



2019 Minerals Yearbook

JORDAN [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF JORDAN

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Jordan exported bromine, phosphate rock, potash, and their derivatives in 2019. The country was the world's (excluding the United States) second-ranked producer of bromine and accounted for 35% of the world's (excluding the United States) output. Jordan was the world's fifth-ranked producer of phosphate rock, accounting for 4.1% of world output in 2019, and the world's seventh-ranked producer of potash, accounting for 3.6% of world output. Other mineral commodities exported by Jordan included aluminum fluoride, basalt, brine salt, calcium carbonate, Dead Sea mud and salt, industrial sand, kaolin, marble, pozzolanic materials, pure limestone, travertine, and zeolites (Energy and Minerals Regulatory Commission, 2020, p. 58–59; Jasinski, 2021a, b; Schnebele, 2021).

Minerals in the National Economy

In 2019, Jordan's gross domestic product (GDP) was \$44.5 billion¹; this was an annual increase in real terms of 2.0% compared with an increase of 1.9% in 2018. The mineral sector, which included mining and quarrying and minerals manufacturing, contributed 7.6% of the GDP and 19.7% of the value of total exports (Central Bank of Jordan, 2020, p. 5; Ministry of Energy and Mineral Resources, 2020a, p. 1).

In 2019, the mining and quarrying sector's contribution to the GDP was 2.1% compared with 1.9% in 2018; the manufacturing sector, which included cement, fertilizer, and iron and steel production, contributed 17.7%; and the construction sector, 2.7%. The value of mining and quarrying sector activities increased by 5.5% in 2019 compared with an increase of 0.5% in 2018. The output value of the manufacturing sector increased by 1.2% in 2019 compared with 1.4% in 2018, whereas that of the construction sector decreased by 0.4% compared with a decrease of 0.3% in 2018 (Central Bank of Jordan, 2020, p. 10, 91).

The Royal Decree No. 19 of April 10, 2018 (also known as the Natural Resources Law of 2018) replaced law No. 12 of 1968 (also known as the Organization of Natural Resources Affairs Law). The Natural Resources Law of 2018 entrusts the Ministry of Energy and Mineral Resources (MEMR) with the development of the country's natural resources and with establishing policies related to the exploration and mining of these resources. The MEMR is also in charge of conducting exploration studies and geologic surveys, estimating mineral resources, and promoting investment in mineral resource development locally and abroad. The law designates the Council of Energy and Minerals Regulatory Commission (EMRC)'s Board of Commissioners as the entity responsible for the issuance of mining and quarrying permits. The EMRC is an autonomous agency that provides oversight of the electricity subsector, mining permits, mineral exports, and nuclear installations in the country. The EMRC replaced and is the legal

successor of the Electricity Regulatory Commission (ERC), the Jordan Nuclear Regulatory Commission (JNRC), and the Natural Resources Authority (NRA). In 2019, the EMRC issued 2,688 permits, including 2,256 mineral export permits, 187 import permits, 186 quarrying permits, 5 exploration permits, and 4 mining permits. The MEMR planned to issue an international bid in 2020 for investment and development of a number of mineral commodities in Jordan, including for such metals as copper and gold and such industrial minerals as basalt, calcium carbonate, chalk, dolomite, feldspar, industrial (silica) sand, kaolin, oil shale, rare-earth elements, zeolites, and zircon (Ministry of Energy and Mineral Resources, 2018; 2020b, p. 3; Energy and Minerals Regulatory Commission, 2020, p. 46–47).

