



2010 Minerals Yearbook

JORDAN [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF JORDAN

By Mowafa Taib

Jordan was one of the world's top producers and exporters of potash, accounting for 3.6% of the world's potash production in 2010. The country was also a significant producer of bromine and phosphate rock. Jordan was the world's sixth and seventh ranked producer of phosphate rock and potash, respectively (Jasinski, 2011a, b; Ober, 2011). Jordan also produced such mineral commodities as calcium carbonate, cement, clay, fertilizer, kaolin, limestone, pozzolanic material, refined petroleum products, silica sand, steel, and zeolitic tuff. Jordan, however, imported 95% of its energy requirements because it has negligible crude oil and natural gas reserves. Consequently, the Government was looking for alternative sources of energy to satisfy the country's current and future energy needs and reduce its energy import costs. The Government was actively promoting investment to develop the country's huge shale oil reserves to produce crude oil as well as investment in the mining of its large uranium deposits to produce uranium. Uranium ore and uranium extracted from phosphate could be used to produce yellow cake to fuel nuclear powerplants, which the Government planned to build in the foreseeable future (Natural Resources Authority, 2010, p. 7; World Nuclear Association, 2011).

Minerals in the National Economy

Jordan's gross domestic product (GDP) based on purchasing power parity increased in real terms (base year 1994) by 2.3% in 2010 compared with 5.5% in 2009. The flow of foreign direct investment to Jordan decreased by 29% to \$1.7 billion in 2010 compared with about \$2.4 billion in 2009 and \$2.8 billion in 2008 (Arab Investment and Export Credit Guarantee Corp., 2011, p. 61).

Mining sector activity in Jordan, which included mainly fertilizer, phosphate rock, and potash production, bounced back in 2010 from a significant decline in 2009 owing to higher demand for these commodities in global markets compared with the reduced demand in 2009 that was attributed to the global financial downturn of 2008–9. In 2010, the mining industry reported an exceptional growth rate of 32% compared with a contraction of 26% in 2009. The value of mineral sector activity, which exceeded 1 billion Jordanian dinars (\$1.42 billion¹) in 2010, was a record for the country. The contribution of the mining sector to the country's economic growth accounted for 30% of the total economic growth in 2010. The relative importance of the mining industry to the country's GDP (compared with other sectors) increased in constant prices to 2.8% in 2010 from 2.1% in 2009. The value of the manufacturing sector, which included cement, ceramics, chemical acids, cosmetics, fertilizer, and lime production, increased in constant prices by 2.3% compared with an increase of 1.8% in 2009. The relative importance of the mineral

¹Where necessary, nominal values have been converted from Jordanian dinars (JD) to U.S. dollars (US\$) at the average exchange rate of JD0.709=US\$1.00.

manufacturing industries to the country's GDP was 3.1% in 2009 and 3.0% in 2010 compared with 5.8% in 2008. The construction sector continued its expansion as evidenced by a 5.6% increase in the number of construction permits and a 7.8% increase in the number of new construction permits compared with that of 2009 (Bank Audi S.A.L., 2011, p. 3–5; Central Bank of Jordan, 2011, p. 11–13, Natural Resources Authority, 2011, p. 16).

Production

In 2010, significant increases in the production volume of mineral commodities compared with those of 2009 included the increase in Dead Sea salt production by 503%; bromine, 377%; hydrochloric acid, 272%; zeolite, 253%; lime, 100%; potash, 91%; marble, 49%; brine salt, 45%; calcium carbonate, 30%; phosphate rock, 24%; sulfuric acid, 16%; and phosphoric acid, 13%. There were notable decreases in the production of Dead Sea mud and pozzolanic material by 83% each; pure limestone, 76%; basalt, 68%; silica sand, 50%; kaolin, 35%; distillate fuel oil, 23%; asphalt, 22%; liquefied petroleum gas, 20%; and travertine, 13% compared with their respective production volumes in 2009 (table 1).

Government Policies and Programs

The Ministry of Energy and Mineral Resources was responsible for securing Jordan's requirements for natural gas and petroleum through developing energy policies and implementing sustainable energy programs. The Natural Resources Authority (NRA) was an autonomous Government agency responsible for the development and regulation of the country's mineral resources. The NRA issued exploration licenses, export permits, and mining licenses; undertook geologic studies and surveys; and promoted the country's mineral resources to attract investment in the mineral industry. The NRA issued 2,047 licenses in 2009 (the latest year for which data were available) for different mineral commodities, including 1,679 export licenses, 288 quarrying licenses, 41 exploration licenses, and 33 mining licenses. The 33 mining licenses issued by the NRA included 10 for limestone, 5 each for gypsum and volcanic tuff, 4 for zeolite, 3 each for phosphate rock and pure limestone, 2 for kaolin, and 1 for clay. The exploration licenses covered pure limestone (9), volcanic tuff (7), phosphate rock (6), gypsum and travertine (4 each), clay, kaolin and limestone (3 each), and basalt (2) (Natural Resources Authority, 2010, p. 20).

