



# 2014 Minerals Yearbook

---

## EGYPT

---

# THE MINERAL INDUSTRY OF EGYPT

By Mowafa Taib

In 2014, Egypt was Africa's second-ranked producer of natural gas after Algeria and the fourth-ranked producer of crude oil after Nigeria, Angola, and Algeria. Egypt was also Africa's leading producer of direct-reduced iron (DRI) and the second-ranked crude steel producer after South Africa. Furthermore, the country was an important producer of cement, nitrogen fertilizer, and phosphate rock. Metal and mineral-based commodities produced by companies in Egypt included aluminum, ferroalloys, gold, iron ore, manganese, secondary copper, and tin. Egypt also produced such industrial minerals as barite, basalt, bentonite, dolomite, feldspar, fluorspar, granite, gypsum, ilmenite, kaolin, limestone, marble, quartz, salt, sand and gravel, sandstone, silica sand, soda ash, sulfur, and talc. The country's production of fuel minerals included coal, crude oil and condensate, and refined petroleum products (table 1; BP p.l.c., 2015, p. 8, 22; Midrex Technologies, Inc., 2015, p. 7, 8; World Steel Association 2015, p. 2, 97).

The Egyptian Mineral Resources Authority (EMRA) estimated the country's major mineral resources to include 5.0 billion metric tons (Gt) of silica sand, 1.25 Gt of phosphate rock, 1.0 Gt of feldspar, 900 million metric tons (Mt) of iron ore, 224 Mt of nonferrous metals, and 150 Mt of bentonite. The EMRA also identified large quantities of such industrial minerals as limestone (587 Gt), clay (200 Gt), dimension stone (4.2 Gt), dolomite (1.2 Gt), and gypsum (1.0 Gt). Other mineral resources included quartz (60 Mt), ilmenite (40 Mt), nepheline syenite (26 Mt), coal (21 Mt), molybdenum (8 Mt), tin (2.5 Mt), strontium (2.2 Mt), and barite [162,000 metric tons (t)] (Egyptian Mineral Resources Authority, 2014, p. 10, 11).

## Minerals in the National Economy

In 2014, the gross domestic product (GDP) of Egypt, which had a nominal value of \$386.4 billion, increased slightly in real terms by 2.2% compared with an increase of 2.1% in 2013. The GDP rate of growth in each of the past 4 years was significantly less than that of 2010, which was 5.1%. The sluggish growth in 2011–14 was attributed to the weak performance in several economic sectors following the January 25th Revolution in 2011 and continued political instability in the country. In the fiscal year 2014 (July 1, 2013, through June 30, 2014), the share of the mining sector (which included the extraction of crude oil, natural gas, and other minerals) in the Egyptian economy decreased to 15.3% of the GDP from 16.5% in fiscal year 2013, and the share of the manufacturing sector, which included the manufacture of aluminum, cement, fertilizer, and iron and steel, and the refining of petroleum, increased to 16.8% of the GDP from 15.8% in fiscal year 2013. The share of the construction sector increased to 4.8% of the GDP from 4.6% during the same period of comparison. Mineral sector activity decreased at a rate of 5.5% in fiscal year 2014 compared with a decrease of 2.7% in fiscal year 2013, whereas activity in the construction and

the manufacturing sectors increased at rates of 8.3% and 5.6%, respectively (Central Bank of Egypt, 2015, p. 118).

In 2014, the flow of foreign direct investment (FDI) into Egypt increased by 14% to \$4.8 billion from \$4.2 billion following a 30% decrease in 2013. FDI inflows have fluctuated sharply in recent years, ranging from \$6.7 billion in 2009 to \$483 million in 2011. The sharp change was attributed to the political unrest that had taken place in Egypt as a result of the Arab Spring. Most of the FDI inflows to Egypt in 2014 went to the construction and petroleum sectors, and less than one-half (\$1.7 billion) went to greenfield projects. The flows of FDI out of Egypt decreased by about 16% to \$253 million in 2014 from \$301 million in 2013 (United Nations Conference on Trade and Development, 2015, p. A3, A7, A16).

## Government Policies and Programs

On December 8, 2014, the President of Egypt signed law No. 198, which became Egypt's new mining law. The new law was intended to address problems associated with the previous mining law, which was based on law No. 66 of 1953 and law No. 86 of 1956, and had been amended only twice (in 1957 and 1964). Investment law No. 8 of 1997 provided the legal framework for several mining companies that were established in the country in the early 2000s. Law No. 198 of 2014 protects investments in the country of both foreign and domestic companies against nationalization and provides incentives for investing in mining and in the manufacturing of fertilizer and petrochemicals in the country's free trade zones (Egyptian Mineral Resources Authority, 2015).

The new mining law, however, was criticized by some mining companies because it increases the annual exploration and exploitation fees for each square kilometer (km<sup>2</sup>) under the permit to 5,000 Egyptian pounds (\$700)<sup>1</sup> from 40 Egyptian pounds (\$5.6). The law also introduced a 5% royalty on annual production to be paid to the Government plus a 1% "corporate social responsibility" fee for local municipalities (Kabil, 2015).

In 2014, the Egyptian mineral industry was affected by a shortage of natural gas supply from Egyptian Natural Gas Holding Co. (EGAS), which had found it necessary to reduce natural gas allocations to such industries as cement, fertilizer, and steel manufacturing to offset increases in electricity consumption during peak consumption periods in summer. Natural gas accounted for 51.5% of the country's primary energy and generated 76.8% of its electricity in 2013. The increase in natural gas consumption coupled with a decrease in production caused a shift in Egypt's natural gas trade balance, and Egypt went from being a net exporter to being a net importer in recent years. Thus, the Government had to implement plans to import natural gas [in the form of liquefied

<sup>1</sup>Where necessary values have been converted from Egyptian pounds (EGP) to U.S. dollars (US\$) at the rate of EGP7.14=US\$1.00.

natural gas (LNG)] from Algeria and Russia and by pipeline from Israel. Additionally, Egyptian Natural Gas Holding Co. (EGAS) agreed to increase the price of natural gas it paid to such companies as Apache Corp. of the United States, BP p.l.c. of the United Kingdom, and Eni S.p.A. of Italy, which produced natural gas in Egypt, to enable the development of recently discovered gasfields in the country. Moreover, the Government allowed mineral industries to import natural gas directly to meet their increased demand (Thomson Reuters, 2014; U.S. Energy Information Administration, 2015; Meighan, 2016).

## Production

Notable increases in mineral commodity output in 2014 compared with that of 2013 included that of iron ore (by 48%), quartz (25%), asphalt (23%), marble (14%), silica (glass) sand and hot-rolled steel (9% each), and gold (6%). Notable decreases in mineral commodity production in 2014 compared with that of 2013 included that of liquefied petroleum gas (by 36%), ammonia and urea (17% each), DRI and wire rod (16% each), gross natural gas (13%), total refined petroleum products (7%), and phosphate rock (5%) (table 1).

## Structure of the Mineral Industry

The structure of the mineral industry of Egypt was mixed in terms of ownership. It included private, public, and state-owned companies. International mining and hydrocarbon companies formed joint ventures with local public and state-owned companies. Egypt's metals, industrial minerals, and mineral fuel industries were managed mainly by the Ministry of Petroleum and Mineral Resource (MPMR). The individual Governorates and the Egyptian armed forces, however, also had some control over the country's mineral resources. The MPMR had five independently managed entities—Egyptian General Petroleum Corp. (EGPC), EGAS, Egyptian Petrochemical Holdings Co., EMRA, and Ganoub El Wadi Holding Co. (Ganope). The EMRA was responsible for conducting geologic mapping and mineral exploration and for issuing mining permits; it held shares in three mining companies—Al Wadi Al Gadid Company for Mineral Resources and Oil Shale (Wadico), the Egyptian Company for Mineral Resources (ECMR), and Shalateen Mineral Resources Co. The mineral development strategy of EMRA was based on exploiting 60% of the country's mineral reserves within the next 30 years and leaving the remaining 40% untouched (table 2; Egyptian Mineral Resources Authority, 2014; Egyptian Company for Mineral Resources, 2015).

Wadico was formed in 2007 to develop oil shale and mineral resources in the New Valley in southwestern Egypt; its headquarters were located in Kharga City. The company's shareholders were Ganope (65%), Petrojet Co. (25%), Nile Petroleum Co. (5%), and EMRA (5%). Wadico had the capacity to produce unspecified quantities of ball clay, feldspar, iron oxides (hematite and limonite), kaolin, phosphate rock, quartz, and talc. The company planned to produce calcium carbonate for soda ash, granite, limestone for cement, and marble (Al Wadi Al Gadid Company for Mineral Resources and Oil Shale, 2016).