Production

Notable increases in mineral commodity production in 2019 compared with that in 2018 included production of marble, which increased by an estimated 186%; natural gas, by about 77%; bromine, by an estimated 69%; Dead Sea salt, by 56%; gypsum, by an estimated 36%; zeolites, by an estimated 20%; phosphate rock, by 15%; jet fuel, including kerosene and residual fuel oil, by 14% each; liquefied petroleum gas, by about 13%; and common clay, crushed limestone, and industrial sand, by about 10% each. Notable decreases in mineral commodity production in 2019 compared with that of 2018 included that of crushed basalt, which decreased by an estimated 73%; granite, by nearly 71%; clinker, by 52%; phosphoric acid, by about 23%; and fertilizers and diammonium phosphate (DAP), by 15% each. Data on mineral production are in table 1

Structure of the Mineral Industry

Except for the National Petroleum Co. and Jordan Petroleum Refinery Co. Ltd., which were Government owned, all other mining and manufacturing companies in Jordan were privately owned or had mixed ownership. Arab Company for White Cement, Arab Potash Co. (APC), Attarat Power Co., Jordan Abyad Fertilizers and Chemicals Co. P.S.C. (JAFCCO), Jordan Bromine Co. Ltd. (JBC), Jordan India Fertilizer Co. (JIFCO), Jordan Lafarge Cement Factories Co. P.S.C. (JCFC), Jordan Phosphate Mines Co. p.l.c. (JPMC), and Nippon Jordan Fertilizer Co. had mixed ownership, whereas the remaining companies were privately owned. Table 2 is a list of major mineral facilities.

Mineral Trade

In 2019, the value of Jordan's total exports increased to \$7.0 billion from \$6.6 billion in 2018, of which potash exports increased by 9.0% to \$586.7 million from \$542.2 million in 2018. Potash exports went mainly to China (28%), India (25%), Egypt (9.5%), and Indonesia (5.3%). The value of phosphate rock exports increased to \$370.0 million in 2019

¹When necessary, values were converted from Jordanian Dinar (JD) to U.S. dollars (US\$) at the average rate of JD1.41=US\$1.00 for 2019.

from \$366.5 million in 2018. The main destinations for Jordan's phosphate rock exports were India (63%), Turkey (26%), and Iraq (5%). The value of fertilizer exports increased to \$273 million in 2019 from \$270 million in 2018. The main phosphate fertilizer export destinations were India (62%), Indonesia (8%), Vietnam (4%), and Japan (2%) (Arab Potash Co., 2020, p. 27, 71; Central Bank of Jordan, 2020, p. 75; Jordan Phosphate Mines Co. p.l.c., 2020, p. 16, 17, 38).

In terms of tonnage, JPMC exported 5.0 million metric tons (Mt) of phosphate rock, 0.6 Mt of phosphate fertilizers, and 11,000 metric tons (t) of aluminum fluoride. APC exported more than 2.1 Mt of potash. Additionally, Jordan exported various quantities of other industrial minerals in 2019, including calcium carbonate (422,000 t), construction sand (818,000 t), crushed basalt stone (17,000), Dead Sea mud (128 t), Dead Sea salt (2,000 t), granite (1,600 t), industrial (silica) sand (14,400 t), kaolin (13,800 t), marble (48,900 t), brine salt (1,300 t), travertine (2,000 t), and pozzolanic materials (volcanic tuff) (33,600 t) (Arab Potash Co., 2020, p. 71; Energy and Minerals Regulatory Commission, 2020, p. 58; Jordan Phosphate Mines Co. p.l.c., 2020, p. 16–17).

Jordan's exports to the United States increased to \$2.17 billion in 2019 from \$1.81 billion in 2018, and imports decreased to \$1.49 billion in 2019 from \$1.58 billion in 2018. The main mineral commodities exported by Jordan to the United States were, by value, fuel oil, which increased to \$60 million in 2019 from \$4,000 in 2018, and inorganic chemicals (bromine products), which increased to \$21 million from \$16 million in 2018. The top mineral and mineral-related commodities imported by Jordan from the United States were natural gas (\$182 million), excavating machinery and petroleum products (\$16 million each), natural gas liquids (\$15 million), finished metal shapes (\$7 million), iron and steel products (\$2 million), and gem diamond (\$1 million) (U.S. Census Bureau, 2020a, b).

