



# 2013 Minerals Yearbook

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## EGYPT

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# THE MINERAL INDUSTRY OF EGYPT

By Mowafa Taib

In 2013, Egypt was Africa's second-ranked producer of natural gas after Algeria and the fifth-ranked producer of crude oil after Nigeria, Angola, Algeria, and Libya. Egypt was also Africa's second-ranked crude steel producer after South Africa and the world's eighth-ranked producer of direct-reduced iron (DRI). 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, secondary copper, ferroalloys, gold, DRI, iron ore, manganese, crude steel, 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. Egypt's production of fuel minerals included coal, crude oil and condensate, natural gas, and refined petroleum products (table 1; BP p.l.c., 2014, p. 8, 22; Midrex Technologies, Inc., 2014, p. 7).

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 heavy metals, and 150 Mt of bentonite. The EMRA also reported the presence of large quantities of such quarrying resources as limestone (586 Gt), clay (200 Gt), dimension stone (4.2 Gt), dolomite (1.2 Gt), and gypsum (1.0 Gt) (Egyptian Mineral Resources Authority, 2014).

## Minerals in the National Economy

In 2013, the Egyptian economy grew in real terms at a rate of 2.1% compared with 2.2% in 2012 and 5.1% in 2010. The sluggish growth in 2011–13 was because of weak performance in virtually all economic sectors following the January 25 Revolution in 2011 and continued political instability in the country. In 2013, the share of the mining sector, which included crude oil, natural gas, and other extracted minerals, in the Egyptian economy was 16.5% of the gross domestic product (GDP); the manufacturing sector, which included the aluminum, cement, fertilizer, and iron and steel industries, accounted for 15.8% of the GDP; and the construction sector accounted for 4.6% of the GDP. The mineral sector, including the extraction of hydrocarbons, contracted at a rate of 0.2% in 2012 whereas the manufacturing and construction sectors' rates of growth were 2.4% and 4.5%, respectively (Central Bank of Egypt, 2014, p. 124; MEED, 2015).

In 2013, the flow of foreign direct investment (FDI) into Egypt decreased by 19% to about \$5.6 billion from about \$6.9 billion (revised) in 2012. FDI inflows fluctuated sharply in recent years, ranging from \$9.5 billion in 2008 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 flows to Egypt in 2013 went to unspecified greenfield projects and to the petroleum sector. The flows of

FDI out of Egypt increased by about 43% to \$301 million in 2013 compared with \$211 million in 2012. The increase in FDI outflows in 2013 reversed the decrease in FDI outflows in both 2012 and 2011 (United Nations Conference on Trade and Development, 2014, p. 205, 218).

## Government Policies and Programs

In early 2013, the Government increased energy prices for industries, powerplants, and households to reduce the budget deficit, which amounted to \$26 billion in 2012, and to enable Egyptian General Petroleum Corp. (EGPC) to make debt payments to international crude oil and natural gas operators. In December, EGPC paid \$1.5 billion of the \$6 billion it owed to international oil companies. The EGPC debt, which amounted to \$7.5 billion in July 2014, led most international oil and gas operators to delay spending on existing and planned oil and gas projects in Egypt (U.S. Energy Information Administration, 2014).

A draft of the new mining law, which was prepared by the EMRA with the help of the International Finance Corp. of the World Bank Group in 2008, was still awaiting parliamentary and presidential approval as of yearend 2013. The new law was intended to address problems associated with the current mining law, which is based on law No. 66 of 1953 and law No. 86 of 1956, which 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. The proposed law protects investments in the country against nationalization of both foreign and domestic companies 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, 2013).

## Production

Notable increases in mineral commodity outputs in 2013 compared with those of 2012 included gold (36%), DRI (12%), steel rod (10%), sulfuric acid (9%), and urea (8%). Mineral commodities with notable decreases in production in 2013 compared with that of 2012 included refined petroleum products (by about 17%), ammonia (9%), and gross natural gas (8%) (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. The individual Governorates and the Egyptian Armed Forces,

however, also have some control over the country's mineral resources. The Ministry of Petroleum has five independently managed entities—EGPC, Egyptian Natural Gas Holding Co. (EGAS), Egyptian Petrochemical Holdings Co. (ECHEM), the EMRA, and Ganoube 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—El Wadi Al Gadid Company for Mineral Resources and Oil Shale (Wadico), Egyptian Company for Mineral Resources (ECMR), and Shalateen Mineral Resources Co. The mineral development strategy of the EMRA is based on exploiting 60% of the country's mineral reserves within the next 30 years and leaving the remaining 40% untouched (table 2; Egyptian Company for Mineral Resources, 2014; Egyptian Mineral Resources Authority, 2014).

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 General Co. for Ceramics and Porcelain. El Nasr Mining produced several mineral commodities, including ball clay, barite, clay, feldspar, fluorspar, gypsum, ilmenite, iron ore (mainly in the form of iron oxides), kaolin, magnesite, manganese, phosphate rock, quartz, and talc. The company exported mineral commodities from three export ports at Abu Ghusun, Hamrawein, and Safaga on the Red Sea (table 2; El Nasr Mining Co., 2014; Holding Company for Metallurgical Industries, 2014).

## Mineral Trade

In 2013, the value of Egypt's total exports decreased for a second year to \$28.8 billion from \$29.4 billion in 2012 and \$31.6 billion in 2011. The value of crude oil, natural gas, and petroleum products exports increased by 7% to \$12.0 billion in fiscal year 2012–13 (which runs from July 1 to June 30) from \$11.2 billion in fiscal year 2011–12. Crude oil exports increased by 25.3% to \$6.5 billion from \$5.2 billion, natural gas exports decreased by 20% to \$1.6 billion from \$2.0 billion, and refined petroleum products decreased by 2.5% to \$3.9 billion from \$4.0 billion during the same period. The volume of crude oil and condensate exports was 189,000 barrels per day (bbl/d) in 2013. The volume of liquefied natural gas (LNG) exports decreased by 44% to 3.8 billion cubic meters in 2013 from 6.8 billion cubic meters in 2012, extending the 30% decrease from the 9.7 billion cubic meters exported in 2011. Of Egypt's petroleum exports, 56% went to countries of the European Union; 28%, to India; and 13%, to China. The combined value of exports of chemicals, nitrogen fertilizer, phosphate-based fertilizers, and phosphate rock decreased to about \$1.08 billion from \$1.82 billion in 2012 and \$1.36 billion in 2011; gold exports decreased to \$901 million from \$1,319 million in 2012 and \$1,715 million in 2011; and exports of flat and rolled steel increased to \$341 million from \$324 million in 2012. Italy was the leading recipient of Egypt's exports followed by India, the

United States, Saudi Arabia, Turkey, France, Spain, and Japan (Central Bank of Egypt, 2014, p. 93; United Nations Statistics Division, 2014; U.S. Energy Information Administration, 2014).

