



2006 Minerals Yearbook

EGYPT

THE MINERAL INDUSTRY OF EGYPT

By Harold R. Newman

Petroleum and petroleum products were the leading mineral commodities produced in 2006 as the mineral fuels sector continued to be a vital segment of and a major contributor to the economy of Egypt. Government efforts with respect to the mineral industry were focused mainly on the further development of the country's mineral resources. Geologic studies have identified resources of different minerals, such as gold, granite, marble, and phosphate rock. A national plan was being prepared to develop investment opportunities in mineral reserves.

Minerals in the National Economy

Egypt was a significant producer of natural gas and petroleum. The energy sector was the leading industrial activity in the country and accounted for 12% of the country's gross domestic product (GDP). Exports of petroleum and related products amounted to more than \$2.7 billion in fiscal year 2005 (the latest year for which data were available). Egypt was encouraging the production of natural gas. Natural gas accounted for almost 50% of all hydrocarbon usage in Egypt (U.S. Department of State, 2006).

Government Policies and Programs

The Ministry of Industry and Mineral Resources, through the Egyptian Geological Survey and Mining Authority (EGSMA), was the Government agency responsible for regulating the exploration for and the prospecting and exploitation of all mineral deposits in Egypt. The law that regulated the mining sector was the Mining and Petroleum Code law No. 66 of 1953. The Electricity and the Energy Ministries were the main Government agencies responsible for the energy sector.

Production

In addition to mineral fuels, Egypt also produced metals, including aluminum, ferroalloys, iron ore, secondary copper, and steel. The country also produced industrial minerals, including cement, construction materials, granite, gypsum, limestone, and raw materials for glass (table 1).

Structure of the Mineral Industry

Ownership of the mineral producing and processing facilities was a mix of Government and private. Natural gas, petroleum, and petroleum products plants were the predominate producers controlled by the Government. The Government continued with its efforts to partially privatize mining and metal assets. Table 2 is a list of the major mineral industry facilities.

Mineral Trade

Trade has played an important role in the Egyptian economy. The country was dependent upon export markets to generate income and upon imports for raw materials. The Governments of Egypt and Syria met in April 2006 in Cairo to discuss aspects of bilateral cooperation between the two countries in the natural gas and petroleum sectors and to develop a cooperative framework of signed accords on bilateral trade issues in trade fields (Arabic News, 2006).

Commodity Review

Metals

Gold.—Centamin Egypt Ltd. of Australia had a 160-square-kilometer (km²) exploitation lease for the Sukari Hill gold project and was continuing with a feasibility study to upgrade the project. At yearend 2006, the resource at Sukari was estimated to be 242,672 kilograms (kg) of gold. Extraction was expected to be by open pit mining (Centamin Egypt Ltd., 2006).

Iron and Steel.—Egyptian Ferroalloys Co. (Efaco) produced ferroalloys with silicon content percentages that ranged from 45% to 75% purity; the 75% concentration was mostly in the ferrosilicon product. Silica fume was produced as a byproduct of ferroalloy production. Efaco operated four electrical furnaces with a capacity of 50,000 metric tons per year (t/yr) of ferrosilicon alloys and 17,000 to 20,000 t/yr of silica fume. The Government announced that 10 million shares that represented 100% of the capital shares would be directed to private investors through a bidding process by means of sealed envelopes (Ministry of Investment, 2006).

Magnesium.—Magnesium International Ltd. (MIL) of Australia announced that it had signed a memorandum of understanding with El Nasr Mining Co. to supply 200,000 t/yr of higher-than-40% grade magnesium oxide for the first phase of the Sokhna magnesium smelter. MIL's primary objective was to enter the magnesium industry through the development of a magnesium mine, smelter, and alloy plant at the Sokhna site with output of 108,000 t/yr of high-quality magnesium alloy (Magnesium International Ltd., 2006).

Tantalum and Tin.—Gippsland was continuing with development of its Abu Dabbab tantalum and tin project in a joint-venture project with EGSMA. Tantalum Egypt LLC was the operating company in which Gippsland and EGSMA each held a 50% interest. A study of the project by Lycopodium Engineering Pty Ltd. in 2004 was being updated to reflect current costs. The project was expected to produce 260 t/yr of tantalum pentoxide along with 1,500 t/yr of byproduct tin (Platts Metals Week, 2006).