Commodity Review

Industrial Minerals

Bromine.—In 2019, Jordan Bromine Co. Ltd. (JBC), which was the sole producer of bromine in the country, increased its output by an estimated 69% to 150,000 t from 89,000 t in 2018. JBC was a 50–50 joint venture of Albemarle Corp. of the United States and APC. The company had the capacity to produce 200,000 metric tons per year (t/yr) of bromine from the Dead Sea. JBC also produced calcium bromide, sodium bromide, and tetra bromide as well as potassium hydroxide (tables 1, 2; Jordan Bromine Co. Ltd., 2020).

Phosphate Rock.—In 2019, JPMC's phosphate rock production increased by 15% to 9.2 Mt from 8.0 Mt in 2018. The increase was attributed to a full year of production at the Al Russeifa Mine and improved operations at other mines. Phosphate rock production came from four mines—the Eshidiya Mine, which produced 6.0 Mt of phosphate ore, or 65% of the company's total production; the Wadi Al Abiad Mine, which produced 1.6 Mt of phosphate ore, or 18.5% of total production; the Al Hassa Mine, which produced 1.0 Mt, or 11%; and the Al Russeifa Mine, which began production in 2018 and produced 607,000 t, or 6.6% of the country's total phosphate

rock production in 2019. The Eshidiya Mine contained more than 1.1 billion metric tons (Gt) of total ore reserves (including proved, probable, and possible reserves). The Wadi Al Abiad Mine held 4.0 Mt of proved reserves, and the Al Hassa Mine had 21.8 Mt of proved reserves. In 2019, JPMC's fertilizers unit produced 780,000 t of sulfuric acid, 550,000 t of DAP, 252,000 t of phosphoric acid, and 6,000 t of ammonium fluoride at its industrial complex in Aqaba (Jordan Phosphate Mines Co. p.l.c., 2020, p. 12–14, 16; Ministry of Energy and Mineral Resources, 2020, p. 4).

Nippon Jordan Fertilizer Co. (NJFC) was a joint venture of JPMC (70% interest), APC (20% interest), and Mitsubishi Corp. of Japan (10% interest). NJFC had the capacity to produce 300,000 t/yr of DAP and compound (nitrogen, phosphorus, and potassium, or NPK) fertilizers combined. The company's production of DAP and NPK fertilizers decreased to 197,404 t in 2019 from 249,625 t in 2018. Indo-Jordan Chemicals Co. (IJC) was wholly owned by JPMC and had the capacity to produce 224,000 t/yr of phosphoric acid at Eshidiya, Ma'an Province. IJC increased its phosphoric acid production to 259,181 t in 2019 from 238,382 t in 2018 (Jordan Phosphate Mines Co. p.l.c., 2020, p. 23, 25).

Potash.—In 2019, APC's production of potash increased to about 2.5 Mt from 2.4 Mt in 2018. About 52% of the potash produced by the company was a standard grade, 41% was fine grade, and 7% was granular grade. APC employed 1,753 people in 2019 and had several subsidiaries, including Arab Fertilizers and Chemicals Industries Ltd. (Kemapco), which produced potassium nitrate and employed 262 people; and Numiera Mixed Salts and Mud Co., which produced Dead Sea mud and employed 41 workers (Arab Potash Co., 2020, p. 25, 50–52, 80).