In 2013, Egypt's imports decreased by 4.6% to \$66.7 billion from \$69.9 billion in 2012. The value of petroleum products imports increased by 5.9% to \$12.5 billion in 2012–13 from \$11.8 billion in 2011–12; the volume of refined petroleum products imports averaged about 170,000 bbl/d in 2013. The value of semifinished iron and steel products imports decreased to \$1.5 billion from \$1.6 billion in 2012, and that of other iron and steel products imports increased to \$1.135 billion from \$1.109 billion in 2012. The volume of exports of finished and semifinished steel products increased to 359,000 metric tons (t) from 271,000 t in 2012, and the volume of imports increased to 4.2 Mt from 3.6 Mt in 2012. Steel ingots and semifinished steel imports increased in tonnage to 2.6 Mt from 1.6 Mt in 2012. Egypt imported 3.8 Mt of iron ore in 2013 and 2.9 Mt of scrap compared with 4.2 Mt and 2.0 Mt, respectively, in 2012 (United Nations Statistics Division, 2014; U.S. Energy Information Administration, 2014; World Steel Association, 2014).

Total mineral exports by HCMI's affiliated companies decreased by 21% to 3.0 Mt in 2012–13 from about 3.8 Mt in 2011–13. The value of mineral exports by HCMI's affiliated companies also decreased by 22% to \$725 million in 2012–13 from \$931 million in 2011–12. These exports included 183,000 t of aluminum products, produced by Egyptalum and valued at \$428 million; 23,600 t of ferroalloys, produced by Egyptian Ferroalloys and valued at \$40.2 million; 50,000 t of iron and steel products, produced by Hadisolb and valued at \$32 million; 44,000 t of aluminum and copper products, produced by Egyptian Copper Works Co. and valued at \$14.8 million, and 23,600 t of coke, produced by El Nasr Coke and valued at \$10.2 million. Total exports by El Nasr Mining Co. 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, 2014).

Egyptian exports to the United States decreased sharply by 47% to \$1.6 billion in 2013 from \$3.0 billion in 2012. The main exports were, in order of value, oil products, gold, crude oil, and fertilizers. Egypt's imports from the United States decreased by about 6% to \$5.2 billion from \$5.5 billion in 2012. The major imports were, in order of value, wheat, oil products, cranes and bulldozers, and pumps and fans (U.S. Census Bureau, 2014).

## Commodity Review

### Metals

**Gold.**—In 2013, the 50–50 joint venture Sukari Gold Mine Co., which operated the Sukari gold mine, was owned by Centamin plc of the United Kingdom and ECMR. The company mined 11.7 Mt of ore, processed 5.7 Mt of ore, and produced 11,102 kilograms (kg) (reported as 356,943 troy ounces) of gold compared with 6.4 Mt of ore mined, 4.5 Mt of ore processed, and 8,175 kg (reported as 262,828 troy ounces) of gold produced in 2012. The Sukari gold mine is located about 23 kilometers (km) southwest of Marsa Alam in Egypt's eastern desert and was the first modern large-scale

operating gold mine in Egypt. The Sukari gold mine began production as an open pit mine and was extended underground in 2011. As of September 30, 2013, the combined open pit and underground mineral reserves of the Sukari gold mine were estimated to be 255 t (8.2 million troy ounces) of gold, which was a 19% decrease in total open pit and underground reserves of 314 t (10.1 million troy ounces) since December 31, 2011. The decrease in reserves was attributed to the depletion of the mine. The cost of the international price for fuel exceeded the expected Government-subsidized fuel price, which resulted in higher mining and processing costs that made the operation noneconomic. Centamin projected a 20-year mine life (Centamin plc, 2014a, p. 5, 18; b).

In 2012, the Egyptian Administrative Court ruled that Centamin's contract with ECMR to produce gold from the Sukari gold mine was invalid and cancelled Centamin's 30-year mine exploitation contract with the Government. Centamin appealed the court ruling to the Supreme Administrative Court and applied to suspend the enforcement of the decision during the appeal process. In March, the Supreme Administrative Court approved Centamin's request and allowed the continuation of operations at the Sukari gold mine during the appeal period. Centamin expected the legal dispute to be resolved by yearend 2014 (Centamin plc, 2013, p. 4; Rebelo, 2014).

The Hamash gold mine, which is located 100 km west of Marsa Alam in southeastern Egypt, remained closed in 2013. The mine had produced 465 kg of gold in 2010 and 60 kg of gold in 2009 and was operated by Hamash Misr for Gold Mines, which was a 50–50 joint venture between Matz Holding Limited Co. of Cyprus and ECMR. Hamash Misr was also involved with the Abu Tarda gold mine and the Um Eliga gold mine (Hamash Misr for Gold Mines, 2014).

**Iron and Steel.**—Egypt's production of continuously cast steel increased by 2% to 6.75 Mt in 2013 from 6.63 Mt in 2012. Most of the steel production (92%) was carried out by electric arc furnaces, and the remaining (8%) was produced by oxygen-blown converters. Production of hot-rolled steel increased to 7.4 Mt compared with about 7.3 Mt in 2012; of this amount, 85% was long products, and 15% 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 leading steel producer in Egypt and North Africa and had a total capacity of 5.8 million metric tons per year (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, reinforcing-steel bar (rebar), and steel wire; the Suez plant, which had been 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., 2014).