Industrial Minerals

Cement.—The Government moved to cap the country's rising cement prices, which were inflated by rising gas, fuel, and electricity costs. By mid-March, the price had risen to \$66.50 per metric ton, significantly affecting local contractors. The move to cap cement prices seems to have had a positive effect on Egypt's construction industry. The Government limited the number of companies allowed to export cement and introduced a suggested ex-factory price cap of \$50.70, a move that would pull the retail price down to \$57.70 per metric ton. Eleven companies in Egypt produced about 38 million metric tons per year (Mt/yr) of cement, which was more than 40% more than its nearest neighbor, Saudi Arabia. Egypt accounts for more than one-quarter of the region's 146 Mt/yr of cement production capacity (Middle East Economic Digest, 2006b).

Nitrogen.—Alexandria Fertilizers Co. was developing plans for a major expansion of its plant at Abu Qir. The \$600 million expansion, which was subject to the finalization of a feedstock agreement with Egyptian Natural Gas Holding Co., would add 2,000 metric tons per day (t/d) of ammonia and 3,300 t/d of granulated urea at the site by 2010 (Middle East Economic Digest, 2006a).

Mineral Fuels

Egypt was a transit corridor to the Persian Gulf and had strategic importance because of its operation of the Suez Canal by the Suez Canal Authority (SCA) and the Suez-Mediterranean (Sumed) Pipeline. The 3.1-million-barrel-per-day Sumed pipeline and the Suez Canal were two major routes for exports of oil from the Persian Gulf region to the Mediterranean. The Suez Canal generated a record \$3.3 billion in revenue in 2005 (Egyptian State Information Service, 2006).

The Government continued to seek to attract more investments in natural gas, petroleum, and prospecting and extraction operations in southern Egypt. The petroleum sector signed 12 contracts with various companies and set aside \$282 million for prospecting operations in a 220,000-km² area, which was equivalent to about 50% of the total area of the upper part of Egypt. The contracts involved drilling 46 oil wells (Alexander's Gas & Oil Connections, 2006b).

Natural Gas.—Most of Egypt's offshore discoveries have been natural gas, and natural gas was the fastest-growing mineral fuels sector in 2006. The International Egyptian Oil Company (a subsidiary of Eni S.p.a of Italy) was Egypt's leading natural gas producer. The company operated in the Gulf of Suez, the Nile Delta, and the Western Desert. The Government announced plans to double its natural gas exports within the next 5 years and to substantially boost reserves. The increase would be realized through expansion of the country's two liquefied natural gas plants and boosting sales through the Arab Gas Pipeline. The Government was also talking to the Governments of Bulgaria, Romania, Syria, and Turkey about integrating Egyptian gas exports into the planned 30-billion-cubic-meter-per-year Nabucco pipeline. In 2006, Egypt exported 17 billion cubic meters of natural gas that was valued at about \$3 billion (Alexander's Gas & Oil Connections, 2006a).

Petroleum.—Egyptian petroleum production comes from four main areas: the Gulf of Suez, (about 50%), the Western Desert, the Eastern Desert, and the Sinai Peninsula. Although the output of petroleum has declined, exploration activity in new areas could potentially result in the discovery of sufficient oil to slow the decline. The leading producer in the Gulf of Suez was the Gulf of Suez Oil Co. [a joint venture of Egyptian General Petroleum Corp. (EGPC) and BP Amoco Corp of the United Kingdom]. The second ranked producer was Belayim Petroleum Co. which was a joint venture of EGPC and International Egyptian Oil Co. The third ranked producer was the Suez Oil Co. (U.S. Energy Information Administration, 2006).

In 2006, the Government announced the discovery of six gasfields and oilfields in the Gulf of Suez, the Eastern Desert, the Western Desert, and the Mediterranean Sea. These finds were expected to secure an additional 140 million barrels of oil and condensates. The thickness of the reservoirs containing oil and gas are between 60 and 75 meters. The new discoveries will be assessed and tested in preparation for putting them into production as soon as possible (Alexander's Gas & Oil Connections, 2006c).

