THE MINERAL INDUSTRY OF

QATAR

By Bernadette Michalski

Qatar's principal mineral commodity, crude oil, will be overshadowed by natural gas production from the North Field by 2000. The huge natural gas reserves of Qatar's North Field may be the largest nonassociated gas field in the world at more than 7 trillion cubic meters (m^3) which should underwrite the Nation's economic prosperity through much of the next century. For the present, Qatar's economy remains largely dependent on the oil industry which accounts for 80% of total exports and about 70% of Government revenues.

The Government encouraged foreign investments. Foreign investors entering into joint ventures with Qatari partners could hold a maximum 49% share of the business. Importers were required by law to have an import license for almost all products, but import licenses were issued only to Qatari citizens. Even in the case of joint ventures, the import license was issued to the Qatari partner. Although wholly foreign-owned firms were allowed to operate in Qatar, they had to have a local sponsor.

The Government accelerated measures to attract foreign and local investors to participate in the economy, particularly in the natural gas industry. The Government, through Qatar General Petroleum Corp. (QGPC), was involved in two major liquefied natural gas (LNG) ventures; both were at Ras Laffan, the nearest landfall to the offshore North Field.

Production of nonfuel minerals such as cement, fertilizer, and steel increased. Cement was produced from domestic and imported clinker. Production in excess of plant design capacity at the steel and fertilizer facilities continued and stemmed from technological improvements made at the plants. Also, the frequency and length of shutdown and maintenance time was reduced significantly to meet demand. *(See table 1.)*

The country's major trading partners are Brazil, the Gulf Cooperation Council (GCC) nations, Japan, the Republic of Korea, the United States, and Western Europe. Qatar imported pelletized iron ore from Bahrain and raw materials for the steel and construction industries from Japan, the United States, and Western Europe. Other imports from the United States included power-generating machinery and equipment, nonferrous metals, such as copper and copper alloys, aluminum semimanufactures, zinc and zinc alloys, vehicles, and heavy machinery. While exports were dominated by crude oil and at yearend included LNG, the Qatar Fertilizer Co. exported 274,000 tons of ammonia and 850,000 tons of urea in 1996 with China and India as the principal markets.

Construction of a 240,000-metric-ton-per-year (t/yr) capacity aluminum smelter is under consideration as a joint venture between Qatar and Norsk Hydro ASA of Norway. The $1 billion[1] smelter's completion is anticipated in 2002. The raw material, alumina, is to be supplied by India.

Qatar Steel Co. Ltd. (QASCO) has produced about 80% above design capacity of 330,000 metric tons (t) since 1989 and continued with production above capacity in 1996. Almost all of its output (90%) was exported, mostly to GCC countries. QASCO remained 70% owned by the Government, with 30% held by two Japanese companies: Kobe Steel (20%) and Tokyo Boeki (10%). Qatar was negotiating with the Japanese firms as to the purchase of their 30% equity in the Qatar Steel Co. QASCO has embarked on a $275 million two-stage expansion program that would increase its capacity to 1.2 million metric tons per year (Mt/yr).

The Qatar Hot Briquetted Iron Co. (Qabico) was established to develop a 2 Mt/yr capacity $400 million hot molded briquetted iron plant by 1999. Qasco holds 31% equity with the Qatar Industrial Manufacturing Co., Qatar Shipping Company, Dover Co., Mitsubishi, Mitsui and Marubeni each taking 10% and the Gulf Investment Co. and the Kuwait National Industrial Co. each acquiring 4.5%. Ore supply contracts for the plant have reportedly been signed with CVRD of Brazil and LKAB of Sweden.

Qatar Fertilizer Co. (QAFCO), the sole producer of fertilizer, was a 75-25 joint venture of Qatar General Petroleum Corp. and Norsk Hydro of Norway, respectively. QAFCO III, a 1,500-metric-tons-per-day (t/d) ammonia and a 2,000-t/d urea plant was on schedule for completion in March 1997. Total annual capacity at the ammonia plant would be raised from 750,000 t to 1.3 Mt, and for the urea plant from 820,000 t to 1.55 Mt. Other components of the project included an ammonia tank farm with an annual capacity of 20,000 t, a 100,000-t urea storage facility, a desalination plant, and a 42-megawatt (MW) powerplant.

Qatar Liquefied Gas Co. (Qatargas) was established in 1984 to develop the North Field for the production of natural gas and condensate and to construct and operate a gas liquefaction plant to convert natural gas into LNG for export. Present equity in Qatargas is QGPC 65%, Total SA of France and Mobil Oil of the United States each 10%, and Marubeni Corp. and Mitsui & Co. of Japan each 7.5%. The first 2-Mt/yr capacity train was commissioned on September 22, 1996, the second in early December, and the third to be commissioned in early 1999. The 25-year supply contract calling for 4 Mt/yr of LNG to Chubu Electric Power Co. of Japan commenced on December 16 with

[1]Where necessary, values have been converted from Qatari riyals (QRls) to U.S. dollars at the rate of QRls3.64=US$1.00 in 1996.

the first shipment (59,000 t) from Ras Laffan arriving at the LNG reception terminal at Kawagoe, Japan, on January 10, 1997.