Suez Steel Co. (Solb Misr, also known as Hadidna) was the second largest steel company in Egypt in terms of production capacity, which was 2 Mt/yr of crude steel and 1.5 Mt/yr of finished steel products. The company produced billets, DRI, rebar, and wire rods and coils (Suez Steel Co., 2014).

Egyptian Steel Group, which depended on billet from the local market and on imports to feed its 300,000-metric-ton-

per-year (t/yr) rebar mill in Port Said, was planning an initial public offering in 2015. The group operated a second mill that produced 250,000 t/yr of steel wire in Alexandria. Egyptian Steel was seeking \$573 million to finance the construction of steel mills in Ain Al-Sokhna and Beni Suef, which would add 1.7 Mt/yr of rebar and 1 Mt/yr of billet to the company's production capacity by 2015. The company was building two electric arc furnace plants that would be fed with scrap and would each have the capacity to produce 850,000 t/yr of billet. The plants were expected to be completed by 2017 (Egyptian Steel Group, 2014).

**Tantalum and Tin.**—In February, a group of four Egyptian banks—Bank Audi, Banque du Caire, Banque Misr, and Commercial International Bank—agreed to finance the Abu Dabbab tantalum, tin, and feldspar project. In July, Banque du Caire dropped out of the consortium; the remaining three banks agreed to continue financing the project without replacing Banque du Caire. The Abu Dabbab tantalum, tin, and 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  $Ta_2O_5$ . The indicated mineral resources were estimated to be 17.3 Mt grading 250 g/t  $Ta_2O_5$  and 0.078% tin, and the inferred mineral resources were estimated to be 12 Mt grading 200 g/t  $Ta_2O_5$  and 0.03% tin (Gippsland Ltd., 2014a).

Based on a bankable feasibility study for the Abu Dabbab project that was completed in 2011, Tantalum Egypt planned to produce 420,000 kilograms per year (kg/yr) (925,000 pounds per year) of high-purity tantalum synthetic concentrate, known as SynCon (a tantalum concentrate that contains 55%  $Ta_2O_5$ ) and 2,300 t/yr of tin in concentrate in phase 1 of the project. In phase 2, the company expected to produce up to 2.4 Mt/yr of feldspar (Gippsland Ltd., 2013).

Gippsland continued alluvial tin production in 2013 at Abu Dabbab, which had started in March 2012. The company produced 111 t of tin contained in concentrate in 2013 compared with 100 t in 2012 (table 1; Gippsland Ltd., 2014b).

### *Industrial Minerals*

**Cement.**—In 2013, cement production in Egypt decreased by 9% to about 50 Mt from 55.2 Mt in 2012. The decrease in production was attributed to the increase in the cost of fuel and to shortages in supply. The country had 18 producers of cement and clinker with capacities of 65 Mt/yr and 61.8 Mt/yr, respectively (table 2; Arab Union of Cement and Building Materials, 2013).

In September, construction of the greenfield cement plant by ASEC Minya Cement Co., which was located 200 km south of Cairo in the Governorate of Al Minya, was completed. Production at the 1.5-Mt/yr-clinker-capacity plant and at the 2.0-Mt/yr-cement-capacity plant began in June. 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% stake in Misr Qena Cement Co., which operated a cement plant located at El Quseir in the Governorate of Qina. The plant had been producing about 2 Mt of cement annually since 2010 (ASEC Cement Co. S.A.E., 2014, p. 3).

**Nitrogen.**—Nine companies produced a combined total of 3.2 Mt of ammonia (2.7 Mt of nitrogen content) in Egypt in 2013, which was 9% less than that of 2012. The top producers of ammonia included Abu Qir Fertilizer and Chemical Industries Co., which was responsible for about 31% of the country's total production; Egyptian Fertilizers Co., which produced 12% of Egypt's ammonia output; and Alexandria Fertilizer Co. (Alexfert), Helwan Fertilizer Co., and Misr Fertilizer Production Co. S.A.E. (MOPCO, each of which produced 11% of the total output. 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), which accounted for 16%. Six companies produced 3.9 Mt of urea (1.8 Mt of urea-nitrogen content) in 2013, which was 5% more than that of 2012. Abu Qir Fertilizer and Chemical Industries Co. was the leading producer of urea and accounted for 20% of the country's total production, followed by Egyptian Fertilizers Co. (19%), Helwan Fertilizer Co. and MOPCO (15% each), Alexfert (14%), and El Delta Co. (11%) (Arab Fertilizer Association, 2014, p. 27, 32).

In 2013, MOPCO was building two additional urea trains at the Rehab Industrial Free Zone to triple its urea production capacity to 1.95 Mt/yr from 650,000 t/yr. MOPCO's wholly owned subsidiary Egyptian Nitrogen Products Company S.A.E. obtained a \$1.05 billion loan from a consortium of local banks to finance the expansion plan. Agrium Inc. of Canada, which held 26% interest in MOPCO, was expected to receive 507,000 t/yr of urea output and 39,000 t/yr of ammonia in lieu of its investment after the expansion work is completed. Most of Agrium's share of the output would be sold through a subsidiary of Agrium Europe (Agrium Inc., 2011, p. 3).

Orascom Construction Industries S.A.E. (OCI) of Egypt and the Netherlands produced ammonia, granulated urea, and other nitrate fertilizers at its plants in Egypt. OCI had a majority ownership in two nitrogen fertilizer plants at Ain Al-Sokhna near the city of Suez through its subsidiaries EBIC and Egyptian Fertilizers Co. (EFC). The EBIC plant at Ain Al-Sokhna was 60% owned by OCI and had the capacity to produce 0.7 Mt/yr of anhydrous ammonia. The 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 1.6 Mt/yr of urea from 1.3 Mt/yr (Orascom Construction Industries S.A.E., 2014).

**Phosphate Rock.**—In 2013, the gross weight of phosphate rock produced in Egypt amounted to 5.9 Mt, which was a decrease of 5% compared with that of 2012. About 70% of Egypt's total phosphate rock production was carried out by El Nasr Mining. The company produced about 4.1 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 facilities at ports on the Red Sea:

the Port of Hamrawein, which had the capacity to load vessels of up to 40,000 t, and the Port of Abu Ghusun, which had the capacity to load vessels of up to 10,000 t (Arab Fertilizer Association, 2014, p. 37; El Nasr Mining Co., 2014).