Outlook

The Egyptian mineral fuels industry is expected to grow during the next 3 to 4 years, mainly as a result of the Government's recent restructuring of the energy sector following several natural gas discoveries. The Government is expected to continue to move forward with its policy to develop the country's hydrocarbon resources. The natural gas sector is expected to continue to expand. Although natural gas exports are likely to overtake petroleum exports in the near future, the presence of several foreign companies exploring for petroleum offshore Egypt in 2006 suggests the possibility of further development of the petroleum sector if new discoveries are made.

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TABLE 1
 EGYPT: ESTIMATED PRODUCTION OF MINERAL COMMODITIES^{1,2}

(Thousand metric tons unless otherwise specified)

Commodity	2002	2003	2004	2005	2006
METALS					
Aluminum metal metric tons	195,000	194,600 ³	215,000	243,800 ³	252,300 ³
Copper, refined, secondary do.	4,000	14,119 ³	14,000	14,000	14,000
Iron and steel:					
Iron ore and concentrate	2,618 ³	2,237 ³	2,287 ^{r,3}	1,599 ^{r,3}	1,600
Metal:					
Pig iron	1,700	1,000 ³	1,000	1,100 ³	1,100
Direct-reduced iron	2,530	2,870	2,800	2,600	2,600
Steel, crude	4,316 ³	4,398 ³	4,500	5,600 ³	5,500
Ferroalloys:					
Ferromanganese	30	30	30	30	30
Ferrosilicon	55	55	55	55 ^r	50
Manganese ore metric tons	20,000	20,000	46,450 ^{r,3}	165,350 ^{r,3}	16,500
Titanium, ilmenite	125	120 ³	120	120	120
INDUSTRIAL MINERALS					
Asbestos metric tons	2,000	2,000 ^r	--	--	--
Barite	500	500	500	500	500
Cement, hydraulic, all types	28,155 ³	26,639 ³	28,763 ³	29,000	29,000
Clays:					
Bentonite	50	26 ³	30	30	30
Fire clay	300	300	300	300	300
Kaolin metric tons	260,000	260,000	295,430 ^{r,3}	415,400 ^{r,3}	416,000
Feldspar, crude do.	350,000	350,000	178,249 ^{r,3}	357,134 ^{r,3}	360,000
Fluorspar do.	500	500	891 ^{r,3}	549 ^{r,3}	550
Gypsum and anhydrite, crude	1,000 ^r	7,920 ^{r,3}	7,634 ^{r,3}	3,290 ^{r,3}	3,300
Lime	800	800	800	800	800
Nitrogen:					
Ammonia, N content	1,839 ³	1,790 ³	1,652 ³	1,640	1,800
Urea, N content	1,078 ³	1,134 ³	1,078 ³	1,000	1,000
Phosphate:					
Phosphate rock	1,500	2,183 ³	3,269 ^{r,3}	2,144 ^{r,3}	2,200
P ₂ O ₅ content	434	630	948 ^r	622 ^{r,3}	625
Sodium compounds:					
Salt	2,400	1,341 ³	1,010 ^{r,3}	1,200 ^r	1,200
Soda ash	50	50	50	50	50
Sodium sulfate metric tons	2,500	2,500	2,500	2,500	2,500

See footnotes at end of table

TABLE 1—Continued
EGYPT: ESTIMATED PRODUCTION OF MINERAL COMMODITIES^{1,2}

(Thousand metric tons unless otherwise specified)