Structure of the Mineral Industry

Arab Potash Co. Ltd. (APC), which was the only producer of potash in the country, had 1,923 employees in 2010 and

produced fine, granular, and standard potash. APC had several subsidiaries, including Arab Fertilizers and Chemicals Industries Ltd., which employed 210 people and produced potassium nitrate and dicalcium phosphate; Jordan Dead Sea Industries Co.; Jordan Magnesia Co., which was under liquidation; and Numiera and Mixed Salts and Mud Company, which employed 58 workers. APC was also affiliated with Jordan Bromine Co.; Jordan Industrial Ports Co.; Jordan Safi Salt Co., which was under liquidation in 2009; and Nippon Jordan Fertilizer Co. (Arab Potash Co. Ltd., 2011, p. 32).

Jordan Phosphate Mines Co. p.l.c. (JPMC) employed 3,811 people in 2009 (the latest year for which data were available) and produced phosphate rock, phosphate-based fertilizers, and phosphoric and sulfuric acids. JPMC owned 70% of Nippon Jordan Fertilizer Co., 50% of Industrial Ports Co., 48% of Jordan India Fertilizer Co., and 26% of Manajim Mining Development Co. Both APC and JPMC had mixed ownership that included both domestic and international private and public investors (Jordan Phosphate Mines Co. p.l.c., 2010, p. 21, 24).

In February, JPMC increased its stake at Indo-Jordan Chemicals Co. Ltd. (IJCC) from 34.8% to 87% after purchasing Southern Petrochemical Industries Corp. Ltd. of India's 52.2% stake in IJCC. The remaining 13% stake was held by the Arab Investment Co. of Saudi Arabia (Indo-Jordan Chemicals Co. Ltd., 2011).

Five companies were active in cement production in Jordan in 2010. They included Al-Rajhi Cement–Jordan, which was wholly owned by Al-Rajhi Cement Holding Ltd. of Saudi Arabia; Arab Company for White Cement Industry, which was a joint venture of the Government of Jordan and the Government of Syria; Jordan Lafarge Cement Factories Co. P.S.C. (JCFC), which was majority owned by Lafarge S.A. of France; Northern Cement Co., which was a subsidiary of an unnamed cement company of Saudi Arabia; and Qatrana Cement Co., which was a subsidiary of Arabian Cement Co. of Saudi Arabia (table 2).

Mineral Trade

The value of total exports increased by 9% to \$7.0 billion in 2010 compared with about \$6.4 billion in 2009, as did the value of total imports, which increased by 8% to \$13.7 billion from \$12.7 billion in 2009. The value of potash sales revenue increased by 47% to \$746 million compared with \$527 million in 2009. The volume of potash exports amounted to 1,915,000 metric tons (t), which was about 98.6% of the total production. Jordan's potash exports went mainly to India, which received 44.0% of the total exports, followed by China (16.4%), Malaysia (about 10.6%), Indonesia (7.4%), Egypt (2.9%), Taiwan (2.3%), Japan (2.2%), the Philippines (1.7%), and other countries (12.5%) (Arab Fertilizers Association, 2011, p. 41; Central Bank of Jordan, 2011, p. 115, 124).

The volume of Jordan's phosphate rock exports increased by 32% in 2010 to 4.30 million metric tons (Mt) from 3.25 Mt in 2009. Sixty-eight percent of Jordan's phosphate rock exports went to India, which imported more than 2.9 Mt from Jordan, followed by Malaysia, which imported 686,000 t, or about 16% of Jordan's total phosphate rock exports. Other countries that received Jordan phosphate rock exports included Bangladesh,

Japan, Mexico, the Netherlands, the Philippines, Singapore, Taiwan, and Turkey. The volume of fertilizer exports increased in 2010 by 112% to 1.72 Mt from 825,700 t in 2009 (Arab Fertilizer Association, 2011, p. 31).