Phosphate Misr Co. S.A.E. (PMC), which was the country's second-ranked producer of phosphate rock, produced about 1.9 Mt of phosphate rock (about 32% of the country's total production) compared with 1.7 Mt in 2012. PMC 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. At yearend 2013, PMC had the capacity to produce 2.5 Mt/yr of phosphate rock (Arab Fertilizer Association, 2014, p. 41; Phosphate Misr Co., 2014).

### *Mineral Fuels*

**Natural Gas.**—Egypt produced 56.1 billion cubic meters of gross natural gas in 2013, which was about a 7.9% decrease from the 60.9 billion cubic meters produced in 2012 and about an 8.6% decrease from the 61.4 billion cubic meters produced in 2011. The country's proved natural gas reserves at the end of 2013 were estimated to be 1.8 trillion cubic meters and accounted for 1% of the world's total natural gas reserves. Egypt has been responsible for 1.7% of the world's total natural gas production in recent years. 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. Several natural gas discoveries have been reported in Egypt annually since 2008 (BP p.l.c., 2014, p. 20, 22; U.S. Energy Information Administration, 2014).

Dana Gas PJSC of the United Arab Emirates held three 100% operator licenses in three concessions (El Manzala, West El Manzala, and West El Qantara) and produced natural gas from 13 fields in the Nile Delta in 2013. Dana Gas was also a 50% operator partner in a producing field (Komombo) in upper Egypt. In 2013, the company produced 1.8 billion cubic meters of natural gas and 2.7 million barrels (Mbbbl) of petroleum liquids. The company also held a 26.4% interest in the Nile Delta Block. Egyptian Bahrain Gas Derivatives Co.'s natural gas liquids extraction plant in Ras Shukheir, which was owned by Dana Gas, remained stable and was not affected by the civil unrest in Egypt. The plant had the capacity to produce 130,000 t/yr of liquefied petroleum gas (LPG). Dana Gas has been ramping up its capital expenditure in Egypt despite the turmoil as the Government tried to encourage natural gas companies to increase output by promising them faster debt repayments (Dana Gas PJSC, 2014, p. 9, 19).

RWE Dea Egypt, a subsidiary of RWE Dea A.G. of Germany, produced its first gas from Egypt's Disouq concession, which is located in the Nile Delta in the Kafr ash Shaykh Governorate. The concession comprises seven natural gas fields in the area and produces a total of 11.4 billion cubic meters of natural gas. The natural gas from the Disouq concession was delivered to the Egyptian national grid. Production is expected to increase gradually during the commissioning period to about 1.4 million cubic meters per day of natural gas. A peak production level of between 4.0 and 4.5 million cubic meters per day is expected to

be attained in 2014 when the installation of an additional central treatment plant is completed (Petroleum Africa, 2013c).

In July, BP Egypt, a subsidiary of BP p.l.c. of the United Kingdom, announced a significant gas discovery in the East Nile Delta. The deepwater exploration well, called Salamat, was the deepest well ever drilled in the Nile Delta. Salamat was the first well in the North Damietta offshore concession awarded in 2010. BP Egypt had 100% equity in the concession, which is located about 75 km north of Damietta City and 35 km northwest of the Tamsah offshore facilities (BP p.l.c., 2013).

In July, BG Group p.l.c. of the United Kingdom announced that delays at its projects in Egypt would reduce the company's 2014 production by about 30,000 barrels of oil equivalent per day, equivalent to about 5% of 2013 output. BG Group attributed part of the expected downgrade in production to ongoing political and social instability in Egypt. BG Group depended on its operations in Egypt for about one-fifth of the company's output, which provides a source of revenue for its new projects in Australia and Brazil. Because of political unrest in Egypt in 2013 and because BG was owed \$1.3 billion by Egypt for domestic gas sales, the company was increasingly anxious about future investment in the country (Callus, 2013).

In 2013, Sea Dragon Energy Inc. of Canada was active in oil and gas exploration in four concessions in Egypt—NW Gemsa and Shikhier Marine in the Eastern Desert, South Disouq in the Nile Delta, and South Ramadan in the Gulf of Suez. In April, the company was awarded the South Disouq concession in the Nile Delta. The South Disouq concession is on trend with the prolific Abu Madi accumulations to the north, which contain both the giant Abu Madi gasfield, with more than 85 billion cubic meters of natural gas, and the offshore Mediterranean Baltim fields. This block is also in the same area of the Nile Delta where Sea Dragon discovered the large El Wastani field with more than 14 billion cubic meters of natural gas. The concession's areal extent is large at 1,275 square kilometers (km<sup>2</sup>), and the concession is estimated to have resources in excess of 42 billion cubic meters of natural gas. Once the awarded concession is approved by the Government, Sea Dragon intended to acquire 300 km<sup>2</sup> of three-dimensional (3-D) seismic survey data and to drill at least one exploratory well (Sea Dragon Energy Inc., 2014, p. 1, 8, 11–12).

In April, Union Fenosa Gas S.A. (UFG), which was a joint venture of Eni S.p.A. of Italy and Gas Natural of Spain, filed a complaint with an arbitration court over alleged nonpayment of bills by an Egyptian partner at an LNG plant in Egypt. UFG, which owned an 80% stake in the Damietta LNG plant, filed the complaint against EGAS with the International Chamber of Commerce's Court of Arbitration. EGAS and EGPC share the remaining stake (20%) in the LNG plant. The plant has stopped operating as Egypt held on to its natural gas supply for the domestic market as the economy continued to be weak amid political and social unrest in the wake of the Arab Spring (Rucinski, 2013).

**Petroleum.**—Fifty-five oil and gas discoveries were made in Egypt in 2013 compared with 86 in 2012; most of the discoveries in both years were oil discoveries. 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., 2014, p. 8; U.S. Energy Information Administration, 2014).