The Holding Company for Metallurgical Industries (HCMI) was an Egyptian joint-stock holding company organized to

operate under the provisions of the Public Enterprise law. It had several affiliates that included Aluminium Co. of Egypt (Egyptalum), Delta Steel Mill Co., Egyptian Co. for Metallic Construction, Egyptian Copper Works Co., Egyptian Ferroalloys Co., Egyptian Iron and Steel Co. (Hadisolb), El Nasr Coke and Chemicals Co., El Nasr Forging Co., El Nasr Mining Co., El Nasr Pipes and Fittings Co., and the General Co. for Ceramics and Porcelain. El Nasr Mining produced several mineral commodities, including ball clay, barite, clay, feldspar, fluorspar, gypsum, ilmenite, iron oxides, kaolin, magnesite, phosphate rock, quartz, and talc. The company exported mineral commodities from its three export ports at Abu Ghusun, Hamrawein, and Safaga on the Red Sea (table 2; Holding Company for Metallurgical Industries, 2015; El Nasr Mining Co., 2015).

## Mineral Trade

Egypt's total exports continued to decrease in value for the fourth year in a row; they decreased to \$26.8 billion in 2014 from \$28.8 billion in 2013, \$29.4 billion in 2012, and \$31.6 billion in 2011. The value of crude oil, natural gas, and petroleum products exports decreased to \$12.4 billion in 2014 from \$13.0 billion in 2013. Crude oil exports increased by 5.6% to \$7.7 billion in fiscal year 2014 from \$7.3 billion in fiscal year 2013, natural gas exports decreased by 58.9% to \$380 million from \$1.6 billion, and refined petroleum products decreased by 2.5% to \$3.9 billion from \$4.0 billion. Gold exports decreased to \$659 million in 2014 from \$901 million in 2013 and \$1.32 billion in 2012. Nitrogen fertilizers exports decreased by 40% to \$645 million in 2014 from \$1,087 million in 2013 (Central Bank of Egypt, 2015, p. 93; United Nations Statistics Division, 2015; U.S. Energy Information Administration, 2015).

In 2014, the value of Egypt's imports increased to \$71.3 billion from \$66.7 billion in 2013; the country's crude oil imports increased to about \$3.0 billion from \$2.0 billion in 2013, whereas the value of petroleum products imports (\$5.5 billion) did not change from that of 2013. The value of imports of natural gas and other petroleum gases decreased to \$1.0 billion from about \$1.6 billion in 2013. The value of steel imports, which was \$1.5 billion, was slightly lower than that of 2013. In terms of tonnage, Egypt imported 6.2 Mt of semifinished and finished steel; about 3.1 Mt of ingots and semis; 1.5 Mt, 1.2 Mt, and 328,000 t of long, flat, and tubular steel products, respectively; as well as 3.2 Mt of iron ore and 3.0 Mt of scrap (United Nations Statistics Division, 2015; World Steel Association, 2015, p. 57, 62, 72, 77, 104,109).

According to the latest available information by HCMI, the total mineral exports by HCMI's affiliated companies decreased by 20% to 3.0 Mt in fiscal year 2013 from about 3.8 Mt in fiscal year 2012. The value of HCMI's affiliated companies' mineral exports also decreased by 22% to \$725 million in fiscal year 2013 from \$931 million in fiscal year 2012. These exports included 183,000 t of aluminum products, which were produced by Egyptalum and valued at \$428 million; 44,800 t of ferroalloys, which were produced by Egyptian Ferroalloys and valued at \$40.2 million; 50,000 t of iron and steel products, which were produced by Hadisolb and valued at \$32 million; 4,400 t of aluminum and copper products, which were produced

by Egyptian Copper Works Co. and valued at \$14.8 million; and 23,600 t of coke, which was produced by El Nasr Coke and valued at \$10.2 million. El Nasr Mining Co.'s total exports amounted to about 2.7 Mt and were valued at \$187 million, including 2.6 Mt of phosphate rock valued at \$185 million, 17,200 t of ilmenite valued at \$1.0 million, and 9,600 t of talc valued at \$1.1 million (Holding Company for Metallurgical Industries, 2015).

Egyptian exports to the United States decreased for the third year in a row to \$1.4 billion in 2014 from \$1.6 billion in 2013 and \$3.0 billion in 2012. The main exports were fertilizers (valued at \$79 million), iron and steel products (\$19 million), stone, sand, and cement (\$16 million), aluminum (\$8 million), and sulfur (\$4 million). Egypt's imports from the United States increased by 25% to \$6.5 billion in 2014 from \$5.2 billion in 2013. The major mineral commodity and mineral-related imports were fuel oil (valued at \$991 million), steelmaking materials (\$286 million), chemicals (\$187 million), other petroleum products (\$143 million), and metallurgical-grade coal (\$44 million) (U.S. Census Bureau, 2015a, b).

## Commodity Review

### Metals

**Aluminum.**—Egyptaluminum was the country's sole producer of primary aluminum. The company was owned by HCMI (90%) and private investors (10%). The Egyptaluminum smelter consisted of 6 potlines that were updated to 552 cells and 12 potrooms. The smelter was located at Nag Hammadi in Qena Governorate, 200 kilometers (km) west of the Port of Safaga on the Red Sea. Egyptaluminum had the capacity to produce up to 320,000 metric tons per year (t/yr) of aluminum from imported alumina, including billet (95,000 t/yr); rolled products (85,000 t/yr); ingots, slabs, and Tee bar (35,000 t/yr); wire rods (75,000 t/yr); and foundry alloys and extrusion profiles (15,000 t/yr each). In 2014, the company produced 160,000 t of cathode block using 140,000 t of petroleum coke; most of the production was used by the company, and the remainder was exported (Egyptian Aluminium Co., 2015).

**Gold.**—In 2014, the Sukari Gold Mine Co. was the only gold mine in operation in Egypt. The mine was owned by a 50–50 joint venture of Centamin plc of the United Kingdom and ECMR. The company processed 8.4 Mt of ore and produced 11,733 kilograms (kg) (reported as 377,261 troy ounces) of gold compared with 5.7 Mt of ore processed, and 11,102 kg (reported as 356,943 troy ounces) of gold produced in 2013. The Sukari Mine began production as an open pit mine and, in 2011, was extended underground. The measured and indicated mineral resource at the Sukari Mine (open pit and underground combined) was 404 t (13 million troy ounces) of gold and the reserves were estimated to be 274 t (8.8 million troy ounces). Centamin completed a 10-million-metric-ton-per-year (Mt/yr)-capacity processing plant in the fourth quarter of 2014 and was building a second 11-Mt/yr-capacity processing plant, which would be completed by yearend 2015. The expansion plan was expected to increase the annual output to 16,000 kg (500,000 troy ounces) by 2017 for the projected 20-year life of the mine (Centamin plc, 2015).

The Hammash Gold Mine, which is located 120 km west of Marsa Alam in southeastern Egypt, remained closed in 2014. The mine produced 465 kg of gold in 2010 and 60 kg of gold in 2009 and was operated by Hammash Misr for Gold Mines, which was a 50–50 joint venture between Matz Holdings Ltd. of Cyprus and ECMR. Matz Holdings has been exploring for the Hammash and the West Dungash concessions, which are located in the Eastern Desert. In 2014, the company carried out a 5,750-meter (m) drill program at the West Dungash to identify 9,300 kg of gold resources at Abu Murywaha in the East Dungash deposit. Matz Holdings planned to start a prefeasibility study for constructing a gold mine on the West Dungash deposit, which held estimated measured and indicated resources of between 6,200 and 9,300 kg of gold (Matz Holdings Ltd., 2015).

Thani Stratex Resources Ltd. was a partnership of Thani Emirates Resources Holdings (Thani) (60% interest) and Stratex International Plc of the United Kingdom (40%) that was formed in October to focus on gold mine development in Djibouti, Egypt, and Ethiopia. Thani was exploring for gold at the Wadi Kareem Block, which covered 8,418 km<sup>2</sup> and is located 45 km southwest of Marsa Alam, and at the Hodine Block, which covered 2,350 km<sup>2</sup> and is located 45 km southwest of Bernice on the Red Sea coast in southeastern Egypt. Alexander Nubia Inc. of Canada was focused on developing the gold resources of the Arabian-Nubian Shield. The company has been exploring for gold at four blocks in eastern Egypt; these included the Abu Marwat, the Abu Zawal, the Hamama, and the Rouh Al Hadid blocks (Egyptian Mineral Resources Authority, 2014, p. 13; Stratex International Plc, 2014; Alexander Nubia Inc., 2015).