Commodity Review

Industrial Minerals

Cement.—Most cement production in 2010 was carried out by JCFC, which operated two cement plants in Jordan; one was located at Fuheis, near Amman, and the other was located in southern Jordan at Ar-Rashadiya. The volume of JCFC's cement sales, which totaled 4.8 million metric tons per year (Mt/yr) of production capacity, decreased by 46% in 2010 because of the competition from the new entrants to the Jordanian cement market (Lafarge Group S.A., 2011).

Northern Cement Co.'s plant at Muwaqar, which is located near Amman, began production in 2009 with an initial capacity of 1 Mt/yr. The plant produced three types of cement: ordinary portland cement, pozzolan cement, and sulfate-resistant cement from clinker produced at mines owned by the company in Saudi Arabia. Other ingredients, such as gypsum and pozzolan, were produced from mines owned by the company in Jordan (Northern Cement Co., 2011).

Arabian Cement Co. of Saudi Arabia completed building the Qatrana cement plant at Al Qatraneh near the city of Karak. The plant commenced production with 1.8 Mt/yr of production capacity. Modern Cement and Mining Co. (a subsidiary of Manaseer Group for Industries and Commercial Investments of Jordan) was building a second cement plant at Qatrana. Modern Cement contracted FLSmidth & Co. A/S of Denmark to supply the design and equipment for the cement plant, which would have the capacity to produce 1.2 Mt/yr of clinker and would begin producing portland cement, pozzolanic cement, and sulfate-resistant cement in 2011 (Modern Cement and Mining Co., 2010; Qatrana Cement Co., 2011).

Phosphate Rock.—The majority of Jordan's phosphate rock resources, which were estimated by JPMC to be 1,386 Mt at the end of 2009, are present in the Eshidiya deposit. The Eshidiya deposit, which is located in southern Jordan about 125 kilometers (km) northeast of the Aqaba Port, covers an area of about 258 square kilometers (Jordan Phosphate Mines Co. p.l.c., 2010, p. 16).

JPMC moved forward with its project to relocate its phosphate rock exports terminal at the Aqaba Port on the Red Sea to a new site in the Southern Industrial Zone, which is located on the southern tip of the Gulf of Aqaba near the border with Saudi Arabia. The JPMC terminal would be operated in conjunction with Aqaba Development Corp. and the Aqaba Special Economic Zones Authority. In April, JPMC awarded Afcons Infrastructure Ltd. of India a \$200 million engineering, procurement, and construction contract for the new phosphate rock terminal, which would include construction of a 4-Mt/yr phosphate rock terminal; truck unloading, handling, and storage facilities; and pipe conveyors (International Finance Corp., 2010b; MEED, 2010).

Jordan Abyad Fertilizers and Chemicals Co. P.S.C. (JAFCCO) completed construction of its fertilizer manufacturing complex at the Aqaba Industrial Complex, which opened in 2009. The \$90 million project was expected to increase the country's diammonium phosphate production capacity to 1 Mt/yr from 650,000 t/yr. The complex is located in Al-Abyad Valley near the Al-Abiad phosphate rock mine. It included five production lines for the manufacturing of sulfuric acid (132,000 t/yr), hydrochloric acid (100,000 t/yr), soluble potassium sulfate (80,000 t/yr), triple superphosphate (65,000 t/yr), calcium chloride (55,000 t/yr), and dicalcium phosphate (15,000 t/yr). The shareholders of JAFCCO included Venture Capital Bank of Bahrain (57.2%), Al-Fares Investments (17.8%), JPMC (15%), and Arab Mining Co. (10%) (Jordan Abyad Fertilizers and Chemicals Co. P.S.C., 2011).

Construction of the \$640 million phosphoric and sulfuric acid complex at Eshidiya in Ma'an Governorate was begun in April by Jordan Indian Fertilizer Co. (JIFCO), which was a joint venture of Indian Farmers Fertilizers Cooperative of India (IFFCO) (52% interest) and JPMC (48% interest). The joint venture, which was officially launched in October 2009, was building a new \$400 million phosphoric acid plant at the Eshidiya Mine, which was expected to produce 1,500 t/d of phosphoric acid. The \$225 million sulfuric acid plant would produce 1.5 Mt/yr of sulfuric acid. JPMC committed to supply JIFCO with 2 Mt/yr of phosphate rock. The plant was expected to begin production in 2013. JIFCO was the largest investment in JPMC's history in terms of capital, supporting industries, and production. Most of the phosphoric acid produced would be exported to India where it would be used as feedstock for IFFCO's Kandla fertilizer plant, which is located in Gujarat State. The International Finance Corp. (IFC) of the World Bank Group was appointed as the lead arranger and financial advisor for the project. The IFC approved a \$215 million loan in support of the project in 2010 (International Finance Corp., 2010a; Jordan India Fertilizer Company L.L.C., 2011).