In December, EGPC and EGAS announced an international auction for 22 concessions for oil and gas exploration in accordance with production-sharing agreements. The concessions were for areas in the Suez Canal, the Mediterranean Sea, the Nile Delta, and the Western Desert. The auction was scheduled to end on May 19, 2014. The Government also approved seven new oil and gas exploration agreements with such companies as BP, Dana Gas, and Petroceltic International p.l.c. of Ireland, which could bring investments of at least \$1.2 billion to the sector (Daily News Egypt, 2013).

In January, the Government approved a plan by Dana Petroleum Ltd. of the United Kingdom to develop its Nefertiti field in the Gulf of Suez following the completion of an appraisal well. Dana Petroleum, a subsidiary of state-owned Korea National Oil Corp., had a portfolio of 17 development leases in Egypt producing about 12,000 bbl/d of crude oil. Dana Petroleum, in partnership with Inpex Corp. of Japan, had drilled the Nefertiti-2X at the end of 2012. The well tested at a maximum stabilized flow rate of 1,850 bbl/d of crude oil, and the field began producing about 2,500 bbl/d of crude oil in July (Petroleum Africa, 2013b).

In February, Eni made a new oil discovery at its Rosa North 1X well located in the Meleiha concession in the Western Desert of Egypt. Part of Eni's strategy was to refocus its exploration activities in the country by targeting deeper oil plays in the Western Desert. The discovery well encountered a total oil column of about 75 meters (m) in multiple sandstone layers in the Alam El Bueib, Bahariya, Khatatba, and Ras Qattara reservoirs. Eni followed up on the discovery by drilling two more wells. Production for each well was estimated to be 2,000 bbl/d of crude oil. Production at the Rosa North Field was expected to increase to 5,000 bbl/d of crude oil during 2013 (Rigzone, 2013a).

In February, Petroceltic, which held a 40% working interest in the Mesaha basin concession, plugged and abandoned its Mesaha-1 exploration well in Egypt after the firm did not find hydrocarbon indicators there. Petroceltic operated mainly in the onshore Nile Delta of Egypt where it held a 100% operating interest in 12 producing fields and 13 development contracts in the El Mansoura region and the South East El Mansoura exploration concession. In 2013, the company boosted its exploration portfolio in Egypt by adding three new concessions. As a result, Petroceltic acquired a 37.5% interest in the El Qa'a Plain Block on the eastern shore of the Gulf of Suez. The company also held a 75% operating interest in the onshore South Idku concession in the Nile Delta and a 50% interest in the offshore North Thekah concession (Rigzone, 2013b; Petroceltic International plc, 2014).

BG Group endorsed the following phase of development for the offshore West Delta Deep Marine (WDDM) concession, which is located north of the Mediterranean coast of Egypt. The company's two major producing assets in Egypt were

the WDDM and the Rosetta. Production at the Rosetta field was proceeding according to plan, whereas production at the WDDM was decreasing. The decrease in production in recent years was attributed to seawater encroachment into some oil wells (Petroleum Africa, 2013a).

In March, Sea Dragon Energy completed the Al Amir SE-14 ST2 well in the Rahmi sands and tested at 3,486 bbl/d of crude oil. The well was producing at a rate of 1,333 bbl/d of crude oil, resulting in an increase in the total gross crude oil production from the NW Gemsa concession of 11,420 bbl/d, including solution gas and natural gas liquids. The NW Gemsa concession is located onshore on the western side of the Gulf of Suez, about 300 km southeast of Cairo. Sea Dragon held a 10% working interest in the NW Gemsa concession with Vegas Oil and Gas S.A. of Greece, which held a 50% operating interest, and Circle Oil p.l.c. of Ireland, which held a 40% interest. In November, Sea Dragon Energy sold all the issued and outstanding shares of its indirect wholly owned subsidiary Sea Dragon Energy (Kom Ombo) Ltd. Sea Dragon Energy owned a 50% participating interest in the Kom Ombo concession, which is located about 1,000 km south of Cairo (Arabian Oil and Gas, 2013; Gulf Oil and Gas, 2013).

In June, Vegas Oil and Gas made an oil discovery at its Al Amir SE (AASE) field on the NW Gemsa concession. The AASE-17 well was drilled to a total depth of 2,972 m into the Upper Rudeis Formation and hit 3.6 m of net reservoir (sand intervals with useful reservoir properties) in the Kareem Shagar Sand and 4.8 m of net reservoir in the underlying Rahmi Sand. Concession partner Circle Oil reported that the well had been producing at an average rate of 3,665 bbl/d of crude oil and 0.4 million cubic meter per day of gas (Lewis, 2013).

In October, TransGlobe Energy Corp., which held exploration permits in the Eastern Desert and the Western Desert of Egypt, announced the ratification of four new production-sharing concessions (PSCs) into law by the Government. TransGlobe was awarded the four PSCs in the 2011–12 EGPC bidding round and held a 100% working interest in all four of them. Earlier in January, TransGlobe abandoned the Al Azayem 1 well on Egypt's South Mariut concession. The Al Azayem 1 well was the first of three wells planned by TransGlobe's South Mariut drilling program. The well was drilled to a depth of 4,917 m and was subsequently plugged and abandoned because no hydrocarbons were found in the primary reservoir. TransGlobe held 60% interest in the South Mariut concession (TransGlobe Energy Corp., 2013a, b).

In December, the Government signed a new exploration agreement with RWE Dea A.G. of Germany and Dove Energy Group Ltd. of the United Kingdom for petroleum and gas exploration to the east of Ras Badran in the Gulf of Suez. The agreement included the drilling of three new exploration wells in the exploration zone that covers 45.6 km<sup>2</sup>. RWE Dea held a total of 10 onshore and offshore concessions in Egypt that cover an area of about 3,700 km<sup>2</sup> (American Chamber of Commerce in Egypt, 2013; RWE Dea A.G., 2014).

