# 2005 Minerals Yearbook

## KUWAIT

U.S. Department of the Interior
U.S. Geological Survey

August 2007

# The Mineral Industry of Kuwait

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Kuwait's economy revolved around the production and the refining of hydrocarbons. The hydrocarbon sector, which accounted for about 94% of Government revenue, employed about 2% of the nation's population, which was about 2.9 million. The International Monetary Fund (2006§[1]) estimated that the gross domestic product (GDP) based on purchasing power parity was $46.7 billion in 2005 and that the GDP per capita based on purchasing power parity was $16,301 (Mansur and others, 2006, p. 16; Central Bank of Kuwait, 2006§).

## Trade

A majority of Kuwait's exports and imports was transported by sea. In 2005, total exports (free on board) were valued at $45 billion,[2] of which oil exports accounted for about $42.6 billion and manufactured fertilizer exports (ammonia, ammonium sulfate, sulfuric acid, and urea), $192 million. In 2004, the revised value of total exports was $28.6 billion, of which oil exports accounted for about $26.8 billion and manufactured fertilizer exports, $140 million. The increased international market price of crude oil accounted for most of the 57% increase in the value of Kuwaiti exports in 2005 compared with that of 2004. Total imports (cost, insurance, and freight paid to point of destination) in 2005 were estimated to be about $16.3 billion compared with about $12.7 billion in 2004 (Central Bank of Kuwait, 2006§).

## Commodity Review

### *Metals*

**Iron and Steel.**—The continued regional construction boom resulted in increased demand for the concrete-reinforcing steel bars produced by United Steel Industrial Company. In 2005, output increased by 30% to about 480,000 metric tons (t). The company planned to increase its capacity and its output to about 650,000 t in 2006. United Steel also proposed to build a 1-million-metric-ton-per-year (Mt/yr)-capacity rolling mill to produce steel billet, which would replace imported billet that was used to feed the bar mill (MEsteel.com, 2006§).

### *Industrial Minerals*

**Sulfur.**—The sulfur recovery capacity of the proposed Al-Zour crude oil refinery was expected to be 4,000 metric tons per day. Kuwait National Petroleum Co. K.S.C. (KNPC), which was a subsidiary of Kuwait Petroleum Corp., also planned to install additional sulfur extraction units at the Mina Abdulla refinery (Middle East Economic Digest, 2005d).

### *Mineral Fuels*

**Natural Gas.**—Domestic Kuwaiti natural gas production was insufficient to meet the demand of the industrial and power sectors, and output volumes varied year to year because Kuwaiti gas production associated with crude oil production was subject to production quotas of the Organization of the Petroleum Exporting Countries.

KNPC planned to build a new gas fractionation unit at Minal Al-Ahmadi. The new unit would handle the expected natural gas flow from the planned development of the offshore Dorra gasfield (Middle East Economic Digest, 2005c).

Rehabilitation of a gas pipeline to Iraq was underway. The initial import of about 1 million cubic meters per day of natural gas from Iraq, which originally was expected to start in 2005, was rescheduled to begin by late 2006. In 2005, the Ministry of Energy continued negotiations to import natural gas through a proposed subsea pipeline from Iran. The Ministry of Energy cancelled the proposed purchase of 8 billion to 15 billion cubic meters per year of natural gas from Qatar after the Saudi Arabian Government refused to allow the transit across its territory of an offshore natural gas pipeline to Kuwait from Qatar (Platts, 2006§).

**Petroleum.**—The National Assembly's scheduled January 23, 2006, debate on Project Kuwait [a proposed $7 billion project to expand production by foreign oil companies at five oilfields in northern Kuwait to about 900,000 barrels per day (bbl/d) from 450,000 bbl/d] was postponed when the Assembly's finance committee report on the project was withdrawn in December 2005. The January 2005 commissioning of Gathering Center (GC) 15 resulted in a 24% increase in crude oil production from the oilfields in northern Kuwait to about 520,000 bbl/d from 418,000 bbl/d in 2004. Natural gas, sediment, and water were separated from crude oil at the gathering centers. The expansion of GC 27 to 190,000 bbl/d from 150,000 bbl/d was underway. Kuwait Oil Co. K.S.C. proposed to rebuild GC 24 at Sabiya to handle additional output from the North Fields and to expand its handling capacity to 200,000 bbl/d; the company also proposed to rebuild the 160,000-bbl/d-capacity GC 29 to handle additional oil from the South and East Fields (Kuwait Oil Co. K.S.C., 2005, p. 15; Middle East Economic Digest, 2005a).

