



2007 Minerals Yearbook

KUWAIT

THE MINERAL INDUSTRY OF KUWAIT

By Philip M. Mobbs

Kuwait's economy revolved around the production and refining of hydrocarbons. The hydrocarbon sector accounted for about 93% of Government revenue. Kuwaiti crude oil reserves accounted for about 8.2% of the world's proven crude oil reserves (BP p.l.c., 2008, p. 9; Central Bank of Kuwait, 2008, table A).

In 2007, total exports (free on board) were valued at \$62 billion,¹ of which oil exports accounted for about \$59.1 billion. In 2006, the total value of exports was \$55 billion, of which oil exports accounted for \$52.8 billion. The continued increase in the international market price of crude oil accounted for a significant proportion of the increase in the value of Kuwaiti exports in 2007 compared with that of 2006. The total value of imports (which included cost, insurance, and freight paid to the point of destination) in 2007 were estimated to be about \$21.1 billion compared with \$15.9 billion in 2006 (Central Bank of Kuwait, 2008, table A).

Production

According to BP p.l.c. (2008, p. 9) data, Kuwait produced 3.2% of the world's crude oil. Data on estimated mineral commodity production are in table 1.

Structure of the Mineral Industry

The Supreme Petroleum Council and the Ministry of Oil were the Government organizations that were responsible for the petroleum sector in Kuwait. Subsidiaries of state-owned Kuwait Petroleum Corp. dominated the country's crude oil, fertilizer, natural gas, and refined petroleum operations. The state-owned Kuwait Investment Authority held interests in Kuwaiti cement and steel pipe companies.

Commodity Review

Industrial Minerals

Cement.—Suez Cement Co. of Egypt, which was a subsidiary of the Italcementi Group, acquired a 47% equity interest in the Hilal Cement Co. K.S.C.C. from Boodai Enterprise Co. After the acquisition, Suez held a 51% equity interest in Hilal, which marketed imported cement in Kuwait.

Sulfur.—The closure of the sulfuric acid process lines at Plants A and B of Petrochemical Industries Co. K.S.C. in 2004 resulted in a significant drop in sulfuric acid output (table 1).

Mineral Fuels

Natural Gas.—Most of Kuwaiti gas production was associated with crude oil production. In 2006, the announced

discovery of nonassociated natural gas reserves of nearly 100 billion cubic meters at Sabriyah and Um-Niqa significantly expanded Kuwait's recoverable gas resources. Kuwait Oil Co. K.S.C. awarded a 5-year operations contract for the development of the Sabriyah Field to Safwan Petroleum Technologies Co. of Kuwait, which expected initial production to begin in early 2008 at the rate of about 5 million cubic meters per day. Kuwait Oil projected that nonassociated natural gas production would reach 6 billion cubic meters per year by 2011 and 10 billion cubic meters per year by 2015 (Kuwait Oil Co. K.S.C., 2007, p. 22; Middle East Economic Digest, 2008).

Petroleum.—Kuwait Oil continued its efforts to expand its production capacity. The initial wells were drilled for a pilot project to evaluate the production of heavy oil from the Lower Fars reservoir in northern Kuwait. Kuwait Oil projected that heavy oil production could increase the company's production by more than 2% per year by 2011. Negotiations to secure Exxon Mobil Corp.'s assistance with the project were ongoing. Kuwait Oil also received bids to enhance the development of the Ratqa Field by the 'cold heavy oil production with sand' (CHOPS) process, which had been successfully used in the Canadian heavy oilfields. The CHOPS process included the production of sand-sized unconsolidated material from the reservoir with the heavy oil (Kuwait Oil Co. K.S.C., 2007, p. 12; Middle East Economic Digest, 2007a).

Outlook

To meet environmental and power demands, Kuwait's proposed electrical power generation plans will require significantly more natural gas than Kuwait currently (2007) produces. Former plans to import natural gas from Iran, Iraq, or Qatar by pipeline have floundered in the past few years. The development of the nonassociated natural gas deposits, and the projected 40% increase in annual natural gas production, would partially reduce the impediment that the limited availability of surplus natural gas had posed for industrial diversification and expansion in Kuwait. Additionally, Kuwait awarded a contract in 2007 to study the importation of liquefied natural gas (James, 2007; Petroleum Economist, 2007).

