	230,422	156,100 r/ 4/	88,806 4/
Gas, natural:						
Gross	million cubic meters	10,210	10,625	11,120	11,470 4/	11,500
Dry	do.	8,030 r/	8,000 r/	8,500 r/	8,789 r/ 4/	8,966 4/
Methanol		384,558	447,969	384,111 r/ 4/	421,946 r/ 4/	370,000 4/
Natural gas plant liquids:						
Propane	thousand 42-gallon barrels	1,272	1,213	1,192 r/ 4/	1,144 r/ 4/	1,055 4/
Butane	do.	1,087	1,048	1,024 r/ 4/	1,005 r/ 4/	955 4/
Naphtha	do.	1,784	1,716	1,661 r/ 4/	1,683 r/ 4/	1,626 4/
Nitrogen, N content of ammonia		322,500	355,900	335,900 4/	369,500 r/ 4/	349,900 4/
Petroleum:						
Crude	thousand 42-gallon barrels	14,124	14,159	13,750	13,670 4/	13,766 4/
Refinery products: e/						
Liquefied petroleum gas	do.	300 e/	300 e/	300 e/	335 4/	346 4/
Gasoline	do.	8,139 r/ 4/	7,377 4/	6,344 r/ 4/	6,756 r/ 4/	7,090 4/
Jet fuel	do.	6,200 4/	6,500	9,125 r/ 4/	9,520 r/	9,450
Kerosene	do.	11,300 4/	17,501 4/	8,030 r/ 4/	9,000 r/	9,000
Distillate fuel oil	do.	31,050 4/	32,074 r/ 4/	31,591 r/ 4/	30,000 r/	29,000
Residual fuel oil	do.	20,800 4/	20,800 e/	19,719 r/ 4/	22,066 r/ 4/	21,278 4/
Other	do.	14,430 r/	19,700 e/ r/	19,700 r/	16,700 r/	16,500
Total	do.	92,219 4/	104,000 r/	94,800 r/	94,400 r/	92,700
Sulfur		74,282	66,334	66,500	66,500	66,400
KUWAIT 5/						
Cement e/		2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Lime, hydrated and quicklime e/		40,000 r/	40,000 r/	40,000 r/	40,000 r/	40,000
Natural gas: 6/						
Gross	million cubic meters	10,890	10,870	11,100	10,144 r/	11,000
Dry	do.	9,300	9,250	9,500	8,688 r/	9,500
Natural gas liquids e/	thousand 42-gallon barrels	35,000	37,000	37,000	38,000	38,000
Nitrogen:						
N content of ammonia		411,900	432,000	452,300 4/	396,800 4/	409,500 4/
N content of urea		356,300	348,500	361,300 4/	330,900 4/	287,600 4/
Petroleum:						
Crude 6/	thousand 42-gallon barrels	743,047	760,295	761,025 4/	708,000	800,000
Refinery products:						
Gasoline, motor	do.	13,874	15,475	17,520 r/ 4/	17,000	10,000
Kerosene	do.	44,202	49,303	51,470 r/ 4/	50,000	35,000
Distillate fuel oil	do.	86,742	96,754	91,980 r/ 4/	92,000	70,000
Residual fuel oil	do.	73,770	82,270	75,550 r/ 4/	72,000	55,000
Other	do.	52,067	58,882	86,870 r/ 4/	80,000	60,000
Total	do.	270,655	302,684	323,390 r/	311,000	230,000
Salt		100,000 e/	100,000 e/	100,000	100,000	100,000
Sulfur:						
Elemental, petroleum byproduct		595,000	675,250 r/	665,000	675,000	600,000
Sulfuric acid e/		10,000	10,000	10,000	10,000	10,000
OMAN						
Cement, hydraulic		1,260,000	1,264,000	1,300,000	1,300,000	1,716,000
Chromite, gross weight		15,252	18,000	28,684 4/	26,004 r/ 4/	15,110 4/
Copper, metal						
Smelter		24,663	22,800	24,400 4/	16,818 r/ 4/	23,790 4/
Refinery		24,150	23,600	22,700	17,171 r/ 4/	24,281 4/
Gas, natural:						
Gross	million cubic meters	9,071	8,200	8,800 4/	8,500	8,500
Dry	do.	6,716	7,750	7,800	8,000 r/	8,000
Gold	kilograms	576	577	575	597 r/ 4/	604 4/
Gypsum		130,900	113,600	115,000	180,129 r/ 4/	131,909 4/
Natural gas liquids e/	thousand 42-gallon barrels	3,650	3,800	4,000	6,000	6,000

See footnotes at end of table.