Saudi Arabian Texaco Inc. operated part of the Wafra Field in the partitioned neutral zone for Saudi Arabia. In 2005, Saudi Arabian Texaco completed facilities for a secondary recovery pilot project (steamflood) and planned to drill about 25 production wells and 16 steam injection wells.

In 2005, Kuwait Oil awarded a $1.2 billion contract to Hyundai Heavy Industries Co. Ltd. of the Republic of Korea for the Ahmadi crude oil export facility and a $220 million contract

[1]References that include a section mark (§) are found in the Internet References Cited section.

[2]Where necessary, values have been converted from Kuwaiti dinars (KD) to U.S. dollars (US$) at the rate of KD0.292=US$1.00 for 2005 and KD0.294=US$1.00 for 2004.

to Tekfen Construction and Installation Co., Inc. of Turkey for a 4.9-million-barrel (Mbbl) storage-tank farm at Ahmadi. The Hyundai contact included the construction of two additional storage-tank farms at Ahmadi, with a total capacity of 11.4 Mbbl; an additional oil loading pier; sundry pipelines; and two additional single-point-mooring buoys (Middle East Economic Digest, 2005b).

In 2005, KNPC significantly revised its planned fourth refinery. Originally proposed as a 450,000 bbl/d facility adjacent to the Shuaiba Refinery, the planned new refinery was relocated south to Al-Zour (away from the suburbs that surround the Shuaiba Industrial Area), and the refinery's capacity was expanded to 615,000 bbl/d. The lack of infrastructure at the new site increased the anticipated cost of the new refinery to $6.3 billion. KNPC expected to decommission the Shuaiba Refinery after the scheduled 2010 opening of the Al-Zour Refinery (James, 2005).

## Outlook

Crude and refined oil is expected to remain the focal point of Kuwait's mineral industry.

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## Major Source of Information

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TABLE 1
KUWAIT: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

| Commodity[2] | | 2001 | 2002[e] | 2003[e] | 2004[e] | 2005[e] |
|---|---|---|---|---|---|---|
| Cement | | 920,700 | 1,584,000 [3] | 1,863,400 [r] | 2,635,000 [r, 3] | 2,700,000 |
| Iron and steel, rolled steel bar | | -- | 70,000 | 150,000 | 369,000 | 480,000 |
| Lime, hydrated and quicklime[e] | | 40,000 | 40,000 | 40,000 | 40,000 | 49,800 [3] |
| Natural gas:[e, 4] | | | | | | |
| Gross | million cubic meters | 11,200 [r] | 9,900 | 11,000 [r] | 11,860 [r] | 13,300 |
| Dry | do. | 9,500 | 8,100 [r] | 9,100 [r] | 9,800 [r] | 11,000 |
| Nitrogen: | | | | | | |
| N content of ammonia | | 400,000 | 414,400 [3] | 444,400 [3] | 413,400 [3] | 466,570 [3] |
| N content of urea | | 290,000 | 320,000 | 330,000 | 341,020 [r, 3] | 365,350 [3] |
| Petroleum: | | | | | | |
| Crude[4] | thousand 42-gallon barrels | 745,000 | 680,000 | 817,000 | 837,655 [r, 3] | 939,276 |
| Natural gas liquids and liquefied petroleum gases[e] | do. | 44,000 [r] | 45,000 [r] | 40,000 [r] | 39,920 [r, 3] | 37,887 |
| Refinery products:[e, 5] | | | | | | |
| Gasoline, motor | do. | 13,000 [r] | 11,000 [r] | 12,000 [r] | 16,878 [r, 3] | 23,830 [3] |
| Kerosene | do. | 30,000 | 45,000 | 45,000 | 53,133 [r, 3] | 59,054 [3] |
| Distillate fuel oil | do. | 75,000 [r] | 84,000 [r] | 85,000 | 90,000 [r] | 95,000 |
| Residual fuel oil | do. | 58,000 [r] | 54,000 [r] | 55,000 [r] | 60,000 [r] | 65,000 |
| Other | do. | 86,000 [r] | 83,000 [r] | 86,000 | 86,000 | 70,000 |
| Total | do. | 262,000 [r] | 277,000 [r] | 283,000 [r] | 300,000 [r] | 313,000 |
| Salt | | 37,500 [r] | 42,500 [r, 4] | 44,700 [r, 4] | 45,000 [r] | 50,000 |
| Sulfur:[e] | | | | | | |
| Elemental, petroleum byproduct | | 524,000 | 634,000 | 714,000 | 682,000 [r] | 700,000 |
| Sulfuric acid | | 150,000 | 150,000 | 150,000 | 150,000 | 150,000 |

[e]Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. [r]Revised.