Foster Wheeler Corp. completed a feasibility study on the use of integrated gasification combined cycle technology to reduce carbon dioxide emissions from Kuwait's oil-fired electricity generation plants. The Government's target of producing 4 million barrels per day of crude oil by 2020 is dependent on the successful development of the country's heavy oil resources (Middle East Economic Digest, 2007b).

References Cited

BP p.l.c., 2008, BP statistical review of world energy: London, United Kingdom, BP p.l.c., June, 45 p.

¹Where necessary, values have been converted from Kuwaiti dinars (KD) to U.S. dollars (US\$) at the rate of KD0.285=US\$1.00 for 2007 and KD0.291=US\$1.00 for 2006.

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TABLE 1
KUWAIT: ESTIMATED PRODUCTION OF MINERAL COMMODITIES^{1,2}
(Metric tons unless otherwise specified)

Commodity ³	2003	2004	2005	2006	2007
Cement	1,863,400 ⁴	2,635,000 ⁴	2,145,000 ⁴	2,200,000 ⁴	2,200,000
Iron and steel:					
Crude	100,000	200,000	450,000	500,000	500,000
Rolled-steel bar	150,000	369,000	480,000	680,000	680,000
Lime, hydrated and quicklime	40,000	40,000	49,800 ⁴	50,000 ⁴	50,000
Natural gas: ⁵					
Gross million cubic meters	11,000	11,860 ⁴	13,300	15,000 ^r	14,500
Dry do.	9,100	9,800	11,000	12,900 ^r	12,600
Nitrogen:					
N content of ammonia	444,400 ⁴	413,400 ⁴	466,570 ⁴	495,000 ^r	485,000
N content of urea	330,000	341,020 ⁴	365,350 ⁴	428,000 ^r	430,000
Petroleum:					
Crude ⁵ thousand 42-gallon barrels	817,000	837,655 ⁴	939,276 ⁴	980,000	960,000
Natural gas liquids and liquefied petroleum gases ^c do.	40,000	39,920 ⁴	37,887 ⁴	38,000	38,000
Refinery products: ⁶					
Gasoline, motor do.	12,000	16,878 ⁴	23,830 ⁴	22,000 ⁴	23,000
Kerosene do.	45,000	53,133 ⁴	59,054 ⁴	58,000 ⁴	58,000
Distillate fuel oil do.	85,000	90,000	95,000	93,000	94,000
Residual fuel oil do.	55,000	60,000	65,000	64,000	65,000
Other do.	86,000	86,000	70,000	68,000	70,000
Total do.	283,000	300,000	313,000	305,000	310,000
Salt	44,700 ⁴	10,200 ^{r,4}	8,100 ^{r,4}	13,200 ^{r,4}	14,000
Sulfur:					
Elemental, petroleum byproduct	714,000	682,000	700,000	650,000	660,000
Sulfuric acid	150,000	18,000 ^r	18,000 ^r	18,000 ^r	18,000

^rRevised. do. Ditto.

¹Estimated data are rounded to no more than three significant digits; may not add to totals shown.

²Table includes data available through November 12, 2008.

³In addition to commodities listed, secondary aluminum, chlorine, clays, petroleum coke, glass, methanol, steel reinforcing bar, and sand and gravel were produced, but available information is inadequate to make reliable estimates of output.

⁴Reported figure.

⁵Includes Kuwait's share of production from the Partitioned Neutral Zone.

⁶Excludes liquefied petroleum gases.

