

# EGYPT

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Crude petroleum and refined petroleum products have dominated Egypt's mineral sector in recent decades; the economic significance of natural gas output however, recently has increased at a rapid rate. In 2001, Egypt was the 19th leading crude oil producer in the world. The country's natural gas production of 21 billion cubic meters ranked as the 22d leading natural gas producer compared with 1991 when its 7.8 billion cubic meter output ranked 27th among the world's gas producers (BP plc, 2002; U.S. Energy Information Administration, 2002). Egypt was a modest producer of primary aluminum, ferroalloys, iron ore, and steel; had secondary (recycle & remelt) production of copper, lead, and zinc; and had a history of mining construction materials (such as clay, dimension stone, and gypsum), gemstones, gold, and raw materials for glass. The recent expansion of the steel, cement, and fertilizer industries had been propelled by the Government's privatization program, private development of new facilities, expansion of privatized operations, and the construction boom associated with the Government's promotion of resettlement and industrial development. The former fast growth of the cement sector, however, appeared to have begun to flag in association with the national construction industry slowdown that began in 2000.

The population of this North African nation was estimated to be about 65 million. The nation's nominal gross domestic product (GDP) was estimated to be \$96.3 billion<sup>1</sup> in 2001 (International Monetary Fund, 2002§<sup>2</sup>). Despite the decline in international oil prices in 2001, the segments of the Egyptian GDP at factor cost for the July 1, 2000, to June 30, 2001, Egyptian fiscal year (the last period for which disaggregated data were available) remained steady. Segments included industry, manufacturing, and mining, which were combined to account for 19.2% of the GDP; transportation (including Suez Canal operations), which accounted for about 9% of the GDP; production of crude petroleum and petroleum products, which accounted for 7.6% of the GDP compared with 7.4% in the fiscal year ending in 2000; and construction, which accounted for 4.76% of the GDP (Ministry of Foreign Trade, 2002a§).

According to the Ministry of Foreign Trade (2002b§), Egypt's total exports in 2001 were valued at about \$4.1 billion compared with more than \$4.7 billion in 2000, and total imports amounted to \$12.6 billion in 2001 compared with \$14.0 billion in 2000. Crude oil and petroleum products accounted for about \$1.6 billion or 39% of the value of total exports in 2001 compared with about \$1.9 billion (41%) in 2000. In 2001, the value of fuel imports was down to \$571 million compared with

\$1.0 billion in 2000. In the fiscal year ending June 30, 2001, foreign direct investment was about \$509 million, significantly down from \$1.66 billion for fiscal year 2000 (Central Bank of Egypt, undated§).

## Commodity Review

### Metals

**Gold.**—In 2001, Cresset International Ltd. (a subsidiary of Cresset Precious Metals, Inc. of the United States) undertook geochemical, geologic, and geophysical studies of the Umm Tundub mine area on its Hamash property and submitted a feasibility study for the development of its eight properties in the Eastern Desert. In December, Cresset received a 30-year concession on the properties which included the Gali, Hamash, Hamata, Northwest Al-Bida, West Al-Bida, Umm Hugab, Umm Sumuqi, and Wadi Khasheba areas.

In November, Pharaoh Gold Mines NL (which was a subsidiary of the Australian company Centamin Egypt Ltd.) and the Egyptian Geological Survey and Mining Authority (EGSMA) were awarded an exploration (mining) lease in the Eastern Desert. The concession area included the Abu Marawat, the Barramiya, the Hamama, and the Sukari deposits. Drilling and trenching continued on the Sukari deposit. Measured gold resources were reported to be 9.3 million metric tons of ore at a grade of 1.41 grams per metric ton (g/t) gold at a cutoff grade of 0.5 g/t. An open pit optimization study and an engineering study for a 2-million-metric-ton-per-year (Mt/yr)-capacity carbon-in-leach processing plant were completed. A feasibility study was underway (Centamin Egypt Ltd., 2001, 2002).

**Iron and Steel.**—In Sadat City, Egyptian American Steel Rolling Co.'s 500,000-metric-ton-per-year (t/yr)-capacity bar and wire rod rolling mill was commissioned and reached a production rate of about 300,000 t/yr by yearend. Also completed in 2001 was the construction of an additional 500,000-t/yr bar mill for Egyptian American Steel. Initial production from the bar mill was deferred pending resolution of personnel and technical issues (MEsteel.com, 2002§).

**Tantalum.**—In October, the EGSMA and Tantalum International (a subsidiary of Gippsland Ltd. of Australia) formed Tantalum Egypt to develop the Abu Dabbab tantalum deposit. Previous exploration campaigns had estimated that tantalum resources of the deposit were about 48 Mt at a grade of 274 g/t tantalum pentoxide (Metal Bulletin, 2002).

### Industrial Minerals

<sup>1</sup>Where necessary, values have been converted from Egyptian pounds (£) to U.S. dollars (US\$) at the rate of £4.06=US\$1.00.