A second LNG venture, the Ras Laffan LNG Co. (RASGAS) is well underway with loan guarantees partially secured and at least one downstream contract secured. Equity holders are QGPC 66.5%, Mobil 26.5%, Itochu Corp. 4%, and Nissho Iwai Co. 3%. RASGAS is developing a LNG plant at Ras Laffan which will have an initial capacity of 6 Mt/yr with a possible eventual increase to 10 Mt/yr. The plant is scheduled to enter production in July 1999.

Crude oil production increased significantly in 1996, exceeding the Organization of Petroleum Exporting Countries' (OPEC) quota of 378,000 barrels per day (bbl/d) for an average output of about 500,000 bbl/d. Increased output from the Idd Al-Shargi, Al Shaheen, and Durkhan Fields along with the Al-Rayyan Field which came on-stream in the last quarter, accounted for most of the rapid rise in 1996 production. The commissioning of the Al Khaleej Field in early 1997 should raise production capacity to 575,000 bbl/d.

The National Oil Distribution Co., a subsidiary of QGPC, operates the nation's sole refinery. The 63,000 bbl/d capacity Umm Said Refinery was undergoing upgrading, increasing distillation capacity to 80,000 bbl/d.

Proven reserves of crude oil are considered to be between 3.5 and 3.7 billion barrels. In September, an official of QGPC placed reserves at 5 billion barrels. Natural gas reserves are at least 7 billion m^3. (Arab Petroleum Research Center, 1997).

Qatar continued to develop its infrastructure. There were 235 kilometers (km) of petroleum and 400 km of natural gas pipelines, running east to west from Doha to Dukhan, and from Umm Said through Umm Bab to Dukhan. Other pipelines also linked offshore fields in the Arabian Gulf to Umm Said. Hydrocarbons were exported from five terminals: Halul Island, which served the offshore fields; Umm Said, which served the onshore fields; Ras Abu Abbud and Abu Hamur, which were terminals for refined products, and the Ras Laffan LNG terminal which was completed in 1996.

Qatar has successfully implemented several major mineral related projects during the year and is projected to meet with further successes in 1997. While the North Field natural gas projects continue to be given top priority, petroleum refining, petrochemical projects, iron and steel projects, electric powerprojects, and desalination programs are presently under development. These industries together with the development of the gasfields to full capacity by 2010 should guarantee Qatar's economic well-being through much of the next century.

Reference Cited

Arab Petroleum Research Center, 1997 Arab oil and gas directory, Qatar, Paris: Arab Petroleum Research Center, p. 311-342.

Major Sources of Information

Qatar General Petroleum Corp.
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TABLE 1
QATAR: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/		1992	1993	1994	1995	1996 e/
Cement, hydraulic		544,348	544,000	469,502 r/	475,380 r/	500,000
Gas, natural:						
Gross	million cubic meters	17,050	18,400	18,300 r/	18,800 r/	22,000
Dry	do.	12,620	13,500	13,500 r/	13,600 r/	18,000
Iron and steel, metal:						
Direct-reduced iron	thousand tons	567	601	610	622	632 3/
Steel, crude	do.	588	620	572	614	626 3/
Semimanufactures:						
Billet	do.	588	609	610	606 r/	617 3/
Bars		570	590	600	601 r/	601 3/
Natural gas liquids	thousand 42-gallon barrels	20,000	18,200	18,200	18,500 e/	21,000
Nitrogen: N content of ammonia		622,000	627,200	646,055 r/	653,462 r/	635,027 3/
Petroleum:						
Crude:	thousand 42-gallon barrels	154,000 r/	142,000 r/	138,200 r/	142,300 e/	182,000
Refinery products:						
Gasoline	do.	3,285	3,350	4,661 r/	4,441 r/	4,525
Kerosene	do.	3,175	2,845	3,377 r/	3,217 r/	3,200
Distillate fuel oil	do.	6,100	4,890	5,480 r/	5,126 r/	5,025
Residual fuel oil	do.	5,840	5,730	6,278 r/	6,064 r/	6,000
Other	do.	2,190	1,240	1,000 r/	900 r/	2,000
Total	do.	20,590	18,055	20,796 r/	19,748 r/	20,750
Stone, limestone e/	thousand tons	900	900	900	900	900
Sulfur e/		60,000	60,000	61,000	61,000	61,000
Urea		825,900	825,000	858,000	886,000 e/	870,000 3/

e/ Estimated. r/ Revised.

1/ Table includes data available through Nov. 1, 1997.

2/ In addition to the listed commodities, Qatar also produced clays, gypsum, and sand and gravel for construction purposes.

3/ Reported figure.