In 2013, Apache Corp. of the United States operated 1,072 oil and gas wells, which accounted for 19% of Egypt's crude oil and natural gas production and 10% of total proven reserves of crude oil and natural gas. In May, Apache reported three new

discovery wells in the Western Desert of Egypt, which stretched the company's production base to the northeast of the North Ras Qattara concession and to the southwest in the Siwa concession. These discoveries included the NRQ 3151-1X, an Alamein basin discovery, which is located in the North Ras Qattara concession; the SIWA L-1X discovery, which is located in the Siwa concession in the Faghur Basin; and the NTRK-G-1X discovery, which is an exploratory well located in the North Tarek concession inside the Matruh basin. Apache held a 70% operator interest in the North Ras Qattara concession with IPR Group of the United States holding the remaining 30% (Apache Corp., 2013; 2014, p. 8).

In August, the company reported seven oil and gas discoveries in four geologic basins and six concessions south of the Mediterranean Sea in Egypt's onshore Western Desert. The largest discovery was the Riviera SW-1X discovery on the southern edge of the Abu Gharadig basin. It flowed 5,800 bbl/d of oil and 79 million cubic meters per day of natural gas from the Lower Bahariya sand. In November, Apache sold one-third of its Egyptian oil and gas business to state-owned China Petrochemical Corp. (Sinopec) for \$2.95 billion after Apache's investors expressed concerns over its exposure in Egypt. The purchase was one of Sinopec's biggest investments in the Middle East and was expected to increase the company's annual production by about 9% (Apache Corp., 2014, p. 8, 20).

**Refined Petroleum Products.**—Egypt was the leading producer of refined petroleum products in Africa. The U.S. Energy Information Administration reported that the country's total installed refining capacity in 2013 was 704,000 bbl/d of crude oil at its eight petroleum refineries. The country's output of refined petroleum products decreased by 28% between 2009 and 2013. 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 (U.S. Energy Information Administration, 2014).

Egyptian Refinery Co. (ERC) was a partnership company created to build a \$3.7 billion hydrocracking and coking refinery in Mostorod, which is located about 10 km northeast of Cairo. The partners in ERC included state-owned Cairo Oil Refining Co. (CORC; 40%), G.S. Engineering and Construction Corp. of the Republic of Korea (30%), and Mitsui and Co. of Japan (30%). The new refinery would take 4 years to build and would be built next to the existing CORC refinery within the Mostorod Petroleum Complex. The new ERC refinery would have the capacity to produce 4.2 Mt/yr of refined petroleum products, including 2.3 Mt/yr of Euro V diesel (equivalent to 60% of Egypt's current diesel imports) and 600,000 t/yr of jet fuel in a more efficient manner while eliminating 93,000 t/yr of sulfur dioxide emissions. Refinery products from both the new refinery and the upgraded existing refineries would be purchased by EGPC and delivered to consumption points in Cairo. Qatar Petroleum International held a 27.9% interest in the new refinery project, EGPC held a 23.8% interest, the private equity company of Qalaa Holdings (formerly Citadel Group) had an 11.7% interest, and the remaining shares were held by 10 international finance and development institutions. Progress on the ERC refinery project and on another new, 130,000-bbl/d refinery at

Ain Al-Sokhna was delayed during 2013 owing to political and civil unrest in the country (Egyptian Refining Co., 2014; Qalaa Holdings, 2014).

## Outlook

Much of the country's economic development and growth depends on the performance of the new Government that was installed in Egypt in 2014 and on the Government's ability to supply sufficient electricity, natural gas, and other mineral fuels to cement, fertilizer, and steel plants and to other economic sectors. Many investors remain unconvinced that the steps taken by the Government will improve the business climate of the country; several court cases have challenged contracts and agreements signed with previous governments. With the exception of gold production, which is expected to increase by about 20% by 2015, mining output in Egypt is not expected to change significantly during the next 5 years. No date for tantalum production at the Abu Dabbab tantalum, tin, and feldspar project has been announced yet because Gippsland is updating its processing plant feasibility study to account for the additional cost stemming from increases in fuel prices. On December 8, 2014, the President of Egypt signed law No. 198, which became Egypt's new mining law.

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

(Thousand metric tons unless otherwise specified)

Commodity <sup>2</sup>	2009	2010	2011	2012	2013 <sup>e</sup>
<b>METALS</b>					
<b>Aluminum, metal:</b>					
Primary	245 <sup>r</sup>	281 <sup>r</sup>	321 <sup>r</sup>	337 <sup>r</sup>	340
Secondary <sup>e</sup>	170	180	180	180	180
Total	415 <sup>r</sup>	461 <sup>r</sup>	501 <sup>r</sup>	517 <sup>r</sup>	520
Copper, refined, secondary <sup>e</sup>	111 <sup>3</sup>	3	126 <sup>3</sup>	3	3
Gold kilograms	95	9,847	6,304	8,148	11,102
<b>Iron and steel:</b>					
Iron ore and concentrate, gross weight	1,780 <sup>r</sup>	1,400 <sup>r</sup>	1,500 <sup>r</sup>	3,000 <sup>r</sup>	3,000
Fe content (50%)	890 <sup>r</sup>	700 <sup>r</sup>	750 <sup>r</sup>	1,500 <sup>r</sup>	1,500
<b>Metal:</b>					
Pig iron	800	600	600	550	550 <sup>3</sup>
Direct-reduced iron	3,051	2,965	2,932	3,068	3,432 <sup>3</sup>
Steel, crude	5,500	6,700	6,486	6,627	6,754 <sup>3</sup>
Rolled, hot	6,352	7,939	6,588	7,265	7,438 <sup>3</sup>
Wire rod	915	865	970	1,113	1,219 <sup>3</sup>
<b>Ferroalloys:<sup>e</sup></b>					
Ferromanganese	30	37	30	30	30
Ferrosilicon	47	26	52	78	78
<b>Manganese ore:</b>					
Gross weight	120 <sup>e</sup>	160	108	110	110
Mn content	40 <sup>e</sup>	37	36	40	40
Tin, concentrate metric tons	--	--	--	100 <sup>r</sup>	111 <sup>3</sup>
<b>INDUSTRIAL MINERALS</b>					
Barite metric tons	1,587 <sup>r</sup>	1,170 <sup>r</sup>	1,168 <sup>r</sup>	1,170 <sup>r</sup>	1,200
Cement, hydraulic, all types	46,900	44,592	43,884	55,200	50,000
<b>Clays:</b>					
Bentonite metric tons	35,384 <sup>r</sup>	28,865 <sup>r</sup>	33,132 <sup>r</sup>	30,000 <sup>r</sup>	30,000
Kaolin do.	523,300 <sup>r</sup>	304,200 <sup>r</sup>	300,000 <sup>r</sup>	300,000 <sup>r</sup>	300,000

