

# 2005 Minerals Yearbook

# **UNITED ARAB EMIRATES**

### THE MINERAL INDUSTRY OF THE UNITED ARAB EMIRATES

### By Philip M. Mobbs

The production of hydrocarbons and international and regional trade were significant facets of the diversified economy of the United Arab Emirates¹ (UAE). Of the seven emirates, Abu Dhabi accounted for most of the country's crude oil production. Other minerals and mineral-based commodities produced in the UAE included aluminum, ammonia, cement, ceramic tiles, glass, gypsum, sand, steel, and stone. All mineral resources were controlled by the individual Emirates and administered by the Federal Government.

The International Monetary Fund (2006§²) estimated that in 2005 the UAE had a gross domestic product (GDP) based on purchasing power parity of about \$130.8 billion³ and a GDP per capita based on purchasing power parity of \$27,957. In 2005, crude oil and natural gas, accounted for about 27% of the GDP; the manufacturing sector (which included the production of processed mineral-based commodities), about 15%; the construction sector, about 8%; and other mineral production, 0.2%. Total population was estimated to be more than 4.5 million in 2005. Of the country's labor force of 2.6 million, about 553,000 worked in the construction sector, about 322,000 in the manufacturing sector, about 30,000 in the crude oil and natural gas sector, and about 6,000 in mining and quarrying (Elhage and others, 2006, p. 3, 15).

#### **Trade**

In 2005, the value of the UAE's total exports (freight-onboard), which included reexports, was estimated to be about \$119 billion, which was up significantly from a revised \$91 billion in 2004 and a revised \$66.8 billion in 2003. Reexports (the UAE was a significant regional transshipment point) were estimated to account for from 40% to 50% of total exports. The value of crude oil exports from the UAE was estimated to be \$43.5 billion in 2005 (about 37% of total exports) compared with \$29.6 billion in 2004 (about 33% of total exports). Much of the increase in the value of crude oil exports could be attributed to an increase in the average price received per barrel of crude, which was \$52.60 per barrel in 2005 compared with \$36.30 per barrel in 2004 and \$28.11 per barrel in 2003. Natural gas exports were valued at \$5.8 billion, as were exports of refined petroleum products. Diamond exports were valued at \$2.2 billion. In 2005, the value of total imports (cost, insurance, and freight) was estimated to be \$80.8 billion, of which the import of about 37 million carats of rough diamond accounted for about \$1.5 billion (Elhage and others, 2006, p. 10, 36-37; Kuwait Times, 2006§).

#### **Commodity Review**

#### Metals

Aluminum.—In May, Dubai Aluminium Co. Ltd. (Dubal) started potline 7 operations. By yearend, the aluminum smelter's total hot-metal capacity reached 761,000 metric tons per year (t/yr). In August, Dubal commissioned the 80,000-t/yr capacity casthouse 3 and proposed a \$285 million 100,000-t/yr-capacity smelter expansion that would add 128 pots to potline 7 and 36 pots to potline 9. In October, Dubal agreed to a 20-year contract to purchase 1.12 million metric tons per year (Mt/yr) of alumina from Guinea Alumina Corporation S.A. (a subsidiary of Global Alumina Corp. of the United States). Global Alumina's proposed refinery in Guinea was expected to begin production in 2008 (Middle East Economic Digest, 2005d, e; Dubai eGovernment, 2005§; Gulf News, 2005§).

Iron and Steel.—Abu Dhabi National Co. for Building Materials proposed to build a 300,000-t/yr-capacity steel reinforcing bar (rebar) rolling mill in the Industrial City of Abu Dhabi. Al-Ghurair Group and ETA Star Holdings proposed to build a 1.2-Mt/yr-capacity rebar rolling mill in Ras al-Khaimah. Al Nasser Industrial Enterprises L.L.C. proposed to build a 250,000-t/yr-capacity crude steel plant (Unit III) at its Emirates Steel Establishment at Mussafah, Abu Dhabi. Emirates Steel's 20,000-t/yr-capacity Unit I, which produced ingot, had come online in 1998, and the 40,000-t/yr-capacity continuous-casting Unit II was set up in 2004. Also at Mussafah, Techint International Construction Corp. was contracted to build a 200,000-t/yr-capacity direct-reduced-iron (DRI) plant for Al Nasser (Middle East Economic Digest, 2005g; Techint-Compañia Tecnica Internacional S.A.C.I., 2006, p. 20; Khaleej Times, 2005§; Al Nasser Industrial Enterprises L.L.C., undated§).

In Sharjah, Al-Tuwairqi Group of Saudi Arabia proposed to build a DRI plant, a rolling mill, and a 1-Mt/yr-capacity steel plant. Qasco Dubai Steel FZE (an affiliate of Qatar Steel Co.) initiated work on a 300,000-t/yr-capacity rebar rolling mill near Jebel Ali, Dubai. The Abu Dhabi government-owned General Holding Co. proposed a capacity expansion of its Emirates Iron and Steel Factory in Mussafah, Abu Dhabi, to 2 Mt/yr of rolled steel from 600,000 t/yr. General Holding also awarded a contract to install a 1.6-Mt/yr-capacity DRI plant at the Mussafah facility to Danieli & Co. Officine Meccaniche SpA of Italy (Middle East Economic Digest, 2005c, i; Techint-Compañia Tecnica Internacional S.A.C.I., 2006, p. 20; Emirates News Agency, 2006§; Al Nasser Industrial Enterprises L.L.C., undated§).