TABLE 1--Continued
BAHRAIN, KUWAIT, OMAN, QATAR, THE UNITED ARAB EMIRATES, AND YEMEN: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Commodity		1996	1997	1998 e/	1999 e/	2000 e/
OMAN--Continued						
Petroleum:						
Crude	thousand 42-gallon barrels	322,300	329,960	328,500 4/	328,100 4/	330,000
Refinery products:						
Liquefied petroleum gas	do.	250	310	350 r/	365	350
Gasoline	do.	4,888	4,000	5,100 r/	4,500	5,000
Jet fuel	do.	2,500	1,100	1,100 r/	1,200	1,200
Kerosene	do.	90	90	100 r/	90	100
Distillate fuel oil	do.	4,800	4,745	6,200 r/	5,000	5,500
Residual fuel oil	do.	12,500	12,775	14,200 r/	13,000	14,000
Other e/	do.	500	1,500	700	700	700
Total e/	do.	25,500	24,500	27,800 r/	24,900	26,900
Sand and gravel		9,629,000	9,800,000	9,800,000	15,681,951 r/ 4/	22,448,254 4/
Silver	kilograms	97	95 e/	95	236 r/ 4/	306 4/
Stone:						
Marble		117,000	169,000	170,000	188,545 r/ 4/	147,686 4/
Other		2,263,000	1,992,000	2,000,000	3,813,821 r/ 4/	3,537,216 4/
Sulfur e/		30,000	30,000	30,000	30,000	30,000
QATAR 7/						
Cement, hydraulic		690,000	692,000	700,000	1,025,000 r/	1,050,000
Gas, natural:						
Gross	million cubic meters	18,950	24,210	26,200 r/	32,000 r/	35,000
Dry	do.	13,700	17,270	19,540 4/	24,000 r/	26,000
Iron and steel, metal:						
Direct-reduced iron		632,000	570,000	706,000 4/	670,000	620,000
Steel, crude		626,000	616,000	646,000 4/	629,000	729,000 4/
Semimanufactures:						
Billet		617,000	608,000	637,000 4/	640,000	640,000
Bars		601,000	596,000	597,000 4/	600,000	6,000,000
Natural gas liquids	thousand 42-gallon barrels	21,000 e/	22,000	22,000	22,000	22,000
Nitrogen:						
N content of ammonia		635,027	942,500	1,127,300 r/ 4/	1,129,600 r/ 4/	1,097,000 4/
N content of urea		715,000	670,000	767,000 4/	757,000 4/	748,100
Petroleum:						
Crude	thousand 42-gallon barrels	186,150	236,885	254,040 4/	232,000	254,000
Refinery products:						
Gasoline	do.	3,942	4,380	5,100 r/	5,400 r/	5,500
Kerosene	do.	3,321	3,285	3,300 r/	3,900 r/	4,000
Distillate fuel oil	do.	6,997	5,110	5,100 r/	4,900 r/	5,100
Residual fuel oil	do.	6,860	6,205	6,900	6,750 r/	6,900
Other	do.	1,100	5,840	2,200 r/	1,600 r/	2,000
Total	do.	22,220	24,820	22,600 r/	22,500 r/	23,500
Stone, limestone e/		900,000	900,000	900,000	900,000	900,000
Sulfur e/		45,000	73,000	146,000	155,000	150,000
UNITED ARAB EMIRATES 8/						
Aluminum, primary		258,500	381,000	352,000	440,000	470,000
Cement, hydraulic e/		6,000,000	5,200,000	6,000,000	6,100,000 r/	6,100,000
Chromite, gross weight		56,000	61,000	76,886 4/	60,000	60,000
Fertilizer materials, nitrogen:						
N content of ammonia		331,200	372,500	331,000 4/	380,200 4/	348,400 4/
N content of urea		258,400	303,520	259,000	271,500 4/	243,400 4/
Gas, natural:						
Gross	million cubic meters	46,530	48,500	48,980 r/ 4/	50,200 r/ 4/	52,000
Dry	do.	33,800 r/	36,310 r/	37,070 r/	38,500 r/	39,000
Gypsum e/		90,000	90,000	90,000	90,000	90,000
Lime e/		50,000	50,000	50,000	50,000	50,000
Natural gas liquids e/	thousand 42-gallon barrels	110,000	110,000	110,000	110,000	110,000