Commodity	2002	2003	2004	2005	2006 ^p	
INDUSTRIAL MINERALS--Continued						
Stone, sand and gravel:						
Basalt	thousand cubic meters	300	300	243 ^{r,3}	249 ^{r,3}	250
Dolomite		3,000	3,000	949 ^{r,3}	1,371 ^{r,3}	1,400
Granite, dimension stone	cubic meters	40,000	40,000	22,155 ^{r,3}	15,083 ^{r,3}	15,000
Gravel	thousand cubic meters	11,000	11,000	13,229 ^{r,3}	16,152 ^{r,3}	16,000
Limestone and similar material	do.	25,000	25,000	25,000	25,000	25,000
Marble (includes alabaster) blocks	cubic meters	140,000	140,000	400,630 ^{r,3}	400,771 ^{r,3}	400,000
Sand:						
Industrial sand (glass sand)		600	640 ³	650	650	650
Construction sand		21,000	21,000	21,000	21,000	21,000
Sandstone	thousand cubic meters	10	10	60 ^{r,3}	1,125 ^{r,3}	1,100
Sulfur:						
Elemental, byproduct	metric tons	4,500	4,500	4,500	4,500	4,500
Sulfuric acid, S content		220	220	220	220	200
Talc, soapstone, pyrophyllite	metric tons	45,529 ³	40,000	54,145 ^{r,3}	38,780 ^{r,3}	40,000
Vermiculite	do.	12,000	12,000	12,000	12,000	12,000
MINERAL FUELS AND RELATED MATERIALS						
Coal		58	139 ³	100	75	75
Coke		1,400	1,406 ³	1,400	1,400	1,400
Gas, natural:						
Gross production	million cubic meters	27,700	30,969 ³	31,000	31,000	31,000
Dry	do.	19,605 ³	17,680 ³	18,000	18,000	18,000
Petroleum:						
Crude, including condensate	thousand 42-gallon barrels	221,350 ^{3,4}	221,219 ^{3,4,5}	216,956 ^{3,4,5}	222,000 ^r	220,000
Refinery products:						
Liquefied petroleum gas	do.	6,705 ^{3,4}	6,763 ^{3,4,6}	4,662 ^{r,3,6}	13,943 ^{r,3}	14,000
Gasoline and naphtha	do.	51,572 ^{3,4}	53,210 ^{3,4,7}	58,772 ^{r,3}	60,417 ^{r,3}	60,000
Kerosene and jet fuel	do.	19,579 ^{3,4}	19,335 ^{3,4}	19,233 ^{r,3}	20,485 ^{r,3}	21,000
Distillate fuel oil	do.	57,457 ^{3,4}	61,060 ^{3,4}	61,000	61,000	61,000
Residual fuel oil	do.	66,687 ^{3,4}	68,884 ^{3,4}	69,000	69,000	69,000
Lubricants	do.	1,960 ^{3,4}	1,855 ^{3,4}	2,590 ^{r,3}	2,576 ^{r,3}	2,600
Asphalt	do.	5,484 ^{3,4}	5,709 ^{3,4}	5,800	5,800	5,800
Unspecified ⁸	do.	2,139 ^{3,4}	2,155 ^{3,4}	2,200	2,200	2,200
Total	do.	211,583 ^{3,4}	218,971 ^{3,4}	223,257 ^{r,3}	235,421 ^{r,3}	235,600

^pPreliminary. ^rRevised. -- Zero.

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

²Table includes data available through January 2008. In addition to those listed, Egypt produced a number of commodities for which data were unavailable; these include gemstones, a number of metals, such as gold; lead, which was produced from recycled material; zinc; and manufactured mineral commodities, such as carbon black and glass.

³Reported figure.

⁴Source: Ministry of Petroleum of the Arab Republic of Egypt.

⁵Excluding condensate.

⁶Excluding product from fields.

⁷Gasoline only.

⁸Amounts needed to complete reported refinery products totals shown.