**Iron and Steel.**—Egypt's production of continuously cast steel decreased by 4% to 6.5 Mt in 2014 from about 6.8 Mt in 2013. Most of the steel production (92%) was carried out by electric arc furnaces (EAFs), and the remaining 8% was produced by oxygen-blown converters. Production of hot-rolled steel increased to 8.1 Mt from about 7.4 Mt in 2013; of this amount, 78% was long products, 12% was wire rod, and 10% was flat products. Al Ezz Steel Rebars S.A. (Ezzsteel), which owned a majority stake in Al Ezz Dekheila Steel Co., Al Ezz Flat Steel Co., and Al Ezz Rolling Mills, S.A.E., continued to be the country's leading producer of steel and had a total capacity of 5.8 Mt/yr of steel products. Ezzsteel had four steel plants in Egypt—the Alexandria plant, which had the capacity to produce 3.0 Mt/yr of flat steel, reinforcing-steel bar (rebar), and steel wire; the Suez plant, which was completed in 2011 and had the capacity to produce 1.3 Mt/yr of flat steel; the Sadat City plant, which produced 1.0 Mt/yr of rebar; and the Tenth of Ramadan City plant, which produced 0.5 Mt/yr of rebar and steel wire (Al Ezz Steel Rebars S.A., 2015).

The second largest steel company in Egypt in terms of production capacity was Suez Steel Co. (Solb Misr), also known as Hadidna, which had the capacity to produce 2 Mt/yr of finished steel products and 1.95 Mt/yr of DRI. The company, which was located in the Suez Industrial Area on the Red Sea Bay, produced billet, DRI, rebar, and wire rods and coils. Solb Misr had its own lime plant, which had the capacity to produce 183,000 t/yr of lime for use by the company for steel production (Suez Steel Co., 2015).

The Industrial Investment Co. for Steel Plants Management Co. (IIC) and National Port Said Steel Co. (NPSS) were two of the companies that made up the Egyptian Steel Group. The IIC operated a steel mill that produced 300,000 t/yr of steel wire in Alexandria and was constructing an EAF plant at Beni Suef that would have the capacity to produce 830,000 t/yr of billets and a steel mill that would have the capacity to produce 530,000 t/yr of rebar. NPSS depended on billets from the local market and on imports to feed its 350,000-t/yr rebar mill in Port Said and was building an EAF plant that would be fed with scrap and would have the capacity to produce 830,000 t/yr of billet as well as a 530,000-t/yr steel mill to produce rebar. The plants were expected to be completed by 2017 (Egyptian Steel Group, 2015).

**Tantalum and Tin.**—In September, Gippsland ended its alluvial tin production at Abu Dabbab, which it had started in March 2012. The company attributed the ceasing of production to a 15% to 20% lower head grade than expected and to the failure to improve metal recovery in the final tin concentrate. The company produced 111 t of tin contained in concentrate in each of 2013 and 2014 compared with 100 t in 2012 (table 1; Gippsland Ltd., 2015).

The Abu Dabbab tantalum-tin-feldspar project was owned and operated by Tantalum Egypt J.S.C., which was a 50–50 joint venture of ECMR and Tantalum International Pty Ltd. (a wholly owned subsidiary of Gippsland Ltd. of Australia). The combined measured, indicated, and inferred resources of the Abu Dabbab deposit were estimated to be 44.5 Mt grading 250 grams per metric ton (g/t) tantalum pentoxide ( $Ta_2O_5$ ) and 0.09% tin at a cutoff grade of 100 g/t  $Ta_2O_5$  (Gippsland Ltd., 2014).

### **Industrial Minerals**

**Cement.**—In 2014, cement production in Egypt was estimated to be 49 Mt, which was slightly less than that of 2013 and 11% less than that of 2012. The decrease in production was attributed to the increase in the cost of fuel and to shortages in the fuel supply. By yearend 2014, the country had 24 cement plants with a total (combined) production capacity of 82 Mt/yr (International Cement Review, 2015, p. 123).

In 2014, ASEC Minya Cement Co. achieved a full year of production at its greenfield cement plant, which was located 200 km south of Cairo in the Governorate of El Minya. The plant, which was completed in late 2013, had the capacity to produce 1.5 Mt/yr of clinker and 2.0 Mt/yr of cement. The plant was owned by ASEC Cement Co. S.A.E. (45.1% interest), Safari Investments (30.7%), Misr Qena Cement Co. (13.9%), Denmark's Investment Fund for Developing Countries (9.2%), and others (1.1%). ASEC Cement also owned a 27.55% interest in Misr Qena Cement Co., which operated a cement plant located at El Quseir in the Governorate of Qena. The plant had been producing about 2 Mt/yr of cement since 2010 (ASEC Cement Co. S.A.E., 2014, p. 3; International Cement Review, 2015, p. 123).

South Valley Cement Co., which operated a cement plant in Beni Suef Industrial Zone south of Cairo, was adding two 1.5-Mt/yr-capacity lines. The first line was expected to be completed by 2015, and the second line, by 2017. The Egyptian

armed forces were expanding their cement plant at El Arish in Northern Sinai Governorate by constructing two new production lines. The expansion project was expected to be completed by 2015 (International Cement Review, 2015, p. 123)

**Nitrogen.**—Production of ammonia and urea decreased significantly in 2014 compared with that of 2013. The decrease was attributed to shortages in the supply of natural gas by the EGAS to fertilizer and chemical companies in the country. Nine companies produced a combined total of 2.65 Mt of ammonia (2.2 Mt of nitrogen content) in Egypt in 2014, which was 17% less than production in 2013. The top producers of ammonia included Abu Qir Fertilizer & Chemical Industries Co., which was responsible for about 40% of the country's total production; Helwan Fertilizer Co. (12%); Egyptian Fertilizers Co. and Misr Fertilizer Production Co. S.A.E. (MOPCO) (10% each). Other producers included Egyptian Chemical Industries-KIMA, El Delta Company for Fertilizers and Chemical Industries (ASMEDA), El Nasr Fertilizers and Chemicals Co. (SEMADCO), and Egyptian Basic Industries Corp. (EBIC) (Arab Fertilizer Association, 2015, p. 35).

Six companies produced 3.3 Mt of urea (1.5 Mt of urea-nitrogen content) in 2014, which was 17% less than in 2013. Abu Qir Fertilizer & Chemical Industries Co. was the leading producer of urea and accounted for 33% of the country's total production, followed by Egyptian Fertilizers Co. (EFC) (19%), Helwan Fertilizer Co. (about 16%), MOPCO (13%), Alexandria Fertilizer Co. (Alexfert) (11%), and El Delta Co. (9%) (Arab Fertilizer Association, 2015, p. 37, 40).

In 2014, MOPCO was building two additional ammonia production units at the Rehab Industrial Free Zone after securing a \$1 billion loan to triple its urea production capacity to about 2 Mt/yr from 650,000 t/yr by yearend 2015. MOPCO's shareholders included Egyptian Petrochemicals Holding Co., EGAS, the National Investment Bank, the National Bank of Egypt, Misr Insurance Co., Misr Life Insurance, Nasser Social Bank, and the Arab Petroleum Corp. (Arab Finance, 2015).

OCI N.V. of the Netherlands produced ammonia, granulated urea, and other nitrate fertilizers at its plants in Egypt. OCI had a majority ownership in two nitrogen fertilizer companies in Egypt—Egyptian EBIC and EFC. The EBIC plant at Ain Al-Sokhna was 60% owned by OCI and had the capacity to produce 730,000 t/yr of anhydrous ammonia. The export-focused plant had a dedicated 8-km pipeline from the plant to a refrigerated bulk liquid export jetty on the Suez Canal. EFC's plant, which was wholly owned by OCI, completed a debottlenecking project that increased the production capacity to 1.55 Mt/yr of urea from 1.3 Mt/yr. The plant had the capacity to produce 325,000 t/yr of ammonium nitrate fertilizer (OCI NV., 2015).

**Phosphate Rock.**—In 2014, the gross weight of phosphate rock produced in Egypt decreased to 5.6 Mt from 5.9 Mt in 2013. El Nasr Mining was the main phosphate rock producer in the country and had 60% to 70% of the market share. The company produced 4 Mt of phosphate rock from the East El Sebaáya Mine, the West El Sebaáya Mine, and the Red Sea Mine at El Quseir. El Nasr Mining owned two export ports on the Red Sea—the Port of Hamrawein and the Port of Abu Ghusun (El Nasr Mining Co., 2015).