Mineral Fuels

Oil Shale.—The MEMR continued to promote foreign investment in Jordan's large oil shale resources in 2019. According to the MEMR, oil shale "is a sedimentary rock mostly carbonates to chalk marl and shale which contains immature organic matter that when it is heated to above 500° C...produces oil and gas" whereas shale oil, or tight oil, is a light crude oil confined to such sedimentary formations as limestone, sandstone, or shale (Ministry of Energy and Mineral Resources, 2020b, p. 32). The MEMR identified about 26.4 Gt of oil shale resources at five main deposits in Jordan (Attarat El-Ghudran, El-Lajjun, Jurf Ed Darawish, Sultani, and Wadi Maghar). Attarat Power Co. (APCO) held the Attarat concession, which is located at the Attarat um Ghudran property; the concession covers 42 square kilometers in central Jordan and was estimated to hold 2 Gt of oil shale reserves. In 2019, APCO, which was owned by YLT Power International Berhad of Malaysia (45%), Yudeam Group Co. Ltd. of China (45%), and Eesti Energia Consortium of Estonia (10%), was building the first oil-shale-fired powerplant in the country and in the Middle East and North Africa region. The plant, which was expected to cost \$2.1 billion to build and to be completed in 2020, would have 470 megawatts (MW) of capacity and was expected to meet 15% of the country's demand for electricity. The project was financed by the Bank of China and the Industrial and Commercial Bank of China. The construction of the powerplant was 87% complete by yearend 2019 and was

expected to begin its first phase of electricity production in June 2020. The second phase was expected to be completed in October 2020 (Attarat Power Co., 2020a, b; Ministry of Energy and Mineral Resources, 2020b, p. 32).

Outlook

Jordan is expected to continue to be a global supplier of bromine products, phosphate rock, potash, and fertilizers in the next 5 years; its production of these mineral commodities and their derivatives is expected to increase as long as world market conditions remain favorable. The Government is likely to continue to focus on the development of its copper and gold resources; industrial mineral resources, such as basalt, dolomite, kaolin, and related minerals; and fuel minerals, such as oil shale. The first and second phases of electricity generation at Jordan's first 470-MW oil-shale-fired powerplant were expected to begin in June and October 2020, respectively.