JPMC and Petrokemia Gresik of Indonesia created a joint venture to build a new plant to with the capacity to produce 200,000 t/yr of phosphoric acid in Indonesia. JPMC would supply rock phosphate for the plant (Cowell, 2010).

Potash.—In 2010, Jordan's potash production rebounded to about 1.9 Mt compared with 1.1 Mt in 2009. The volume of potash sales, which reached 2,082,000 t, was a record output for APC following the sharp decrease in potash sales volume in 2009 when APC sold only 975,000 t of potash. APC completed its capacity expansion project in 2010, including modifying the solar ponds, building new carnalite ponds, increasing the potash storage capacity at Safi, increasing storage capacity at its Aqaba warehouse, and building a new cold crystallization plant. The expansion project increased APC's production capacity to 2.45 Mt/yr of potash from 2.0 Mt/yr. APC added four intake pumping stations at the Dead Sea to reach a total flow of 10 million cubic meters (pumped to the solar ponds) by yearend 2010. The company installed a new de-dusting system and was working jointly with JPMC to rehabilitate and enlarge the industrial jetty at Aqaba Port (Arab Potash Co. Ltd., 2011, p. 12, 21, 39).

Mineral Fuels and Related Materials

Nuclear Energy and Uranium.—During the 1980s and 1990s, the Government had conducted extensive exploration works for uranium, including sampling 15,000 sites and digging 1,700 trenches, and had outlined six key regions where uranium deposits are located. The findings indicated that Jordan has large uranium deposits, which were estimated to contain 140,000 t of recoverable uranium ore and 59,000 t of uranium (U_3O_8) that could be extracted from phosphate deposits. The Government signed several nuclear cooperation agreements in recent years with such countries as Canada, China, France, Italy, Japan, Kazakhstan, the Republic of Korea, Romania, Russia, Spain, and the United Kingdom to use nuclear technology to generate power and reduce the country's electricity and hydrocarbons imports. An agreement with the United States was still pending. The Government planned to mine its uranium reserves and to use a fraction of the output to power its potential eight nuclear powerplants and to export the remaining uranium (U_3O_8) to other countries. Areva Group S.A. of France was given exclusive rights to explore for and produce uranium for 25 years in the central region of Jordan. Areva and Jordan Energy Resources Inc. created Jordanian French Uranium Mining Co. (JFUMC) as a joint venture to explore for uranium in the country. Exploration results confirmed the presence of about 65,000 t of minable uranium ore from the Al-Hassa deposit in addition to 59,000 t of extractable uranium from phosphate rock reserves. Pending the results of the feasibility study that was being conducted by JFUMC, the company planned to build a uranium plant at the Al Hassa deposit in 2013 to recover uranium (U_3O_8) extracted from phosphate rock deposits (Luck, 2010; World Nuclear News, 2010; World Nuclear Association, 2011).

In February, Jordan Atomic Energy Commission signed an agreement with Rio Tinto Alcan of Australia and the United Kingdom to explore for thorium, uranium, zirconium, and other metals in Jordan. In 2010, Rio Tinto discovered uranium deposits at a depth of 25 to 30 meters under the soil surface in Southern Badia. Rio Tinto, however, withdrew from uranium prospecting in southern Jordan in April 2011. The reason for the company's withdrawal was that it had determined that it was not commercially feasible to produce uranium from the deposits in the Southern Badia region (Luck, 2010; World Nuclear News, 2010; WISE Uranium Project, 2011).

Outlook

Jordan's fertilizer, phosphate rock, and potash output rebounded in 2010 as the demand for mineral commodities returned to previous levels following a significant decrease in 2009. APC and JPMC invested \$120 million to develop a logistics hub at Aqaba Port to meet future demand for Jordanian exports of fertilizer. JPMC was investing \$220 million to build a new phosphate rock terminal that would have the capacity to ship 4 Mt/yr of phosphate rock. The new terminal would likely enable JPMC to increase the volume of phosphate rock and fertilizer exports. The volume of potash exports is likely to increase in upcoming years because of the completion of the

capacity expansion project and the development of the export hub at Aqaba Port. The future of uranium ore mining in Jordan depends largely on the world demand for nuclear energy as well as on the Government effort to attract foreign investment for its potential nuclear powerplants.