Phosphate Misr Co. S.A.E (PMC) was the second-ranked producer of phosphate rock in the country, and its market share was about 21%. PMC produced 1.6 Mt of phosphate rock in 2014 and had the capacity to produce 2.5 Mt/yr of phosphate rock grading between 25% P<sub>2</sub>O<sub>5</sub> and 31% P<sub>2</sub>O<sub>5</sub>. The company operated the New Valley phosphate rock mines, which are located on the Abu Tartur plateau, at equal distance (650 km) from Cairo and the Port of Safaga on the Red Sea. Phosphate ores covered a 1,200-km<sup>2</sup> area, most of which had not been explored. Estimates of phosphate rock resources in the explored area of the plateau (about 120 km<sup>2</sup>) were 715 Mt. Other phosphate rock producers included Wadico and the National Co. for Mining and Quarries, whose shares in the market were 5% and 3%, respectively. In 2014, Egyptian fertilizer companies produced about 2.5 Mt of phosphate fertilizers, including single superphosphate and triple superphosphate; 100,000 t of phosphoric acid; and 53,000 t of diammonium phosphate (Ibrahim, 2014; Arab Fertilizer Association, 2015, p. 49, 53, 57; Phosphate Misr Co., 2015).

### *Mineral Fuels and Related Materials*

**Natural Gas.**—Egypt produced 48.7 billion cubic meters of gross natural gas in 2014, which was a 13% decrease from the 56.1 billion cubic meters produced in 2013 and about a 20% decrease from the 60.9 billion cubic meters produced in 2012. The country's proved natural gas reserves at the end of 2014 were estimated to be 1.8 trillion cubic meters and accounted for 1% of the world's total natural gas reserves. Egypt was responsible for 1.4% of the world's total natural gas production in 2014. Most of Egypt's natural gas production came from Mediterranean Sea blocks where the majority of the country's gas reserves are located. The remaining reserves are located in the Western Desert, the Gulf of Suez, and the Nile Delta. Twenty-three natural gas discoveries were made in Egypt in 2014 compared with 14 in 2013 and 19 in 2012 (BP p.l.c., 2015, p. 20, 22; Organization of Arab Petroleum Exporting Countries, 2015, p. 22).

**Petroleum.**—Unlike natural gas, petroleum production has been relatively steady in recent years. The output of crude oil (and condensate) increased slightly in 2014 to 717,000 barrels per day (bbl/d) from 714,000 bbl/d in 2013 and 725,000 bbl/d in 2010. Thirty-four oil discoveries were made in Egypt in 2014 compared with 41 in 2013. Egypt held 4.4 billion barrels of proved oil reserves. Egypt's petroleum production averaged about 715,000 bbl/d during the past 3 years, which was slightly less than the average production of 730,000 bbl/d in 2009. More than one-half of Egypt's crude oil production came from the Western Desert, and the remainder came from the Eastern Desert, the Gulf of Suez, the Mediterranean Sea, the Nile Delta, Upper Egypt (southern Egypt), and the Sinai Peninsula (BP p.l.c., 2015, p. 8.; Organization of Arab Petroleum Exporting Countries, 2015, p. 20; U.S. Energy Information Administration, 2015).

**Refined Petroleum Products.**—Egypt was the leading producer of refined petroleum products in Africa in terms of output. The country's total installed refining capacity in 2013 and 2014 was about 770,000 bbl/d of crude oil at its eight

petroleum refineries, which was significantly less than the average refining capacity of 922,000 bbl/d from 2010 through 2012. Therefore, the Government planned to increase its petroleum refining capacity by an additional 600,000 bbl/d by building two new refineries to meet the increased demand for refined petroleum products in the local market (Organization of Arab Petroleum Exporting Countries, 2015, p. 44; U.S. Energy Information Administration, 2015).

### **Outlook**

Much of the country's output of aluminum, cement, fertilizer, and iron and steel depend on the Government's ability to supply sufficient electricity, natural gas, and other mineral fuels for carrying out ordinary manufacturing operations. The Government is implementing plans to secure mineral fuels for use by industry and the public from domestic and international sources. With the exception of gold production, which is expected to increase to more than 15 t/yr by 2017, mining output in Egypt is not expected to change significantly during the next 5 years. No tantalum production is expected at the Abu Dabbab tantalum-tin-feldspar project in the short term following Gippssland's exit from the project in 2015. The Government was preparing for a new bidding round for the exploration and exploitation of such mineral commodities as carbonaceous shale, feldspar, kaolin, lead, nepheline syenite, quartz, tin, and zinc in the Eastern Desert and Sinai Peninsula (Egyptian Mineral Resources Authority, 2015).

### **References Cited**

- Alexander Nubia Inc., 2015, Projects: Alexander Nubia Inc. (Accessed December 29, 2015, at <http://www.alexandernubia.com/project/resource-development>.)
- Al Ezz Steel Rebars S.A., 2015, Plants: Al Ezz Steel Rebars S.A. Web page. (Accessed November 14, 2015, at <http://www.ezzindustries.com/main.asp?pageID=3>.)
- Al Wadi Al Gadid Company for Mineral Resources and Oil Shale, 2016, Mining: Al Wadi Al Gadid Company for Mineral Resources and Oil Shale. (Accessed February 26, 2016, at <http://www.wadico.net/index-3.html>.)
- Arab Fertilizer Association, 2015, Fertilizer statistical yearbook 2014: Cairo, Egypt, Arab Fertilizer Association, 92 p.
- Arab Finance, 2015, First MOPCO fertilizers production line to run next July—EICHEM: Arab Finance, March 6. (Accessed February 22, 2016, at <https://www.arabfinance.com/2015/pages/news/newsdetails.aspx?id=305325&lang=en&repcat=egngc>.)
- ASEC Cement Co. S.A.E., 2014, Annual report 2013: Cairo, Egypt, ASEC Cement, 48 p. (Accessed January 2, 2015, at <http://www.asecement.com/Admin/Attachment/ASEC%20Cement%20Annual%20Report%202013.pdf>.)
- BP p.l.c., 2015, BP statistical review of world energy: London, United Kingdom, BP p.l.c., June, 45 p. (Accessed August 25, 2015, at <http://www.bp.com/content/dam/bp/pdf/energy-economics/statistical-review-2015/bp-statistical-review-of-world-energy-2015-full-report.pdf>.)
- Centamin plc, 2015, Operational overview—Egypt: Centamin plc Web page. (Accessed March 24, 2015, at <http://www.centamin.com/centamin/operations/egypt/operational-overview>.)
- Central Bank of Egypt, 2015, Annual report 2013/2014: Cairo, Egypt, Central Bank of Egypt, 129 p. (Accessed February 19, 2016, at <http://www.cbe.org.eg/NR/rdonlyres/236CD24D-07CB-4999-AC8A-611F2BA36711/3018/AnnualReport20132015.pdf>.)
- Egyptian Aluminium Co., 2015, Catalog: Egyptian Aluminium Co., 26 p. (Accessed February 18, 2016, at <http://www.egyptalum.com.eg/pdf/1.pdf>.)
- Egyptian Company for Mineral Resources, 2015, Activities: Egyptian Company for Mineral Resources. (Accessed December 18, 2015, at <http://www.emraonline.com/companies/pages/view/56>.)