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

**Cement.**—Egyptian Cement Co. [a joint venture that included Orascom Construction Industries of Egypt (53.6% equity interest) and Holderbank Financière Glaris Ltd. of Switzerland (43.72%)] continued the construction of their fourth kiln.

As part of the Government's 2001 privatization program, ASEC Cement Co. (owned in part by Arab Swiss Engineering Co.) acquired an additional 47.9% equity interest in Helwan Portland Cement Co., adding to its formerly held 3.5% interest. Ciments Français acquired 25% interest in Suez Cement Co. and was named a strategic partner of Suez.

In November, South Valley Cement Co. announced it planned to liquidate itself and offered to repurchase 70% of its shares. The faltering construction sector had thwarted the company's ability to raise capital to finance a proposed 1.4-Mt/yr-capacity cement plant (Cairo & Alexandria Stock Exchanges, 2002§; CARANA Corporation, 2002§).

**Feldspar.**—In 2001, Alkhobara Industrial Co. initiated red and white feldspar production from its mines in the Eastern Desert.

**Perlite.**—The 55,000-cubic-meter-per-year-capacity Egyptian Co. for Manufacturing Perlite and Vermiculite began operations in late 2000 (Incon Corp., undated§).

### **Mineral Fuels**

Egypt's energy minerals sector was dominated by the production of natural gas, crude petroleum, and refined petroleum products. There was some coal production from the Maghara Mine in the northern Sinai. The U.S. Department of Energy's December 2001 overview of the Egyptian energy sector can be found at URL <http://www.eia.doe.gov/cabs/egypt2.html>.

**Natural Gas.**—In 2001, the Government estimated that Egyptian natural gas reserves were nearly 1.6 trillion cubic meters (U.S. Energy Information Administration, 2001§). In August, the Government formed the Egyptian Natural Gas Holding Co. (EGAS) as a 100% subsidiary of Egyptian General Petroleum Corp. (EGPC). EGAS became the Government agency responsible for the development of natural gas export projects. Liquefied natural gas (LNG) projects in Egypt included Grupo Union Fenosa of Spain's \$1 billion, 5-Mt/yr-capacity LNG train at Damietta (Halliburton Co., 2001). In December, Union Fenosa selected M.W. Kellogg Ltd. of the United Kingdom (a subsidiary of Halliburton KBG Group of the United States and JGC Corp. of Japan) and Técnicas Reundas S.A. of Spain for the engineering, procurement, and construction contract. The LNG plant's first train was scheduled to be built and operating by 2004. Site preparation had begun in 2000. A second train was proposed to be operational in 2006, dependent upon demand.

BG Group plc and Edison International proposed to build a \$900 million, 3.6 Mt/yr LNG plant near Idku, east of Alexandria (Middle East Economic Digest, 2001b; Flower,

2002). BP plc proposed to construct a two-train LNG plant and a two-train natural gas liquids plant at Damietta, and Royal Dutch/Shell Group proposed to construct a barge-mounted two-train LNG plant and gas-to-liquids plant.

The Government and the Governments of Jordan, Lebanon, and Syria agreed to a proposal to provide Egyptian natural gas to the three countries. The original plan for an offshore pipeline to Lebanon and subsequent overland distribution to Jordan and Syria was replaced in February by a proposal to pipe Egyptian gas across the Sinai to Aqaba, Jordan, and subsequent extension of the line north to Lebanon and Syria. In June, the initial \$330 million, 260-kilometer (km) pipeline segment to Aqaba was approved. In September, Jordan requested bids for a 370-km extension of the proposed pipeline to Amman, Jordan (Middle East Economic Digest, 2001a, c). The Government also held talks with the Government of Cyprus concerning oil and gas exploration in the eastern Mediterranean Sea and an eventual extension of the gas pipeline from Syria.

**Refined Petroleum.**—In 2001, petroleum product production began at the 100,000-barrel-per-day-capacity Middle East Oil Refinery (MIDOR) in the Al-Ameriya free zone of Alexandria (U.S. Energy Information Administration, 2001§). The National Bank of Egypt added to its 10% equity interest in MIDOR when it acquired an additional 20% interest from an Irish subsidiary of Merhav Ltd. of Israel and an additional 6% interest from the private company Masaka. The state-owned EGPC held 40% equity interest, and EGPC's subsidiaries (the Engineering for the Petroleum and Process Industries and the Petroleum Projects and Technical Consultation Co.) each held 10% equity interest in MIDOR. The divestment of the Israeli interest in MIDOR eliminated some of the crude oil supply problems that had been associated with the refusal of many of the Arabian Gulf region Government oil companies to deal with MIDOR.