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TABLE 1
JORDAN: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons, gross weight, unless otherwise specified)

Commodity	2015	2016	2017	2018	2019
METALS					
Iron and steel:					
Steel					
Raw steel ^c	150	150	150	150	150
Products, semimanufactured	249 ^e	200	200	330 ^{r,e}	350 ^e
INDUSTRIAL MINERALS					
Bromine	68 ^r	81 ^r	85 ^r	89 ^r	150 ^e
Cement:					
Hydraulic	4,500	4,530 ^r	4,680 ^r	4,680 ^{r,e}	5,050 ^e
Clinker	853	575	543	587	282
Clay:					
Common clay	1,100 ^e	364	364	365 ^e	400 ^e
Dead sea mud	213 ^r	225 ^r	245 ^r	276 ^r	280 ^e
Kaolin	888 ^r	109 ^r	712 ^r	188 ^r	190 ^e
Fertilizers, unspecified	620	548	695	882	748
Fluorspar, products, aluminum fluoride	8	4	6	6	6
Gypsum	213 ^r	1,907 ^r	344 ^r	191 ^r	260 ^e
Phosphate rock:					
Mine:					
Gross weight	8,336	7,991	8,688	8,022	9,223
P ₂ O ₅ content	2,668	2,560 ^e	2,780	2,567	2,955
Diammonium phosphate	619 ^r	547 ^r	696 ^r	882 ^r	748
Phosphate, compounds, phosphoric acid	876	804	945	995	770
Potash:					
Crude salts	2,355	2,003	2,230	2,436	2,486
Potash, K ₂ O content	1,413	1,202	1,392	1,486	1,516
Pumice and related materials, pozzolan	904 ^r	849 ^r	804 ^r	917 ^r	900 ^e
Salt:					
Brine	40	46 ^r	41 ^r	49 ^r	50 ^e
Dead sea	2,962	1,211	1,048	1,266	1,976
Sand and gravel, industrial, unspecified	127 ^r	137 ^r	564 ^r	136 ^r	150 ^e
Stone, sand, and gravel, construction:					
Sand and gravel	3,230 ^r	3,420 ^r	3,610 ^r	3,800 ^r	4,000 ^e
Stone:					
Crushed:					
Basalt	300 ^e	101 ^r	63 ^r	563 ^r	150 ^e
Limestone	2,014	1,682	4,087	2,739	3,000 ^e
Dimension:					
Granite, slab	2,929	1,589	3,773	5,464	1,596
Marble	70,000 ^r	80,000 ^r	80,000 ^r	17,500 ^r	50,000 ^e
Travertine	19,970 ^r	22,994 ^r	11,542 ^r	18,520 ^r	20,000 ^e
Other, size and shape unspecified, calcium carbonate	299 ^r	349 ^r	418 ^r	530 ^r	560
Sulfur, compounds, sulfuric acid ²	1,206	1,083	1,309	1,375	1,292
Zeolites, tuff, crude ^e	13,000	14,000	15,000	10,000	12,000
MINERAL FUELS AND RELATED MATERIALS					
Natural gas	124	116	102	94	165
Petroleum:					
Crude	4,000	3,200	2,400	7,500	7,500
Refinery:					
Asphalt	1,139	1,442	1,344	1,000	1,066
Distillate fuel oil	7,893	6,781	6,304	5,508	5,950
Gasoline	5,551	4,956	4,734	4,108	4,320
Jet fuel, including kerosene	2,992	3,306	2,902	2,568	2,934
Liquefied petroleum gas	928	863 ^r	831 ^r	690 ^r	777
Residual fuel oil	5,894	3,989	3,756	3,049	3,467
Total	24,400	21,300 ^r	19,900	16,900 ^r	18,500