- Egyptian Mineral Resources Authority, 2014, Industrial investment opportunities in Egypt: Middle East and North Africa Mining Show, Dubai, United Arab Emirates, October 26–27, presentation, 45 p.
- Egyptian Mineral Resources Authority, 2015, Investment—Mining laws in Egypt: Egyptian Mineral Resources Authority Web page. (Accessed December 18, 2015, at <http://www.emraonline.com/investment/pages/view/48>.)
- Egyptian Steel Group, 2015, Group structure: Egyptian Steel Group. (Accessed December 20, 2015, at <http://www.egyptian-steel.com/About/Group-Structure.aspx>.)
- El Nasr Mining Co., 2015, Products: El Nasr Mining Co. (Accessed December 18, 2015, [http://elnasrmining.com/ar/index.php?option=com\\_content&view=article&id=48&Itemid=29](http://elnasrmining.com/ar/index.php?option=com_content&view=article&id=48&Itemid=29).)
- Gippsland Ltd., 2014, Projects—Abu Dabbab: Gippsland Ltd. (Accessed December 20, 2014, at <http://www.gippslandltd.com/Projects/AbuDabbab.aspx>.)
- Gippsland Ltd., 2015, Projects—Abu Dabbab alluvial tin: Gippsland Ltd. Web page. (Accessed December 20, 2015, at <http://www.gippslandltd.com/Projects/AbuDabbabAlluvialTin.aspx>.)
- Holding Company for Metallurgical Industries, 2015, Exports catalog: Holding Company for Metallurgical Industries Web page. (Accessed January 13, 2015, [http://www.micor.com.eg/Default\\_ar.aspx?ID=51](http://www.micor.com.eg/Default_ar.aspx?ID=51).)
- Ibrahim, Mahmoud, 2014, Rock phosphate from Egypt: Egptra Trading for Import and Export, May 10. (Accessed February 24, 2016, at <http://rockphosphatesfromegypt.blogspot.com>.)
- International Cement Review, 2015, Egypt, *in* Global Cement Review (11th ed.): Dorking, United Kingdom, International Cement Review, 386 p.
- Kabil, Maye, 2015, A positive step for mining?: AL-Ahram Weekly [Cairo, Egypt], January 8, no. 1228. (Accessed February 22, 2016, at <http://weekly.ahram.org.eg/News/10076/18/A-positive-step-for-mining-.aspx>.)
- Matz Holdings Ltd., 2015, Licences: Matz Holdings Ltd. (Accessed April 5, 2016, at <http://matzholdings.com/licences-location>.)
- Meighan Brendan, 2016, Egypt's natural gas crisis: Carnegie Endowment for International Peace, January 21. (Accessed February 23, 2016, at <http://carnegieendowment.org/sada/?fa=62534>.)
- Midrex Technologies, Inc., 2015, World direct reduction statistics 2014 : Midrex Direct Reduction Corp., 14 p. (Accessed December 15, 2015, at <http://www.midrex.com/assets/user/news/MidrexStatsbook201411.pdf>.)
- OCI N.V., 2015, Egyptian Fertilizers Company: OCI N.V. (Accessed December 14, 2015, at <http://www.oci.nl/oci-fcg/our-facilities/egyptian-fertilizers-company>.)
- Organization of Arab Petroleum Exporting Countries, 2015, Annual statistical report 2015: Organization of Arab Oil Exporting Countries, 148 p. (Accessed February 22, 2016, at [http://www.oapecorg.org/media/4897ce10-7de6-4c78-83b7-f66f3a60797d/-902085559/Annual\\_Statistical\\_Report/Annual\\_Statistical\\_Report\\_2015\\_-new.pdf](http://www.oapecorg.org/media/4897ce10-7de6-4c78-83b7-f66f3a60797d/-902085559/Annual_Statistical_Report/Annual_Statistical_Report_2015_-new.pdf).)
- Phosphate Misr Co., 2015, Ore reserves: Phosphate Misr Co. Web page. (Accessed December 20, 2015, at <http://phosphatemisr.com>.)
- Stratex International Plc, 2014, Stratex completes partnership deal with Thani Emirates Resource Holdings: Stratex International Plc, October 30. (Accessed February 26, 2016, at <http://www.stratexinternational.com/public/site/uploads/newsPDF-341.pdf>.)
- Suez Steel Co., 2015, Company profile: Suez Steel Co. (Accessed December 19, 2015, at <http://www.solbmisr.com/about-us/company-profile>.)
- Thomson Reuters, 2014, Egypt forecasts gas shortage next fiscal year: Thomson Reuters, February 3. (Accessed February 23, 2016, at <http://www.reuters.com/article/egypt-gas-idUSL5N0L82C920140203>.)
- United Nations Conference on Trade and Development, 2015, World investment report 2015: United Nations Conference on Trade and Development, 264 p. (Accessed January 2, 2016, at [http://unctad.org/en/PublicationsLibrary/wir2015\\_en.pdf](http://unctad.org/en/PublicationsLibrary/wir2015_en.pdf).)
- United Nations Statistics Division, 2015, International trade statistics yearbook 2014—Egypt: United Nations Statistics Division. (Accessed February 24, 2016, at [http://comtrade.un.org/pb/FileFetch.aspx?docID=5716&type=country pages](http://comtrade.un.org/pb/FileFetch.aspx?docID=5716&type=country%20pages).)
- U.S. Census Bureau, 2015a, U.S. exports to Egypt by 5-digit end-use code 2005–2014: U.S. Census Bureau. (Accessed December 18, 2015, at <https://www.census.gov/foreign-trade/statistics/product/enduse/exports/c7290.html>.)
- U.S. Census Bureau, 2015b, U.S. imports from Egypt by 5-digit end-use code 2005–2014: U.S. Census Bureau. (Accessed December 18, 2015, at <https://www.census.gov/foreign-trade/statistics/product/enduse/imports/c7290.html>.)
- U.S. Energy Information Administration, 2015, Egypt: U.S. Energy Information Administration country analysis brief, June 2. (Accessed February 23, 2016, at [http://www.eia.gov/beta/international/analysis\\_includes/countries\\_long/Egypt/egypt.pdf](http://www.eia.gov/beta/international/analysis_includes/countries_long/Egypt/egypt.pdf).)
- World Steel Association, 2015, Steel statistical yearbook 2015: World Steel Association, 122 p. (Accessed February 2, 2016, at [http://www.worldsteel.org/dms/internetDocumentList/bookshop/2015/Steel-Statistical-Yearbook-2015/document/Steel\\_Statistical\\_Yearbook\\_02015.pdf](http://www.worldsteel.org/dms/internetDocumentList/bookshop/2015/Steel-Statistical-Yearbook-2015/document/Steel_Statistical_Yearbook_02015.pdf).)

TABLE 1  
EGYPT: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Thousand metric tons unless otherwise specified)