See footnotes at end of table.

TABLE 1--Continued

BAHRAIN, KUWAIT, OMAN, QATAR, THE UNITED ARAB EMIRATES, AND YEMEN: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Commodity		1996	1997	1998 e/	1999 e/	2000 e/
UNITED ARAB EMIRATES--Continued						
Petroleum:						
Crude	thousand 42-gallon barrels	831,470	845,340	880,000	756,000	900,000
Refinery products:						
Gasoline	do.	12,446	12,812	13,100 r/	12,800	13,000
Kerosene	do.	20,330	24,419	21,200 r/	21,000 r/	21,000
Distillate fuels	do.	24,090	27,521	24,500 r/	24,400 r/	25,000
Residual fuels	do.	16,717	17,812	13,500 r/	12,300 r/	12,500
Other	do.	12,154	26,061	19,700 r/	10,700 r/	11,000
Total	do.	85,737	108,625	92,000 r/	81,200	83,000
Steel e/		70,000	70,000	70,000	70,000	70,000
Sulfur, byproduct of petroleum refining and natural gas processing e/		780,000 4/	967,000 4/	967,000 4/	1,089,000 4/	1,120,000 4/
YEMEN						
Cement		1,028,000	1,235,000	1,201,404 r/ 4/	1,453,787 r/ 4/	1,400,000
Gypsum		97,000	101,000	102,000 4/	103,000 r/ 4/	100,000
Marble	thousand square meters	82	84	86 4/	88 r/ 4/	86
Natural gas: e/						
Gross 9/	million cubic meters	14,000 r/	13,500 r/	15,000 r/	16,000 r/	18,000
Liquids	thousand 42-gallon barrels	1,900 r/	1,800 r/	2,000 r/	2,200 r/	2,400
Petroleum:						
Crude	do.	126,655	125,560	138,600 4/	149,000 r/	167,000
Refinery products:						
Gasoline	do.	8,913	8,803	9,100 4/	9,100	9,100
Kerosene	do.	4,935	4,073	3,700 4/	3,700	3,700
Distillate fuel oil	do.	10,525	10,530	6,900 4/	6,900	6,900
Residual fuel oil e/	do.	10,300	10,300	10,600	10,600	10,600
Other e/	do.	2,000	2,000	3,700 4/	3,700	3,700
Total	do.	36,673	35,706	34,000 4/	34,000	34,000
Salt		135,000	136,000	147,000 4/	149,000 r/ 4/	150,000
Stone, dimension	thousand cubic meters	2,397	2,485	2,497 4/	2,547 r/ 4/	2,500

e/ Estimated. r/ Revised.

1/ Table includes data available through June 8, 2001.

2/ Estimated data are rounded to no more than three significant digits and may not add to totals shown.

3/ In addition, iron ore was pelleted and exported for use by direct reduction plants. Pellets were produced from imported iron ore. Production was, in million metric tons: 1996--2.9; 1997--3.23; 1998--1.9; 1999--2.7; and 2000--3.7. Since 1998, granular urea has been produced from locally produced ammonia.

4/ Reported figure.

5/ In addition to commodities listed, caustic soda, chlorine, clays, clay products, and sand and gravel are produced, but available information is inadequate to make estimates of output.

6/ Includes Kuwait's share of production from the Partitioned Zone.

7/ In addition to commodities listed, clays, gypsum, and sand and gravel for construction purposes and methanol are produced, but available information is inadequate to make estimates of output.

8/ 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 information is inadequate to make estimates of output.

9/ Most produced associated natural gas was stripped of liquids and reinjected.