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>	2009	2010	2011	2012	2013 <sup>e</sup>
<b>INDUSTRIAL MINERALS—Continued</b>					
Feldspar, crude	178,000 <sup>r</sup>	405,600 <sup>r</sup>	210,000 <sup>r</sup>	400,000 <sup>r</sup>	400,000
Fluorspar	4,343 <sup>r</sup>	5,953 <sup>r</sup>	3,808 <sup>r</sup>	4,000 <sup>r</sup>	4,000
Gypsum	1,035 <sup>r</sup>	2,000 <sup>r</sup>	2,138 <sup>r</sup>	2,200 <sup>r</sup>	2,200
Lime <sup>e</sup>	800	800	800	800	800
Nitrogen: <sup>e</sup>					
Ammonia, N content	1,790	3,000	3,500	2,924 <sup>r,3</sup>	2,655 <sup>3</sup>
Urea, N content	1,120	2,310 <sup>3</sup>	2,225 <sup>3</sup>	1,684 <sup>3</sup>	1,813 <sup>3</sup>
Phosphate:					
Phosphate rock	6,227	3,435	4,746	6,236	5,922 <sup>3</sup>
P <sub>2</sub> O <sub>5</sub> content	1,868	1,030	1,400	1,835	1,777 <sup>3</sup>
Phosphoric acid	--	--	21	64	65 <sup>3</sup>
Quartz	34	54	35	35	35
Sodium compounds:					
Salt	2,703	2,460	2,884	2,809 <sup>r</sup>	2,850
Soda ash <sup>e</sup>	50	50	50	50	50
Soda, caustic <sup>e</sup>	150	150	158	165	165
Stone, sand and gravel:					
Basalt	--	243	245	245	245
Dolomite	93	117	120	120	120
Granite, dimension stone	59	480	480 <sup>e</sup>	480 <sup>e</sup>	480
Limestone <sup>e</sup>	1,914 <sup>3</sup>	1,910	2,000	2,000	2,000
Marble blocks <sup>e</sup>	284	1,400	1,400	1,400	1,400
Sand: <sup>e</sup>					
Industrial sand (glass sand)	410	401	400	400	400
Sand and gravel	266 <sup>3</sup>	910	900	900	900
Sandstone <sup>e</sup>	453 <sup>3</sup>	400	400	400	400
Sulfur:					
Elemental, byproduct	32	50 <sup>r</sup>	50 <sup>r</sup>	80 <sup>r</sup>	80
Sulfuric acid, S content <sup>e</sup>	220	184 <sup>r,3</sup>	287 <sup>r,3</sup>	360 <sup>r</sup>	392 <sup>3</sup>
Talc, soapstone, pyrophyllite <sup>e</sup>	72,000 <sup>r</sup>	35,474 <sup>r,3</sup>	12,935 <sup>r,3</sup>	10,000 <sup>r</sup>	10,000
Titanium, ilmenite <sup>e</sup>	48,400 <sup>r,3</sup>	6,050 <sup>r,3</sup>	-- <sup>r</sup>	-- <sup>r</sup>	20,000
Vermiculite	4,650	-- <sup>r,3</sup>	2,865 <sup>r</sup>	3,000 <sup>r</sup>	3,000
<b>MINERAL FUELS AND RELATED MATERIALS</b>					
Gas, natural:					
Gross production	62,700 <sup>r</sup>	61,300 <sup>r</sup>	61,400 <sup>r</sup>	60,900 <sup>r</sup>	56,100 <sup>3</sup>
Dry	47,205	46,215	46,540	45,000	45,000
Natural gas liquids	57,670	57,962	39,785	35,077	35,077
Petroleum:					
Crude, including condensate	266,450	264,625	260,610 <sup>r</sup>	260,975 <sup>r</sup>	260,610 <sup>3</sup>
Refinery products:					
Liquefied petroleum gas	5,986	5,986	5,694	5,840	5,000
Gasoline	29,164	28,698	24,054	28,580	26,000
Kerosene and jet fuel	11,607	13,104	13,797	14,272	13,000
Distillate fuel oil	62,233	62,926	56,648	54,130	50,000
Residual fuel oil	61,393	59,386	59,605	61,210	55,000
Lubricants	2,600	2,600	2,600	2,600	2,500
Asphalt <sup>e</sup>	3,200	5,600	5,600	5,600	5,000
Other <sup>e</sup>	44,569	38,072	34,249	22,578 <sup>r</sup>	5,925
Total	220,752	216,372	202,247	194,810 <sup>r</sup>	162,425

<sup>e</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. -- Zero.

<sup>1</sup>Table includes data available through December 31, 2014.

<sup>2</sup>In addition to those listed, Egypt produced a number of commodities for which data were unavailable, including coal; gemstones; iron oxide pigments, mica; a number of metals, such as lead (which was produced from recycled material); zinc; and manufactured mineral commodities, such as carbon black and glass.

<sup>3</sup>Reported figure.

TABLE 2  
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2013

(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) (Government, 80%, and private interests, 20%)	Nag Hammadi	266.
Aluminum, secondary	Egyptian Copper Co. (Holding Company for Metallurgical Industries, 100%)	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	10,000.
Do.	Amirya Cement Co. (Cimentos de Portugal, SGPS, S.A.)	do.	4,450.
Do.	Assuit Cement Co. (Cemex Egypt)	Assiut	4,752.
Do.	Arab Swiss Engineering Co. (ASEC) (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. (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 Co., 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.
Coke	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, Alexandria	130.
Ferrosilicon	Egyptian Ferroalloys Co.	Idfo, Aswan	50.
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	565 (ammonia), 365 (urea).