| Commodity <sup>2</sup>                         | 2010             | 2011               | 2012                 | 2013                 | 2014    |
|--|------------------|--------------------|----------------------|----------------------|---------|
| METALS   |                  |                    |                      |                      |         |
| Aluminum, primary and secondary                | 319 <sup>r</sup> | 321                | 337                  | 307 <sup>r</sup>     | 300     |
| Copper, refined, secondary <sup>c</sup>        | 3                | 126                | 3                    | 3                    | 3       |
| Gold kilograms                                 | 9,847            | 6,304              | 8,148                | 11,102               | 11,733  |
| Iron and steel:                                |                  |                    |                      |                      |         |
| Iron ore and concentrate, gross weight         | 1,400            | 1,500              | 3,000                | 3,000                | 4,432   |
| Fe content (50%)                               | 700              | 750                | 1,500                | 1,500                | 2,216   |
| Metal:   |                  |                    |                      |                      |         |
| Pig iron                                       | 600              | 545 <sup>r</sup>   | 530 <sup>r</sup>     | 540 <sup>r</sup>     | 510     |
| Direct-reduced iron                            | 2,965            | 2,932              | 3,068                | 3,432                | 2,882   |
| Steel, crude                                   | 6,700            | 6,486              | 6,627                | 6,754                | 6,485   |
| Rolled, hot                                    | 7,939            | 6,588              | 7,265                | 7,438                | 8,137   |
| Wire rod                                       | 865              | 970                | 1,113                | 1,219                | 1,030   |
| Ferroalloys: <sup>c</sup>                      |                  |                    |                      |                      |         |
| Ferromanganese                                 | 37               | 30                 | 30                   | 30                   | 30      |
| Ferro silicon                                  | 26               | 52                 | 78                   | 78                   | 78      |
| Manganese ore:                                 |                  |                    |                      |                      |         |
| Gross weight                                   | 160              | 108                | 110                  | 110                  | 110     |
| Mn content                                     | 37               | 36                 | 40                   | 40                   | 40      |
| Tin, concentrate metric tons                   | --               | --                 | 100                  | 111                  | 111     |
| Titanium, ilmenite <sup>c</sup> do.            | 6,050            | --                 | --                   | 20,000               | 20,000  |
| INDUSTRIAL MINERALS                            |                  |                    |                      |                      |         |
| Barite metric tons                             | 1,170            | 1,168              | 1,170                | 1,200                | 1,200   |
| Cement, hydraulic, all types                   | 44,592           | 43,884             | 55,200               | 50,000               | 49,000  |
| Clays:   |                  |                    |                      |                      |         |
| Bentonite metric tons                          | 28,865           | 33,132             | 30,000               | 30,000               | 30,000  |
| Kaolin do.                                     | 304,200          | 300,000            | 300,000              | 300,000              | 300,000 |
| Feldspar, crude do.                            | 405,600          | 210,000            | 200,000 <sup>r</sup> | 200,000 <sup>r</sup> | 200,000 |
| Fluorspar do.                                  | 5,953            | 3,808              | 4,000                | 4,000                | 4,000   |
| Gypsum   | 2,000            | 2,138              | 2,200                | 2,200                | 2,200   |
| Lime <sup>c</sup>                              | 800              | 750 <sup>r</sup>   | 800                  | 800                  | 750     |
| Nitrogen:                                      |                  |                    |                      |                      |         |
| Ammonia, N content                             | 3,000            | 3,500              | 2,924                | 2,655                | 2,200   |
| Urea, N content                                | 2,310            | 2,225              | 2,000 <sup>r</sup>   | 1,813                | 1,500   |
| Phosphate:                                     |                  |                    |                      |                      |         |
| Phosphate rock                                 | 3,435            | 4,746              | 6,236                | 5,922                | 5,400   |
| P <sub>2</sub> O <sub>5</sub> content          | 1,030            | 1,400              | 1,835                | 1,777                | 1,620   |
| Phosphoric acid                                | --               | 21                 | 64                   | 65                   | 65      |
| Sand and gravel                                |                  |                    |                      |                      |         |
| Industrial sand (glass sand)                   | 401              | 389 <sup>r</sup>   | 448 <sup>r</sup>     | 322 <sup>r</sup>     | 350     |
| Sand and gravel thousand cubic meters          | 364 <sup>r</sup> | 62 <sup>r</sup>    | NA <sup>r</sup>      | 193 <sup>r</sup>     | 200     |
| Sodium compounds:                              |                  |                    |                      |                      |         |
| Salt   | 2,460            | 2,809 <sup>r</sup> | 2,802 <sup>r</sup>   | 2,194 <sup>r</sup>   | 2,200   |
| Soda ash                                       | 130 <sup>r</sup> | 130 <sup>r</sup>   | 130 <sup>r</sup>     | 130 <sup>r</sup>     | 130     |
| Soda, caustic                                  | 211 <sup>r</sup> | 213 <sup>r</sup>   | 224 <sup>r</sup>     | 165                  | 165     |
| Stone:   |                  |                    |                      |                      |         |
| Basalt thousand cubic meters                   | 243              | 245                | 245                  | 245                  | 245     |
| Dolomite                                       | 117              | 964 <sup>r</sup>   | 21 <sup>r</sup>      | 20 <sup>r</sup>      | 20      |
| Granite, dimension stone thousand cubic meters | 480              | 10 <sup>r</sup>    | 3 <sup>r</sup>       | 3 <sup>r</sup>       | 3       |
| Limestone                                      | 60 <sup>r</sup>  | 428 <sup>r</sup>   | 284 <sup>r</sup>     | 618 <sup>r</sup>     | 600     |
| Marble blocks thousand cubic meters            | 1 <sup>r</sup>   | 276 <sup>r</sup>   | 11 <sup>r</sup>      | 35 <sup>r</sup>      | 40      |
| Quartz   | 17 <sup>r</sup>  | 28 <sup>r</sup>    | 8 <sup>r</sup>       | 4 <sup>r</sup>       | 5       |
| Sandstone <sup>c</sup>                         | 400              | 400                | 400                  | 400                  | 400     |
| Sulfur:  |                  |                    |                      |                      |         |
| Elemental, byproduct                           | 50               | 50                 | 80                   | 80                   | 80      |
| Sulfuric acid, S content                       | 184              | 287                | 360 <sup>c</sup>     | 392                  | 400     |

See footnotes at end of table.



TABLE 1—Continued  
EGYPT: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Thousand metric tons unless otherwise specified)

| Commodity <sup>2</sup>                         | 2010                 | 2011                 | 2012                 | 2013                 | 2014                |
|--|----------------------|----------------------|----------------------|----------------------|---------------------|
| INDUSTRIAL MINERALS—Continued                  |                      |                      |                      |                      |                     |
| Talc, soapstone, pyrophyllite metric tons      | 35,474               | 12,935               | 10,000 <sup>c</sup>  | 10,000 <sup>c</sup>  | 10,000 <sup>c</sup> |
| Vermiculite do.                                | --                   | 2,865                | 3,000                | 3,000                | 3,000               |
| MINERAL FUELS AND RELATED MATERIALS            |                      |                      |                      |                      |                     |
| Gas, natural:                                  |                      |                      |                      |                      |                     |
| Gross production million cubic meters          | 61,300               | 61,400               | 60,900               | 56,100               | 48,700              |
| Dry do.  | 46,686 <sup>r</sup>  | 46,329 <sup>r</sup>  | 46,062 <sup>r</sup>  | 44,201 <sup>r</sup>  | 39,237              |
| Natural gas liquids thousand 42-gallon barrels | 57,962               | 39,785               | 35,077               | 35,077               | 35,077              |
| Petroleum:                                     |                      |                      |                      |                      |                     |
| Crude, including condensate do.                | 264,625              | 260,610              | 260,975              | 260,610              | 261,705             |
| Refinery products:                             |                      |                      |                      |                      |                     |
| Liquefied petroleum gas do.                    | 19,500 <sup>r</sup>  | 20,660 <sup>r</sup>  | 22,318 <sup>r</sup>  | 23,304 <sup>r</sup>  | 14,964              |
| Gasoline and naphtha do.                       | 64,683 <sup>r</sup>  | 63,753 <sup>r</sup>  | 59,923 <sup>r</sup>  | 59,898 <sup>r</sup>  | 57,501              |
| Kerosene and jet fuel do.                      | 17,184 <sup>r</sup>  | 16,478 <sup>r</sup>  | 13,164 <sup>r</sup>  | 14,282 <sup>r</sup>  | 13,837              |
| Distillate fuel oil do.                        | 65,752 <sup>r</sup>  | 66,573 <sup>r</sup>  | 60,060 <sup>r</sup>  | 56,233 <sup>r</sup>  | 55,816              |
| Residual fuel oil do.                          | 67,559 <sup>r</sup>  | 66,174 <sup>r</sup>  | 66,108 <sup>r</sup>  | 67,632 <sup>r</sup>  | 62,118              |
| Lubricants do.                                 | 2,600                | 2,600                | 2,600                | 2,500                | 2,500               |
| Asphalt do.                                    | 5,636 <sup>r</sup>   | 2,927 <sup>r</sup>   | 2,642 <sup>r</sup>   | 2,903 <sup>r</sup>   | 3,581               |
| Total do.                                      | 242,914 <sup>r</sup> | 239,165 <sup>r</sup> | 226,815 <sup>r</sup> | 226,752 <sup>r</sup> | 210,317             |

<sup>c</sup>Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. <sup>r</sup>Revised. do. Ditto. NA Not available. -- Zero.

<sup>1</sup>Table includes data available through December 31, 2015.

<sup>2</sup>In addition to the commodities listed, coal; gemstones; iron oxide pigments; methanol; metals, including lead (which was produced from recycled material) and zinc; mica; and manufactured mineral commodities, including carbon black and glass, were produced, but available information was inadequate to make reliable estimates of output.