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TABLE 1  
EGYPT: PRODUCTION OF MINERAL COMMODITIES 1/

(Thousand metric tons unless otherwise specified)

Commodity	1997	1998	1999	2000 e/	2001 e/
<b>METALS</b>					
Aluminum metal metric tons	178,200	195,000	193,319	193,000 r/	189,000
Copper, refined, secondary e/ do.	5,000	6,000	6,000	5,000	5,000
Iron and steel:					
Iron ore and concentrate	2,744	3,001	2,700 r/ e/	2,500	2,500
Metal:					
Pig iron e/	1,000	1,334 2/	700	700	700
Direct reduced iron	1,190	1,610	1,670	1,530 2/	2,370
Steel, crude	2,717	2,870	2,619	2,820 2/	3,800
Ferroalloys: e/					
Ferromanganese	26	18	30	30	30
Ferrosilicon	44	44	44	45	40
Manganese ore e/ metric tons	15,000	10,000	20,000	20,000	20,000
Titanium, ilmenite e/	125	125	130	125	125
<b>INDUSTRIAL MINERALS</b>					
Asbestos e/ metric tons	2,000	700	1,000	2,000	20,000
Barite e/	--	300	500	500	500
Cement, hydraulic, all types	19,700	21,000	23,313	24,143 2/	24,500
Clays:					
Bentonite e/	50	33	50	50	50
Fire clay	331	227	300 e/	300	300
Kaolin metric tons	258,869	285,497	290,000 e/	290,000	290,000
Feldspar, crude do.	57,335	325,654	330,000 e/	330,000	300,000
Fluorspar do.	775	140	500 e/	500	500
Gypsum and anhydrite, crude	2,423	1,338	2,000 e/	2,000	2,000
Lime e/	800	800	800	800	800
Nitrogen:					
Ammonia, N content	1,061	1,141	1,407	1,511 2/	1,800 2/
Urea, N content	445	482	700	853 2/	1,091 2/
Phosphate:					
Phosphate rock	1,067	1,076	1,018	1,020	1,450
P <sub>2</sub> O <sub>5</sub> content	310	311	298	300	420
Sodium compounds:					
Salt	2,024	2,387	2,400 e/	2,400	2,400
Soda ash e/	50	50	50	50	50
Sodium sulfate metric tons	2,118	2,498	2,500 e/	2,500	2,500
Stone, sand and gravel:					
Basalt thousand cubic meters	883	241	300 e/	300	300
Dolomite	1,324	3,444	3,500 e/	3,500	3,000
Granite, dimension stone cubic meters	24,958	35,817	40,000 e/	40,000	40,000
Gravel thousand cubic meters	12,033	11,463	12,000 e/	12,000	11,000
Limestone and similar do.	23,559	25,618	27,000 e/	27,000	25,000
Marble (including alabaster) blocks cubic meters	127,767	134,664	140,000 e/	140,000	140,000
Sand:					
Industrial sand (glass sand)	505	574	600 e/	600	600
Construction sand	21,250	19,420	22,000 e/	22,000	21,000
Sandstone thousand cubic meters	66	6	-- e/	--	10
Sulfur:					
Elemental, byproduct e/ metric tons	4,453 2/	4,450	4,400	4,500	4,500
Sulfuric acid, S content	230	224	214	220	220
Talc, soapstone, pyrophyllite metric tons	43,627	39,720	40,000 e/	40,000	40,000
Vermiculite do.	447	12,376	12,000 e/	12,000	12,000
<b>MINERAL FUELS AND RELATED MATERIALS</b>					
Coal e/	300	370 2/	400	400	400
Coke e/	1,800	1,500	1,420	1,400	1,400
Gas, natural:					
Gross production million cubic meters	17,000 e/	18,270	19,766	25,000	25,000
Dry do.	13,349	16,430	17,800 e/	21,000	21,000
Petroleum:					
Crude, including condensate thousand 42-gallon barrels	319,000 r/	313,000 r/	302,000 r/	285,000 r/	277,000

See footnotes at end of table

TABLE 1--Continued  
 EGYPT: PRODUCTION OF MINERAL COMMODITIES 1/

(Thousand metric tons unless otherwise specified)

Commodity	1997	1998	1999	2000 e/	2001 e/	
MINERAL FUELS AND RELATED MATERIALS--Continued						
Petroleum--Continued:						
Refinery products:						
Liquified petroleum gas	thousand 42-gallon barrels	6,333	5,090	5,371	5,500	5,500
Gasoline and naptha	do.	44,065	43,465	43,699	45,000	45,000
Kerosene and jet fuel	do.	16,606	15,788	15,472	16,000	16,000
Distillate fuel oil	do.	43,790	45,230	45,857	46,000	46,000
Residual fuel oil	do.	86,100	87,625	82,011	83,000	83,000
Lubricants	do.	1,729	1,820	1,834	1,800	1,800
Asphalt	do.	4,641	5,042	6,030	6,000	6,000
Unspecified 3/	do.	2,400	2,350	1,987	1,700	1,700
Total	do.	205,664	206,410	202,261	205,000	205,000

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

1/ Table includes data available through October 28, 2002. In addition to those listed, Egypt produced a number of commodities for which data were unavailable; these include a number of metals, such as lead, which was produced from recycled material and manufactured mineral commodities, such as carbon black and glass.

2/ Reported figure.

3/ Amounts needed to complete reported refinery products totals shown.