TABLE 2
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2006

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity	
Aluminum	Aluminium Co. of Egypt (Government, 80%, and private interests, 20%)	Nag Hammadi	230.	
Aluminum, secondary	The Egyptian Copper Co.	Alexandria	50.	
Carbon black	Alexandria Carbon Black Co. (Egyptian Holding Co. for the Chemical Industry, 49%; Inco-Bharat, 36%; Grasim Industries 15%)	do.	20.	
Cement	Amirya Cement Co.	do.	2,500.	
Do.	Cemex Egypt	Assiut	5,000.	
Do.	Arab Swiss Engineering Co. (ASEC) (Suez Cement Co., 68.7%)	Helwan	2,800.	
Do.	do.	El Minya	200.	
Do.	Egyptian Cement Co. (Orascom Group, 40%; private interests, 40%; Holderbank Financiere Glaris Ltd., 20%)	70 kilometers east of Cairo	1,400.	
Do.	Suez Cement Co. (Cements Français S.A., 54.2%)	Suez	3,000.	
Do.	do.	Qattamiah	2,500.	
Do.	do.	Tourah	2,500.	
Do.	Alexandria Portland Cement Co. (Government 77%, and private interests, 23%)	El Mex	800.	
Do.	National Cement Co. (Government, 77%, and private interests, 23%)	El Tabbin	4,000.	
Do.	do.	Beni Suef	1,000.	
Fertilizers, nitrogenous	Abu Qir Fertilizer & Chemical Industries Co. [private and public interests, 80.9%, and Egyptian General Petroleum Corp. (EGPC), 19.1%]	Abu Qir A	660 (ammonia); 760 (ammonia nitrate).	
Do.	do.	Abu Qir B	300 (ammonia); 500 (urea).	
Do.	do.	Abu Qir C	330 (ammonia); 600 (urea).	
Do.	Société El-Nasr d'Engrais et d'Industries Chimiques (Government, 100%)	Suez	146 (ammonia); 450 (nitric acid); 365 (ammonia nitrate).	
Do.	do.	Talkha	330 (ammonium nitrate); 570 (ammonia and urea).	
Do.	Egyptian Chemical Industries (Government, 100%)	Kima	330 (ammonia); 600 (nitric acid); 800 (ammonium nitrate).	
Iron ore	Egyptian Iron and Steel Co. (Government, 100%)	El-Gedida Mine, El Bahariya	3,000.	
Iron oxide	El-Nasr Mining Co. (Holding Company for Metallurgical Companies, 100%)	Mines near Sinai and Aswan	150.	
Natural gas	million cubic meters	Egyptian General Petroleum Corp. (EGPC) (Government, 100%)	Abu Madi	3,800.
Do.	do.	do.	Badreddin-3	3,000.
Do.	do.	do.	Abu Qir/Naf	1,900.
Do.	do.	do.	Ras Shukheir	1,600.
Do.	do.	Grupo Khalda (Repson Group, 50%; Apache Oil Co., 40%; Samsung Inc., 10%)	Khalda	24.
Petroleum, crude	million 42-gallon barrels	Gulf of Suez Oil Co. [Egyptian General Petroleum Corp. (EGPC), 50%, and Amoco Inc., 50%]	October, Suez Gulf	45.
Do.	do.	do.	El Morgan, Suez Gulf	27.
Do.	do.	Belayim Petroleum Co. [Egyptian General Petroleum Corp. (EGPC), 50%, and International Egyptian Oil Co., 50%]	Belayim, Suez Gulf	65.
Do.	do.	Suez Oil Company [Egyptian General Petroleum Corp. (EGPC), 50%; Deminex SA, 25%; Repsol S.A., 25%]	Ras Budran, Suez Gulf	15.

TABLE 2--Continued
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2006

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Petroleum, pipeline	do.	Arab Petroleum Pipeline Co. (Egypt, 50%; Saudi Arabia, 15%; Kuwait, 15%; United Arab Emirates, 15%; Qatar, 5%)	Ain al-Sokhna to Sidi Kir	875.
Petroleum, refined	do.	Cairo Petroleum Refining Co. (Government, 100%)	Mostorod	42.
Do.	do.	do.	Tanta	15.
Do.	do.	Alexandria Petroleum Co. (Government, 100%)	Alexandria	42.
Do.	do.	El-Nasr Petroleum Refining Co. (Government, 100%)	Suez	36.
Do.	do.	Ameriya Petroleum Refining Co. (Government, 100%)	Ameriya	27.
Do.	do.	Suez Petroleum Processing Co. (Government, 100%)	Suez	21.
Do.	do.	Asyut Petroleum Refining Co. (Government, 100%)	Asyut	18.
Phosphate rock		El-Nasr Mining Co. (Holding Company for Metallurgical Companies, 100%)	Mines at East Sabaiya, West Sabaiya and El Qusier	1,000.
Steel		Ezz El-Dekheila Group (EZDK) (Alexandria Iron and Steel Co., Al Ezz Flat Steel Co., and Al Ezz Steel Rebars)	Plants at Alexandria, Sadat City and Suez	4,500.
Do.		Egyptian Iron and Steel Co., Hadisob (Government, 100%)	Helwan steel plant	1,500.