TABLE 2  
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2014

(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 (Egyptalum)<br>(Government, 80%, and private interests, 20%)   | Nag Hammadi                              | 266.            |
| Aluminum, secondary | Egyptian Copper Co. (Holding Company for Metallurgical Industries)  | Alexandria                               | 50.             |
| Do.                 | Arab Aluminium Co. S.A.E.   | Ismaelia                                 | 15.             |
| Do.                 | Egyptian Aluminium Products Co. (Alumisr)   | Cairo                                    | 12.             |
| Do.                 | Egyptian Metal Works  | do.                                      | NA.             |
| Do.                 | General Metals Co.  | do.                                      | 6.              |
| Do.                 | Helwan Company for Non-Ferrous Industries   | Helwan                                   | 45.             |
| Do.                 | Al Saad Aluminium Co.   | Mostorod                                 | 10.             |
| Do.                 | Al Qantara for Ferrous Metals Co.   | Suez                                     | 25.             |
| Barite              | El-Nasr Mining Co. (Holding Company for Metallurgical Industries, 100%)   | NA                                       | NA.             |
| Do.                 | Rasheed Performance Minerals Group (RPM)  | Borg El Arab Industrial Development Zone | 100.            |
| Bentonite           | do.   | do.                                      | 225.            |
| Carbon black        | Alexandria Carbon Black Co. (Egyptian Holding Co. for the Chemical Industry, 49%; Inco-Bharat, 36%; Grasim Industries 15%)  | do.                                      | 20.             |
| Cement              | Egyptian Cement Co. (Lafarge S.A., 54%; private interests, 26%; Holcim Ltd., 20%)   | 70 kilometers east of Cairo              | 10,600.         |
| Do.                 | Amirya Cement Co. [Cimentos de Portugal, SGPS, S.A. (Cimpor)]   | do.                                      | 4,450.          |
| Do.                 | Assiut Cement Co. (Cemex Egypt)   | Assiut                                   | 4,752.          |
| Do.                 | Arab Swiss Engineering Co. (ASEC)<br>(Suez Cement Co., 68.7%)   | Helwan                                   | 3,615.          |
| Do.                 | Al-Arish Cement (Ministry of Defense)   | Al-Arish                                 | NA.             |
| Do.                 | TITAN Cement Egypt (TITAN Cement Co., 100%)   | Alexandria and Beni Suef                 | 3,300.          |
| Do.                 | Suez Cement Co. (Cements Français S.A., 54.2%)  | Suez                                     | 4,200.          |
| Do.                 | Helwan Cement Co. (Suez Cement Co., 98.69%)   | Helwan                                   | 4,500.          |
| Do.                 | Torah Portland Cement Co. (Suez Cement Co., 66.12%)   | Torah                                    | 4,625.          |
| Do.                 | Alexandria Portland Cement Co.<br>(Government, 77%, and private interests, 23%)   | El Mex                                   | 800.            |
| Do.                 | National Cement Co. (Government, 77%, and private interests, 23%)   | El Tabbin                                | 3,100.          |
| Do.                 | Misr Beni Suef Cement Co.   | Beni Suef                                | 2,800.          |
| Do.                 | Misr Qena Cement Co. (ASEC Cement, 27.55%; Misr Insurance Co., 10.85%; Egyptian Company for Investment Projects, 10.04%; Egyptian Kuwaiti Investment Co., 9.87%; Misr Company for Life Insurance, 9.37%; National Capital Holding Co., Egyptian Company for Financial Investment, 7.53%; National Investment Bank, 3.32%) | Qena                                     | 2,000.          |
| Do.                 | ASEC Minya Cement Co. (ASEC Cement, 45.1%; Safari Investments, 30.7%; Misr Qena Cement, 13.9%; Investment Fund for Developing Countries, 9.2%; others, 1.1%)  | El Minya                                 | 2,000.          |
| Do.                 | Sinai Cement Co. (Vicat Group)  | Sinai                                    | 1,500.          |
| Do.                 | South Valley Cement Co.   | do.                                      | 1,400.          |
| Do.                 | Sinai White Cement Co.  | do.                                      | 410.            |
| Do.                 | Arabian Cement Co. (Cementos La Union S.A.)   | Ain Al-Sokhna                            | 5,000.          |
| Coking coal         | El Nasr Coke and Chemicals Co. (Government, 100%)   | Helwan                                   | 1,400.          |
| Copper, refined     | Egyptian Copper Works Co. (Holding Company for Metallurgical Industries)  | Hagar El Nouatia,<br>Alexandria          | 130,000.        |
| Ferrosilicon        | Egyptian Ferroalloys Co.  | Idfo, Aswan                              | 50.             |

See footnotes at end of table.

TABLE 2—Continued  
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2014

(Thousand metric tons unless otherwise specified)

| Commodity               | Major operating companies and major equity owners  | Location of main facilities   | Annual capacity   |
|-------------------------|--|---|---|
| Fertilizer, nitrogenous | Abu Qir Fertilizer & Chemical Industries Co.<br>[Private and public interests, 80.9%, and Egyptian General Petroleum Corp. (EGPC), 19.1%]  | Abu Qir A   | 565 (ammonia),<br>365 (urea).                                   |
| Do.                     | do.  | Abu Qir B   | 876 (urea).   |
| Do.                     | do.  | Abu Qir C   | 330 (ammonia),<br>640 (urea).                                   |
| Do.                     | Alexandria Fertilizer Co. (Alexfert) (private, 80%, and Abu Qir Fertilizer & Chemical Industries Co., 20%)   | Alexandria  | 730 (ammonia),<br>720 (urea).                                   |
| Do.                     | Egypt Basic Industries Corp. (EBIC) (OCI N.V., 60%)  | Ain Al-Sokhna   | 725 (ammonia).  |
| Do.                     | Egyptian Chemical Industries-KIMA<br>(Chemical Industries Holding Co., 55.7%; public organizations, 39.2%; private investors, 5.5%)  | Aswan   | 330 (ammonia),<br>600 (nitric acid),<br>800 (ammonium nitrate). |
| Do.                     | Egyptian Fertilizers Co. (OCI N.V., 100%)  | Ain Al-Sokhna   | 800 (ammonia),<br>1,600 (urea).                                 |
| Do.                     | EL Delta Company for Fertilizers and Chemical Industries (ASMEDA) (Government, 100%)   | Talkha, Mansoura  | 400 (ammonia),<br>297 (nitric acid),<br>570 (urea).             |
| Do.                     | El Nasr Fertilizers and Chemicals Co. (SEMADCO) (Government, 100%)   | Attaka, Suez  | 132 (ammonia),<br>193 (nitric acid),<br>200 (ammonium nitrate). |
| Do.                     | Helwan Fertilizers Co. (private)   | Free zone, Helwan   | 438 (ammonia),<br>700 (urea).                                   |
| Do.                     | Misr Fertilizer Production Co. S.A.E. (MOPCO)<br>[Egyptian Petrochemical Holdings Co. (ECHEM), 30.75%; Agrium Inc., 26%; National Investment Bank, 12.82%; Egyptian Natural Gas Holding Co. (EGAS), 7.62%; others, 22.81%] | Damietta Public Free zone   | 876 (ammonia),<br>680 (urea).                                   |
| Fertilizer, phosphatic  | Abu Zaabal Fertilizers and Chemicals (private, 100%)   | Qalyubiyah  | 1,530 (superphosphate),<br>95 (phosphoric acid).                |
| Do.                     | Egyptian Financial and Industrial Co. (private, 100%)  | Kafr El Zayat   | 900 (superphosphate).   |
| Do.                     | do.  | Assiut  | 750 (superphosphate).   |
| Do.                     | Polyserve for Fertilizers and Chemicals (private, 100%)  | Cairo   | 320 (superphosphate).   |
| Do.                     | Suez Company for Fertilizers Production (Egyptian Financial and Industrial Co., 99.8%)   | Ain Al-Sokhna   | 600 (superphosphate),<br>20 (dicalcium phosphate).              |
| Fluorspar               | metric tons  | Egyptian Company for Mineral Resources (ECMR)   | NA  |
| Gold                    | kilograms  | Sukari Gold Mine Co. [Centamin plc, 50%, and Egyptian Company for Mineral Resources (ECMR), 50%]                | Sukari Gold Mine  |
| Do.                     | do.  | Hammash Misr for Gold Mines (Cypriot Matz Holdings, 50% and Egyptian Company for Mineral Resources (ECMR), 50%) | Hamash Gold Mine <sup>1</sup>                                   |
| Ilmenite                |  | El Nasr Mining Co. (Holding Company for Metallurgical Industries, 100%)   | NA  |
| Do.                     |  | Misr Quarried Development Co.   | NA  |
| Do.                     |  | Egyptian Company for Mineral Resources (ECMR)   | NA  |
| Iron:                   |  |   |   |
| Ore                     |  | Egyptian Iron and Steel Co. (Government, 100%)  | El-Gedida Mine, El Bahariya                                     |
| Oxides                  |  | El Nasr Mining Co. (Holding Company for Metallurgical Industries, 100%)   | Mines near Sinai and Aswan                                      |
| Direct-reduced          |  | Ezz El-Dekheila Steel Co. (EZDK) (Al Ezz Steel Rebars S.A., 55%)  | El-Dekheila I   |
| Do.                     |  | do.   | El-Dekheila II  |
| Do.                     |  | do.   | El-Dekheila III   |
| Do.                     |  | Egyptian Sponge Iron and Steel Co. (ESISCO)   | Sadat City  |
| Do.                     |  | Ezz Rolling Mill Co. S.A.E. (Ezz Steel Rebars S.A.)   | Alexandria and Suez   |
| Do.                     |  | Suez Steel Co. (Solb Misr)  | Suez  |

See footnotes at end of table.