#### Mineral Fuels

**Liquefied Natural Gas.**—Abu Dhabi Gas Liquefaction Co. Ltd. proposed to replace Liquefied Natural Gas (LNG) trains 1 and 2 on Das Island with an 8-Mt/yr-capacity LNG train.

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<sup>&</sup>lt;sup>1</sup>Comprises the following Emirates: Abu Dhabi, Ajman, Dubai, Fujairah, Ras Al-Khaimah, Sharjah, and Umm al-Qaywayn.

<sup>&</sup>lt;sup>2</sup>References that include a section mark (§) are found in the Internet References Cited section.

<sup>&</sup>lt;sup>3</sup>Where necessary, values have been converted from United Arab Emirates Dirham (AED) to U.S. dollars (US\$) at the rate of AED3.67=US\$1.00.

During LNG trains 1 and 2's 27 years of operation, their original combined 2-Mt/yr design capacity had been increased to more than 3 Mt/yr (Middle East Economic Digest, 2005a, b).

Refined Petroleum Products.—Abu Dhabi Oil Refining Co. (Takreer) proposed to build a \$4 billion 300,000-barrelper-day (bbl/d)-capacity export refinery in Fujairah. Upgrades of existing refineries underway in 2005 included work on the Takreer's Ruwais refinery's low sulfur diesel oil and unleaded gas project, which included the installation of new units, such as a naphtha hydrotreater, two continuous catalytic reformers (CCR), a sulfur plant, and a new tank farm. ENOC Processing Co. awarded a \$380 million contract for the installation of a 70,000 bbl/d-capacity hydrotreater and CCR at its 120,000-bbl/d-capacity Jebel Ali condensate refinery. Sharjah Oil Refining Co. Ltd. announced an upgrade of the refinery in Sharjah to 85,000 bbl/d from 71,250 bbl/d (Middle East Economic Digest, 2005f, h; Butler Investments, Inc., 2005§).

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#### **Major Source of Information**

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## ${\bf TABLE~1} \\ {\bf UNITED~ARAB~EMIRATES:~PRODUCTION~OF~MINERAL~COMMODITIES}^1 \\$

(Metric tons unless otherwise specified)

Commodity <sup>2</sup>	2001	2002 <sup>e</sup>	2003 <sup>e</sup>	2004 <sup>e</sup>	2005 <sup>e</sup>
Aluminum, primary <sup>e</sup>	500,000	536,000	560,000	683,000	722,000
Cement, hydraulic <sup>e</sup>	6,100,000	7,000,000	8,000,000	8,000,000	8,000,000
Chromium, gross weight <sup>e</sup>	10,000	(3)	(3)	7,089 4	(3)
Gas, natural: <sup>e</sup>					
Gross million cubic meters	54,000	55,000	60,000	61,000	62,000
Dry do.	41,300	42,000	44,400 r, 4	45,400 r, 4	46,400
Gypsum <sup>e</sup>	90,000	90,000	100,000	100,000	100,000
Lime <sup>e</sup>	50,000	50,000	50,000	50,000	50,000
Natural gas plant liquids <sup>e</sup> thousand 42-gallon barrels	110,000 r	115,000 <sup>r</sup>	115,000 r	115,000 <sup>r</sup>	120,000
Nitrogen:					
N content of ammonia	357,900	363,700 r, 4	421,000	380,400 4	360,000
N content of urea	250,000 <sup>e</sup>	260,000	400,000	350,000	260,000
Petroleum: <sup>e</sup>					
Crude thousand 42-gallon barrels	750,000 r	675,000 r	790,000 <sup>r</sup>	820,000 r	830,000
Refinery products: <sup>5</sup>					
Gasoline do.	11,000	11,400	11,000	20,000 r	20,000
Kerosene do.	30,000	39,000	40,000	50,000 r	50,000
Distillate fuels do.	30,000	34,900	33,800	45,000 r	45,000
Residual fuels do.	12,000	11,300	7,800	20,000 r	20,000
Other do.	30,000	58,300	38,400	65,000 r	65,000
Total do.	113,000	155,000	131,000	200,000 r	200,000
Steel <sup>e</sup>	70,000	70,000	50,000	70,000	70,000
Sulfur, byproduct of petroleum refining and natural gas					
processing	1,490,000 e	1,900,000	1,900,000	1,930,000 r	1,950,000

<sup>&</sup>lt;sup>e</sup>Estimated; estimated data and totals are rounded to no more than three significant digits; may not add to totals shown. <sup>r</sup>Revised.

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<sup>&</sup>lt;sup>1</sup>Table includes data available through November 30, 2006.

<sup>&</sup>lt;sup>2</sup>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.

<sup>&</sup>lt;sup>3</sup>Negligible or no production.

<sup>&</sup>lt;sup>4</sup>Reported figure.

<sup>&</sup>lt;sup>5</sup>Daily production data converted assuming a 365-day operating year and rounded to no more than three significant digits; may not add to totals shown.