See footnotes at end of table.

TABLE 1—Continued
JORDAN: PRODUCTION OF MINERAL COMMODITIES¹

^cEstimated. ¹Revised. do. Ditto.

¹Table includes data available through September 8, 2020. All data are reported unless otherwise noted. Totals and estimated data are rounded to no more than three significant digits; may not add to totals shown.

²From imported sulfur, may include other acids.

TABLE 2
JORDAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2019

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity	
Aluminum fluoride	Jordan Phosphate Mines Co. p.l.c. (JPMC) (Indian Potash Ltd., 27.380%; Government Shareholdings' Management Co., 25.655%; Social Security Corp., 16.527%; Kisan International Trading FZE, 9.620; Government of the State of Kuwait, 9.333%; Other investors, 11.485%)	Plant at Aqaba	14,000	
Bromine	Jordan Bromine Co. Ltd. (JBC) [Arab Potash Co. Ltd. (APC), 50%, and Albemarle Corp., 50%]	Plant at Ghor Al Safi, Dead Sea	200,000	
Cement	Arab Company for White Cement Industry [Jordanian Syrian Company for Industry, 50%; General Establishment for Cement (Syria), 25%; Jordan Finance Ministry, 15%; Social Security Corp., 10%]	Plant at Amman	130,000	
Do.	Cementra Jordan (Al Rajhi Cement Holding Ltd.)	Plant at Al Mafraq	2,400,000	
Do.	Jordan Lafarge Cement Factories Co. P.S.C. (JCFC) (Lafarge S.A., 50.28%; Social Security Corp., 21.86%; others, 27.87%)	Plant at Ar-Rashadiya	4,000,000	
Do.	Modern Cement and Mining Co. (Manaseer Group, 100%)	Plant at Al Qatranah	3,500,000	
Do.	Northern Cement Co.	Plant at Muwaqar	1,000,000	
Do.	Qatrana Cement Co. (Arabian Cement Co., 100%)	do.	1,800,000	
Clay:				
Dead Sea mud	Numiera Mixed Salts and Mud Co. (Arab Potash Co. Ltd., 100%)	Plant at Ghor Al Safi	200	
Kaolin	Al-Faori Enterprise for Mining	Mine at Al-Adasieh	110,000	
Do.	Jordan Lafarge Cement Factories Co. P.S.C. (JCFC) (Lafarge S.A., 50.28%; Social Security Corp., 21.86%; others, 27.87%)	Plant at Ar-Rashadiya	300,000	
Do.	Jordanian Company for Mining and Processing of Kaolin and Feldspar	Mine at Qanasieh	216,000	
Do.	Manaseer Cement and Mining Co. (Manaseer Group, 100%)	Mine at Al Qatranah	400,000	
Do.	Middle East Regional Development Enterprises	Mine at Ras En Naqab	10,000	
Do.	Qatrana Cement Co. (Arabian Cement Co., 100%)	Mine at Al Qatranah	400,000	
Do.	Public Mining Company Ltd.	Mine at Fuaheis	38,000	
Do.	do.	Mine at Batn el-Ghoul	31,000	
Feldspar	General Mining Co. Ltd.	Mine at Al-Jaishiah	10,000	
Do.	Jordanian Company for Mining and Processing of Kaolin and Feldspar	Mine at Qanasieh	216,000	
Gypsum	Al-Nasr Mining Establishment	Mines at Mujib	31,000	
Do.	Al-Nisr Mining Co.	do.	89,000	
Do.	Al-Noor Mining Co.	do.	11,000	
Do.	Falahat Mining Establishment	do.	25,000	
Do.	Isam Alshoouly & Maksim	do.	13,000	
Do.	Jordan Lafarge Cement Factories Company P.S.C.	Mine at Zarqa	73,000	
Do.	Mansour Al Shoabaki Establishment	Mines at Mujib	2,000	
Do.	Public Mining Co. Ltd.	do.	68,000	
Do.	Shaker Al-Talib Establishment	Mine at Subeihi	15,000	
Limestone	Arab Company for White Cement Industry [Jordanian Syrian Company for Industry, 50%; General Establishment for Cement (Syria), 25%; Jordan Finance Ministry, 15%; Social Security Corp., 10%]	Mine at Khalidiah	500,000	
Do.	Sufian Nusair Assoc.	do.	NA	
Do.	Khaled Shamayleh Co.	Mine at Siwaqa	NA	
Magnesium oxide	Manaseer Magnesia Co. (Manaseer Group, 100%)	Plant at Ghor Al Safi	60,000	
Natural gas	million cubic meters	National Petroleum Co. (Government, 100%)	Risha gasfield	150
Petroleum:				
Crude	thousand 42-gallon barrels	do.	Hamza oilfield, Azraq basin block, Zarqa	8
Oil shale	do.	Attarat Power Co. (APCO) (YLT Power international Berhad, 45%; Yudeam Group Co. Ltd., 45%; Eesti Energia Consortium, 10%)	Mine and plant at Attarat um Ghudran, ¹ Al Qatranah	73,300
Refined	do.	Jordan Petroleum Refinery Co. Ltd. (Government, 100%)	Refinery at Zarqa	90,400
Phosphate:				
Phosphate rock	Jordan Phosphate Mines Co. p.l.c. (JPMC) (Indian Potash Ltd., 27.380%; Government Shareholdings' Management Co., 25.655%; Social Security Corp., 16.527%; Kisan International Trading FZE, 9.620; Government of the State of Kuwait, 9.333%; Other investors, 11.485%)	Mines at Al Hassa, Al Russeifa, Eshidiya, and Wadi Al Abiad	9,500,000	

See footnotes at end of table.

TABLE 2—Continued
 JORDAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2019