TABLE 2—Continued  
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2014

(Thousand metric tons unless otherwise specified)

| Commodity         |                               | Major operating companies<br>and major equity owners   | Location of main facilities                              | Annual capacity |
|-------------------|-------------------------------|--|--|-----------------|
| Kaolin            |                               | El Nasr Mining Co. (Holding Company for Metallurgical Industries, 100%)  | Al Kalabash, Aswan                                       | 500.            |
| Lime              |                               | Suez Steel Co. (Solb Misr)   | Suez   | 183.            |
| Methanol          |                               | El Delta Co. for Fertilizers & Chemical Industries   | Talkha   | 24.             |
| Natural gas       | million<br>cubic meters       | Egyptian General Petroleum Corp. (EGPC)<br>(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 (Repsol YPF, S.A., 50%; Apache Oil Co., 40%; Samsung Corp., 10%)  | Khalda   | 24.             |
| <b>Petroleum:</b> |                               |  |  |                 |
| Crude             | thousand<br>42-gallon barrels | Gulf of Suez Oil Co. [Egyptian General Petroleum Corp. (EGPC), 50%, and BP p.l.c., 50%]  | October field, Suez Gulf                                 | 45,000.         |
| Do.               | do.                           | do.  | El Morgan field, Suez Gulf                               | 27,000.         |
| Do.               | do.                           | Belayim Petroleum Co. [Egyptian General Petroleum Corp. (EGPC), 50%, and International Egyptian Oil Co., 50%]  | Belayim field, Suez Gulf                                 | 65,000.         |
| Do.               | do.                           | Suez Oil Company [Egyptian General Petroleum Corp. (EGPC), 50%; Deminex SA, 25%; Repsol S.A., 25%]   | Ras Budran field, Suez Gulf                              | 15,000.         |
| Pipeline          | do.                           | Arab Petroleum Pipeline Co. (Governments of Egypt, 50%; Saudi Arabia, 15%; Kuwait, 15%; United Arab Emirates, 15%; Qatar, 5%)  | Ain Al-Sokhna to Sidi Kir                                | 875,000.        |
| Refined           | do.                           | Cairo Oil Refining Co. (CORC) (Government, 100%)   | Mostorod   | 51,830.         |
| Do.               | do.                           | do.  | Tanta  | 19,710.         |
| Do.               | do.                           | Alexandria Petroleum Co. (Government, 100%)  | Alexandria, El-Mex                                       | 41,975.         |
| Do.               | do.                           | El Nasr Petroleum Refining Co. (Government, 100%)  | Suez   | 36,500.         |
| Do.               | do.                           | Assiut Petroleum Refining Co. (Government, 100%)   | Assiut   | 18,250.         |
| Do.               | do.                           | Amreya Petroleum Refining Co. (Government, 100%)   | Amreya, Alexandria                                       | 27,375.         |
| Do.               | do.                           | Suez Petroleum Processing Co. (Government, 100%)   | Suez   | 24,820.         |
| Do.               | do.                           | Middle East Oil Refinery [Egyptian General Petroleum Corp. (EGPC), 78%; Engineering for Petroleum and Processing Industry (ENPPI), 10%; Petroleum Projects and Technical Consultations Co. (Petrojet), 10%; Suez Canal Bank, 2%] | Amreya Free Zone, Alexandria                             | 100,000.        |
| Phosphate rock    |                               | El Nasr Mining Co. (Holding Company for Metallurgical Industries, 100%)  | Mines at East El Sebaáya, West El Sebaáya, and El Quseir | 5,000.          |
| Do.               |                               | Phosphate Misr Co. S.A.E.  | Abu Tartur   | 2,500.          |
| Do.               |                               | El Wataneya for Mining and Quarries  | Aswan  | 2,100.          |
| Quartz            |                               | El Nasr Mining Co. (Holding Company for Metallurgical Industries, 100%)  | NA   | 235.            |
| Do.               |                               | Misr Quarried Development Co.  | Attaka Mountain  | NA.             |
| Do.               |                               | Egyptian Company for Mineral Resources (ECMR)  | Branice near Marsa Alam                                  | NA.             |
| Salt              |                               | El Nasr Salines Co.  | Burj Al-Arab   | 300.            |
| Do.               |                               | do.  | Sebika   | 2,000.          |
| Do.               |                               | El Mex Salines Co.   | El Mex   | 1,400.          |
| Do.               |                               | do.  | Port Said  | 350.            |
| Soda, ash         |                               | Salvoy Alexandria Sodium Carbonate S.A.E.  | Alexandria   | 130.            |
| Soda, caustic     |                               | Egyptian Petrochemical Co. [Egyptian General Petroleum Corp. (EGPC), 100%]   | do.  | 120.            |
| <b>Steel:</b>     |                               |  |  |                 |
| Crude             |                               | Al Ezz El-Dekheila Steel Co. (EZDK) (Al Ezz Steel Rebars S.A., 55%)  | do.  | 3,000.          |
| Do.               |                               | Egyptian Iron and Steel Co. (Hadisolb) (Government, 100%)  | Helwan steel plant                                       | 600.            |

See footnotes at end of table.

TABLE 2—Continued  
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2014

(Thousand metric tons unless otherwise specified)

| Commodity        | Major operating companies and major equity owners  | Location of main facilities  | Annual capacity |
|------------------|--|------------------------------|-----------------|
| Steel—Continued: |  |                              |                 |
| Crude—Continued  |  |                              |                 |
| Do.              | Suez Steel Co. (Solb Misr)   | Ain Al-Sokhna                | 2,000.          |
| Do.              | Beshay Steel Group   | Sadat City                   | 1,200.          |
| Flat             | Al Ezz Flat Steel Co. (AL Ezz Steel Rebar S.A., 55%)   | Suez                         | 1,300.          |
| Do.              | Egyptian Iron and Steel Co. (Hadisolb)<br>(Government, 100%)   | Helwan steel plant           | 1,000.          |
| Rebar            | Al Ezz Steel Rebars S.A.   | Sadat City                   | 1,000.          |
| Do.              | Al Ezz Rolling Mills S.A.  | Tenth of Ramadan City        | 500.            |
| Do.              | Delta Steel Mill Co.   | Qalyubiyah                   | 200.            |
| Do.              | Kandil Steel   | Tenth of Ramadan City        | 1,000.          |
| Do.              | Suez Steel Co. (Solb Misr)   | Ain Al-Sokhna                | 2,600.          |
| Do.              | National Port Said Steel   | Port Said                    | 350.            |
| Do.              | Misr National Steel Co.  | Heliopolis                   | 360.            |
| Do.              | Kouta Steel Group  | Port Said                    | 360.            |
| Do.              | Egyptian Steel Group   | do.                          | 350.            |
| Do.              | do.  | Alexandria                   | 300.            |
| Sulfuric acid    | Abu Zaabal Fertilizers and Chemicals (private, 100%)   | Qalyubiyah                   | 350.            |
| Do.              | Egyptian Financial and Industrial Co. (private, 100%)  | Kafr El Zayat                | 175.            |
| Do.              | do.  | Assiut                       | 205.            |
| Do.              | Egyptian Company for Phosphate and Compound Fertilizers (Egyphos)  | Edfu                         | 800.            |
| Do.              | El-Nasr Co. for Fertilizer & Chemical Industries (SEMADCO)   | Attaka                       | 300.            |
| Do.              | El Nasr Company for Intermediate Chemicals (NCIC)  | Alexandria                   | 165.            |
| Do.              | Middle East Oil Refinery [Egyptian General Petroleum Corp. (EGPC), 78%; Engineering for Petroleum and Processing Industry (ENPPI), 10%, Petroleum Projects and Technical Consultations Co. (Petrojet), 10%; Suez Canal Bank, 2%] | Amreya Free Zone, Alexandria | 20.             |
| Do.              | Suez Company for Fertilizers Production (Egyptian Financial and Industrial Co., 99.8%)   | Ain Al-Sokhna                | 425.            |
| Talc             | El Nasr Mining Co. (Holding Company for Metallurgical Industries, 100%)  | Aswan                        | 50.             |
| Do.              | TAS Flowrance Group  | do.                          | NA.             |
| Do.              | Egyptian Company for Mineral Resources (ECMR)  | Southeastern Desert          | NA.             |
| Tin              | metric tons<br>Tantalum Egypt J.S.C. [Tantalum International Pty Ltd, 50%, and Egyptian Company for Mineral Resources (ECMR), 50%]   | Abu Dabbab <sup>2</sup>      | 660.            |

Do., do. Ditto. NA Not available.

<sup>1</sup>On care-and-maintenance status.

<sup>2</sup>Production stopped as of September 2014.