[1]Table includes data available through July 10, 2006.

[2]In addition to commodities listed, chlorine, clay products, clays, glass, petroleum coke, and sand and gravel were produced, but available information is inadequate to make estimates of output.

[3]Reported figure.

[4]Includes Kuwait's share of production from the Partitioned Neutral Zone.

[5]Excludes liquefied petroleum gases.

TABLE 2
KUWAIT: STRUCTURE OF THE MINERAL INDUSTRY IN 2005

(Metric tons unless otherwise specified)

| Commodity | | Major operating companies and major equity owners | Location of main facilities | Annual capacity |
|---|---|---|---|---|
| Cement: | | | | |
| Clinker | | Kuwait Cement Co. K.S.C. (Kuwait Investment Authority, 32%, and National Industries Group, 22.4%) | Kilns at Shuabia | 1,800,000 |
| Grey portland | | Kuwait Cement Co. K.S.C. (Kuwait Investment Authority, 32%, and National Industries Group, 22.4%) | Mills at Shuabia | 2,200,000 |
| Do. | | Hilal Cement Co. K.S.C.C. | Sulaibiya Industrial Area | (1) |
| Do. | | Portland Cement Co. K.S.C.C. (M.A. Al-Kharafi and Sons Co., 17%) | Shuwaikh | (1) |
| White | | Kuwait Cement Co. K.S.C. (Kuwait Investment Authority, 32%, and National Industries Group, 22.4%) | Kiln and mill at Shuaba | 115,000 |
| Iron and steel, steel, rolled: | | | | |
| Bar and rod | | United Steel Industrial Co. (Joint venture of local investors and Ahwaz Steel Commercial and Technical Services GmbH of Germany) | Rolling mill at Shuaiba | 500,000 |
| 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 |
| Natural gas | million cubic meters | Various[2] | Various fields | 13,000 |
| Natural gas liquids | | Kuwait Oil Co. K.S.C. (Kuwait Petroleum Corp., 100%) | do. | 45,000 [3] |
| 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: | | | | |
| 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) | 1,450,000 |
| Do. | do. | do. | North Fields (Abdali, Bahra, Ratga, Matraba, Raudhatain, and Sabiya Fields) | 520,000 |
| Do. | do. | do. | West Fields (Abdaliya, Kra' Al-Mero, Managish, and Umm Gudair Fields) | 400,000 |
| 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%) | South Fuwairis and South Umm Gudair Fields, partitioned neutral zone | 150,000 [4] |
| Do. | do. | Kuwait Oil Co. K.S.C. (Kuwait Petroleum Corp., 100%) and Saudi ArabianTexaco Inc. (Chevron Corp., 100%) | Wafra Field, onshore partitioned neutral zone | (4) |
| Do. | do. | Kuwait Gulf Oil Co. (Kuwait Petroleum Corp., 100%) | Hout Field, offshore partitioned neutral zone | (5) |
| 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 |
| Salt | | Salt and Chlorine Factory (Al Ahlia Industrial Projects Co.) | Shuwaikh and Shuaiba | NA |

See footnotes at end of the table.

TABLE 2--Continued

KUWAIT: STRUCTURE OF THE MINERAL INDUSTRY IN 2005

(Metric tons unless otherwise specified)

| Commodity | Major operating companies and major equity owners | Location of main facilities | Annual capacity |
|---|---|---|---|
| Sulfur | Kuwait National Petroleum Co. K.S.C. (Kuwait Petroleum Corp., 100%) | Mina Abdulla, Mina Al-Ahmadi, and Shuaiba Refineries | NA |
| Do. | Petrochemical Industries Co. K.S.C. (Kuwait Petroleum Corp., 100%) | Plants A and B, Shuaiba | 1,320,000 |

NA Not available.

[1]Marketed imported bulk cement.

[2]Some natural gas is produced from most crude oil production operations in Kuwait and the partitioned neutral zone.

[3]Includes refinery-produced liquefied petroleum gases.

[4]Production from the Wafra Field is included in capacity data for the South Fuwairis and the South Umm Gudair entry.

[5]Production from the Hout Field was temporarily suspended in 2005.