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Phosphate—Continued			
Phosphate, compounds:			
Diammonium phosphate	Jordan Phosphate Mines Co. p.l.c. (JPMC) (Indian Potash Ltd., 27.380%; Government Shareholdings' Management Co., 25.655%; Social Security Corp., 16.527%; Kisan International Trading FZE, 9.620; Government of the State of Kuwait, 9.333%; Other investors, 11.485%)	Plant at Industrial Fertilizer Complex, Aqaba	650,000
Do.	Nippon Jordan Fertilizer Co. (NJFC) [Jordan Phosphate Mines Co. p.l.c. (JPMC), 70%; Arab Potash Co. Ltd. (APC), 20%; Mitsubishi Corp., 10%]	Plant at Eshidiya, Ma'an	300,000
Dicalcium phosphate	Jordan Abyad Fertilizers and Chemicals Co. P.S.C. (JAFCCO) [Jafcco Bahrain Co., 42.79%; Jordan Phosphate Mines Co. p.l.c. (JMPC), 25%; Venture Capital Bank, 14.4%; Arab Mining Co., 10%; Sea Field Trading Co., 5%; Al-Faris Investments, 2.81%]	Plant at Al Wadi Al Abyad, Karak	15,000
Phosphoric acid	Jordan Phosphate Mines Co. p.l.c. (JPMC) (Indian Potash Ltd., 27.380%; Government Shareholdings' Management Co., 25.655%; Social Security Corp., 16.527%; Kisan International Trading FZE, 9.620; Government of the State of Kuwait, 9.333%; Other investors, 11.485%)	Plant at Aqaba	350,000
Do.	Jordan India Fertilizer Co. (JIFCO) [Indian Farmers Fertilizers Cooperative of India (IFFCO), 52%; and Jordan Phosphate Mines Co. p.l.c. (JPMC), 48%]	Plant at Eshidiya, Ma'an	475,000
Do.	Indo-Jordan Chemicals Co. (IJC) [Jordan Phosphate Mines Co. p.l.c. (JPMC), 100%]	do.	224,000
Triple superphosphate	Jordan Abyad Fertilizers and Chemicals Co. P.S.C. (JAFCCO) (Jafcco Bahrain Co., 42.79%; Jordan Phosphate Mines Co. p.l.c. (JMPC), 27.38%; Venture Capital Bank, 19.83%; Arab Mining Co., 10%)	Plant at Al Wadi Al Abiad, Karak	65,000
Potash:			
Crude salts	Arab Potash Co. (APC) (Man Jia Industrial Development Ltd., 28%; Government Investments Management Co., 26%; Arab Mining Co., 20%; Social Security Corp., 10%; Iraqi Government, 4%; Libyan Company for Foreign Investments, 4%; private investors, 2%; Ministry of Finance, 1%)	Plant at Ghor Al Safi	2,500,000
Potassium fertilizers:			
Potassium nitrate	Arab Fertilizers and Chemicals Industries Ltd. (Kemapco) [Arab Potash Co. Ltd. (APC), 100%]	Plant at Aqaba	175,000
Potassium sulfate	Jordan Abyad Fertilizers and Chemicals Co. P.S.C. (JAFCCO) (Jafcco Bahrain Co., 42.79%; Jordan Phosphate Mines Co. p.l.c. (JMPC), 27.38%; Venture Capital Bank, 19.83%; Arab Mining Co., 10%)	do.	80,000
Pumice, pozzolanic material	Jordan Lafarge Cement Factories Co. P.S.C. (JCFC) (Lafarge S.A., 50.28%; Social Security Corp., 21.86%; others, 27.87%)	Quarry at Tell Remah	350,000
Do.	do.	Quarry at Jabal Al Aritayn, Safawi, Mafraq Governorate	150,000
Do.	Alialeel for Mining and Extraction of Raw Materials	Quarry at Mafraq	NA
Do.	Modern Cement and Mining Co. (Manaseer Group, 100%)	Quarries at Karak, Tafilah	NA
Salt	Arab Potash Co. Ltd. (APC), 100%	Brines at Ghor Al Safi	17,000
Do.	Amra Salt Co.	Dead Sea Salinas	365,000
Do.	do.	Plant at Abdullah II Ibn Al-Hussein Industrial Estate, Sahab	360,000
Sand, industrial	Middle East Regional Development Enterprises	Mine at Ras En Naqab	530,000
Do.	Al-Habahbeh and Sons Company for Mining	do.	28,000
Do.	Al-Rehab for Industrial and Trading Establishment	do.	27,000
Do.	Al-Fares Company for Glass Sand Mining	do.	17,000
Do.	International Silica Industries Co.	Mine at Dabbat Hanout, Aqaba	NA
Do.	Green Technology Group of Jordan for Mining Co. Ltd.	Mine at Al-Homaimh	NA

See footnotes at end of table.