See footnotes at end of table.

TABLE 2—Continued  
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2013

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Fertilizers, nitrogenous—Continued	Abu Qir Fertilizer & Chemical Industries Co. [private and public interests, 80.9%, and Egyptian General Petroleum Corp. (EGPC), 19.1%]	Abu Qir B	876 (urea).
Do.	do.	Abu Qir C	330 (ammonia), 640 (urea).
Do.	Alexandria Fertilizer Co. (Alexfert) (private, 80%, and Abu Qir Fertilizer and Chemical Industries Co., 20%)	Alexandria	730 (ammonia), 720 (urea).
Do.	Egypt Basic Industries Corp. (EBIC) [Orascom Construction Industries S.A.E. (OCI), 60%]	Ain Al-Sokhna	725 (ammonia).
Do.	Egyptian Chemical Industries-KIMA (Chemical Industries Holding Co., 55.7%; public organizations, 39.2%; private investors, 5.5%)	Aswan	330 (ammonia), 600 (nitric acid), 800 (ammonium nitrate).
Do.	Egyptian Fertilizers Co. [Orascom Construction Industries S.A.E. (OCI), 100%]	Ain Al-Sokhna	800 (ammonia), 1,600 (urea).
Do.	El Delta Company for Fertilizers and Chemical Industries (ASMEDA) (Government, 100%)	Talkha, Mansoura	400 (ammonia), 297 (nitric acid), 570 (urea).
Do.	El Nasr Fertilizers and Chemicals Co. (SEMADCO) (Government, 100%)	Attaka, Suez	132 (ammonia), 193 (nitric acid), 200 (ammonium nitrate).
Do.	Helwan Fertilizer Co. (private)	Free zone, Helwan	438 (ammonia), 700 (urea).
Do.	Misr Fertilizer Production Co. S.A.E. (MOPCO) [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%]	Free zone, Damietta	876 (ammonia), 650 (urea).
Fertilizers, phosphatic	Abu Zaabal Fertilizers and Chemicals (private, 100%)	Qalyubiyah	730 (superphosphate), 60 (phosphoric acid).
Do.	Egyptian Financial and Industrial Co. (private, 100%)	Kafr El Zayat	900 (superphosphate).
Do.	do.	Assuit	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	300 (superphosphate), 20 (dicalcium phosphate).
Fluorspar	metric tons Egyptian Company for Mineral Resources (ECMR)	NA	4,500.
Gold	kilograms Sukari Gold Mine Co. [Centamin plc, 50%, and Egyptian Company for Mineral Resources (ECMR), 50%]	Sukari gold mine	10,000.
Do.	do. Hamash Misr for Gold Mines (Matz Holding Limited Co., 50%, and Egyptian Company for Mineral Resources, 50%)	Hamash gold mine <sup>1</sup>	500.
Ilmenite	El Nasr Mining Co.	NA	120.
Do.	Misr Quarried Development Co.	NA	NA.
Do.	Egyptian Company for Mineral Resources (ECMR)	NA	NA.
Iron:			
Ore	Egyptian Iron and Steel Co. (Government, 100%)	El-Gedida Mine, El Bahariya	1,200.
Oxides	El Nasr Mining Co. (Holding Company for Metallurgical Industries, 100%)	Mines near Sinai and Aswan	150.
Direct-reduced	Ezz El-Dekheila Steel Co. (EZDK) (Al Ezz Steel Rebars S.A., 55%)	El-Dekheila I	720.
Do.	do.	El-Dekheila II	800.
Do.	do.	El-Dekheila III	800.
Do.	Egyptian Sponge Iron and Steel Co. (ESISCO)	Sadat City	1,760.
Do.	Ezz Rolling Mill Co. S.A.E. (Al Ezz Steel Rebars S.A.)	Alexandria and Suez	1,900.
Do.	Suez Steel Co. (Solb Misr)	Suez	1,950.
Kaolin	El Nasr Mining Co.	Al Kalabash, Aswan	500.
Lime	Suez Steel Co. (Solb Misr)	Suez	800.
Methanol	El Delta Co. for Fertilizers and Chemical Industries	Talkha	24.

See footnotes at end of table.

TABLE 2—Continued  
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2013

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity	
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 (Repsol YPF, S.A., 50%; Apache Oil Co., 40%; Samsung Corp., 10%)	Khalda	24.
<b>Petroleum:</b>				
Crude	thousand 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 Badran 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.	Ameriya Petroleum Refining Co. (Government, 100%)	Alexandria, Amreya	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%]	Alexandria Amreya Freezone	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	4,500.
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	50.
<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.
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 Rebars S.A., 55%)	Suez	1,000.
Do.		Egyptian Iron and Steel Co. (Hadisolb) (Government, 100%)	Helwan steel plant	1,000.
Rebar		Al Ezz Steel Rebars S.A.	Sadat City	1,000.
Do.		Al Ezz Rolling Mills	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	400.
Do.		Misr National Steel Co.	Heliopolis	360.
Do.		Kouta Steel Group	Port Said	360.

See footnotes at end of table.

TABLE 2—Continued  
EGYPT: STRUCTURE OF THE MINERAL INDUSTRY IN 2013

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Steel—Continued:			
Rebar—Continued	Egyptian Steel Group	Port Said	300.
Do.	do.	Alexandria	250.
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.	Assuit	210.
Do.	Suez Company for Fertilizers Production (Egyptian Financial and Industrial Co., 99.8%)	Ain Al-Sokhna	425.
Do.	El-Nasr Co. for Fertilizer and Chemical Industries (SEMADCO)	Attaka	90.
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%]	Alexandria Amreya Freezone	20.
Talc	El Nasr Mining Co.	Aswan	50.
Do.	TAS Flowrance Group	do.	NA.
Do.	Egyptian Company for Mineral Resources (ECMR)	Southeastern Desert	NA.
Tin	metric tons Tantalum Egypt J.S.C. [Tantalum International Pty Ltd., 50%, and Egyptian Company for Mineral Resources (ECMR), 50%]	Abu Dabbab	125.

Do., do. Ditto. NA Not available.

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