TABLE 2
KUWAIT: STRUCTURE OF THE MINERAL INDUSTRY IN 2007

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum, secondary		Arabian Light Metals Co. K.S.C. (Kuwait Industries Co. Holding K.S.C.)	Ahmadi	NA
Cement:				
Clinker		Kuwait Cement Co. K.S.C. (Kuwait Investment Authority, 32%, and National Industries Group, 22.4%)	Kilns at Shuaiba	1,800,000
Grey portland		do.	Mills at Shuaiba	2,200,000
Do.		Hilal Cement Co. K.S.C.C. (Suez Cement Co., 51%)	Sulaibiya Industrial Area	(1)
Do.		Portland Cement Co. K.S.C.C.	Shuwaikh	(1)
White		Kuwait Cement Co. K.S.C. (Kuwait Investment Authority, 32%, and National Industries Group, 22.4%)	Kiln and mill at Shuaiba	115,000
Iron and steel, steel:				
Crude		Al Oula Steel Manufacturing Co.	Shuaiba	500,000
Rolled				
Bar and rod		United Steel Industrial Co. K.S.C.C. (Joint venture of local investors and Ahwaz Steel Commercial and Technical Services GmbH)	Rolling mill at Shuaiba	500,000 ²
Do.		Kuwait Reinforced Steel Manufacturing Co. (Ali Al-Sarraf International Group Co.)	do.	150,000 ³
Pipes		Kuwait Pipes Industries and Oil Services Co K.S.C.	Pipe mill at Sulaibiya Industrial Area	120,000
Do.		do.	Pipe mill at Shuwaikh	65,000
Do.		Khalid Ali Al-Kharafi & Brothers Co. W.L.L.	Pipe mill at Shuaiba	NA
Natural gas	million cubic meters	Various ⁴	Various fields	14,000
Natural gas liquids		Kuwait Oil Co. K.S.C. (Kuwait Petroleum Corp., 100%)	do.	45,000 ⁵
Nitrogen:				
Ammonia		Petrochemical Industries Co. K.S.C. (Kuwait Petroleum Corp., 100%)	Plant B, Shuaiba	657,000
Urea		do.	Plants A and B, Shuaiba	639,000
Petroleum:				
Coke, calcined		do.	Shuaiba	350,000
Crude	42-gallon barrels per day	Kuwait Oil Co. K.S.C. (Kuwait Petroleum Corp., 100%)	South and East Fields (Burgan, Khasman, and Madina Fields)	1,350,000
Do.	do.	Al-Khafji Joint Operations (Kuwait Gulf Oil Co., 50%, and Aramco Gulf Operations Co. of Saudi Arabia, 50%)	Khafji Field, offshore Partitioned Neutral Zone	600,000
Do.	do.	Kuwait Oil Co. K.S.C. (Kuwait Petroleum Corp., 100%)	North Fields (Abdali, Bahra, Ratqa, Matraba, Raudhatain, and Sabiya Fields)	559,000
Do.	do.	do.	West Fields (Abdaliya, Kra' Al-Mero, Managish, and Umm Gudair Fields)	427,000
Do.	do.	do.	South Fuwairis and South Umm Gudair Fields, Partitioned Neutral Zone	80,000
Do.	do.	Kuwait Oil Co. K.S.C. (Kuwait Petroleum Corp., 100%) and Saudi Arabian Texaco Inc. (Chevron Corp., 100%)	Wafra Field, onshore Partitioned Neutral Zone	80,000
Do.	do.	Kuwait Gulf Oil Co. (Kuwait Petroleum Corp., 100%)	Hout Field, offshore Partitioned Neutral Zone	NA
Refined products	do.	Kuwait National Petroleum Co. K.S.C. (Kuwait Petroleum Corp., 100%)	Mina Al-Ahmadi Refinery	415,000
Do.	do.	do.	Mina Abdulla Refinery	240,000
Do.	do.	do.	Shuaiba Refinery	195,000

See footnotes at end of the table.

TABLE 2—Continued
 KUWAIT: STRUCTURE OF THE MINERAL INDUSTRY IN 2007

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Salt	Salt and Chlorine Factory (Al Ahlia Industrial Projects Co., 43.16%)	Shuaiba	NA
Sulfur	Kuwait National Petroleum Co. K.S.C. (Kuwait Petroleum Corp., 100%)	Mina Abdulla, Mina Al-Ahmadi, and Shuaiba Refineries	NA
Do.	Kuwait Sulphuric Acid Co.	Safat	18,000

Do., do. Ditto. NA Not available.

¹Marketed imported bulk cement.

²Nominal design capacity. Actual production exceeded design capacity in 2006.

³Expansion of plant production capacity to 400,000 metric tons per year was underway.

⁴Some natural gas is produced and recovered from most crude oil production operations in Kuwait and the Partitioned Neutral Zone.

⁵Includes refinery-produced liquefied petroleum gases.