TABLE 2—Continued
 JORDAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2019

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Steel:			
Raw	Jordan Steel Co. p.l.c. (Jordan Steel Group, 100%)	Plant at Amman	360,000
Do.	Manaseer Iuron and Steel Co. (Manaseer Group)	Billet plant at Amman	200,000
Do.	Jordan Steel Co. p.l.c. (Jordan Steel Group, 100%)	do.	250,000
Processed	Ramco Steel (Hassouneh Steel Group, 100%)	Plant at Al Fayha, Zarqa	220,000
Do.	National Steel Industry Co.	do.	400,000
Do.	Manaseer Iuron and Steel Co. (Manaseer Group)	Plant at Amman	200,000
Do.	Petra Steel Industry Co.	do.	120,000
Do.	Taybeh Metal Industries (Taybeh Steel Group, 100%)	Plant at Mowagar Industrial Zone, Amman	300,000
Stone:			
Basalt	Jordan Rock Wool Industries Co. Ltd.	Quarry at Qa'a Hanna	5,000
Calcium carbonate	Jana Carbonate Co.	Mines at Al Qatranah area	70,000
Do.	Jordan Carbonate Co.	Mine at Zeezia, Amman	400,000
Do.	Manaseer Carbonate Co. (Manaseer Group, 100%)	Mines at Al Qatranah area, Karak	350,000
Do.	do.	Plant at Manaseer Industrial Complex, Al Damkhi, Karak	350,000
Do.	National Carbonate Co.	Plant at Damkhi, Amman	60,000
Do.	Petra Calcium Carbonate Co.	do.	NA
Do.	do.	Plant at Amman	NA
Do.	Qatrana Cement Co. (Arabian Cement Co., 100%)	Mine at Al Qatranah, Karak	NA
Granite	Manaseer Marble & Granite Co. (Manaseer Group, 100%)	Quarry at Zarqa	5,000
Marble	Al Zammar Group	Quarries at Ajloun, Jordan Valley, Karak	NA
Travertine	Alghor Alawsat Mining Establishment	Quarry at Balqa	NA
Do.	Travertine and Granite Co.	do.	NA
Sulfuric acid	Jordan Abyad Fertilizers and Chemicals Co. P.S.C. (JAFCCO) [Jafcco Bahrain Co., 42.79%; Jordan Phosphate Mines Co. p.l.c. (JMPC), 25%; Venture Capital Bank, 14.4%; Arab Mining Co., 10%; Sea Field Trading Co., 5%; Al-Faris Investments, 2.81%]	Plant at Industrial Fertilizer Complex, Aqaba	132,000
Do.	Jordan Indian Fertilizer Co. (JIFCO) [Indian Farmers Fertilizers Cooperative of India (IFFCO), 52%; and Jordan Phosphate Mines Co. p.l.c. (JPMC), 48%]	Plant at Eshidiya, Ma'an	1,485,000
Do.	Indo-Jordan Chemicals Co. Ltd. [Jordan Phosphate Mines Co. p.l.c. (JPMC), 87%; and Arab Investment Co., 13%]	do.	660,000
Zeolites	Amana Agricultural & Industrial Co.	Mine at Tel Hesban	NA
Do.	Green Technology Group of Jordan for Mining Co. Ltd.	Mine at Jabal Al Aritayn, Safawi, Mafraq Governorate	NA
Do.	Jordanian Factory for Soil Development & Moisture Drying Co.	do.	NA

Do., do. Ditto. NA Not available.

¹Under construction.