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TABLE 1
JORDAN: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons unless otherwise specified)

Commodity	2006	2007	2008	2009	2010
METALS					
Steel: ^c					
Crude	150	150	150	150	150
Semimanufactured	360	360	360	360	360
INDUSTRIAL MINERALS					
Bromine	95	85	85 ^r	69	329
Calcium carbonate	304	328	415	317	411
Cement, hydraulic	4,093 ^r	4,255 ^r	4,375 ^r	3,876 ^r	3,929
Clay:					
Common clay	643	948	762	765	929
Dead Sea mud	26	207	256	1,348	227
metric tons					
Kaolin	113	101	181	177	115
Feldspar	11	10	3	--	--
Fluorine, aluminum fluoride	12	11	9	9	9
Gypsum	334	288	232	304	292
Lime	12	12	15	8	16
Limestone, pure	448	482	1,840	2,352	559
Phosphate:					
Phosphate rock, mine output:					
Gross weight	5,805	5,552	6,266	5,282	6,529
P ₂ O ₅ content	1,860	1,780	2,002	1,690	2,090
Phosphatic fertilizers	862 ^r	831 ^r	788 ^r	721 ^r	760
Phosphoric acid	600 ^r	480	477 ^r	488 ^r	549
Potash:					
Crude salts	1,699	1,797	2,005	1,120 ^r	2,141
K ₂ O equivalent	1,036	1,090	1,223	683 ^r	1,306
Salt					
Brine	28,800 ^r	17,000 ^r	25,400 ^r	22,500 ^r	32,542
Dead Sea	34	1,289	1,375	191	1,152
do.					
Sand: ²					
Silica	392	628	23	298	150
Other	4,150	4,370	4,400	4,620	3,930
Stone:					
Basalt	9	21	5	44	14
thousand cubic meters					
Dimension:					
Worked	5,688	5,657	6,053	6,356	6,356
thousand meters					
Marble	38	41	44	46	46
thousand cubic meters					
Gravel and crushed rock:					
Basalt	9	3	1	1	1
do.					
Granite	4	4	4	4	4
do.					
Marble	38	27	29	31 ^r	46
do.					
Other	14	15	14	15	31
do.					
Pozzolan material	552	495	538	619	104
Travertine	9	3	6	11	9
Zeolite tuff	4	2	11	139	490
Sulfuric acid:					
Gross weight	1,092	1,022	933	918	1,067
S content	357	334	305	300	349
MINERAL FUELS AND RELATED MATERIALS					
Natural gas, dry	251	219	210	257 ^r	214
million cubic meters					
Petroleum:					
Crude	10,047	8,578	15,604	9,397	8,909
42-gallon barrels					
Refinery products:					
Liquefied petroleum gas	1,451	1,245	1,200	1,235 ^r	985
do.					
Lubricants	101	118	110	119 ^r	107
do.					

See footnotes at the end of table.

TABLE 1—Continued
 JORDAN: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons unless otherwise specified)

Commodity		2006	2007	2008	2009	2010
Petroleum—Continued:						
Refinery products—Continued:						
Gasoline	42-gallon barrels	5,530	5,787	5,700	7,566 ^r	7,029
Jet fuel	do.	2,385	2,304	2,300	2,444 ^r	2,717
Kerosene	do.	1,016	1,075	1,080	625 ^r	654
Distillate fuel oil	do.	9,878	9,047	9,000	8,750 ^r	6,739
Residual fuel oil	do.	8,781	8,024	8,000	6,124 ^r	7,195
Asphalt	do.	987	453	136	1,171 ^r	914
Total	do.	30,129	28,053	27,526	28,034 ^r	26,340

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ^rRevised. do. Ditto. -- Zero.

¹Table includes data available through December 31, 2011.

²Reported as cubic meters and converted to metric tons.

TABLE 2
JORDAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2010

(Thousand 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) (Kamil Holding Ltd., private, 37%; Jordan Finance Ministry, 26.3%; Social Security Corp., 16%; Kuwait Investment Corp., 9.3%; Passport Global Master Fund SPC Ltd., 2.8%; Islamic Development Bank, 1.4%)	Aqaba	14	
Basalt	Jordan Rock Wool Industries Co. Ltd.	Qa'a Hanna	5	
Bromine	Jordan Bromine Co. [Arab Potash Company Ltd. (APC), 50%, and Albemarle Corp., 50%]	al-Safi	100	
Cement	Al Rajhi Cement Jordan	Mafraq	2,000	
Do.	Arab Company for White Cement Industry	Amman	130	
Do.	Arabian Cement Jordan (Arabian Cement Co., 100%)	Al Qatraneh	1,800	
Do.	Jordan Lafarge Cement Factories Co. P.S.C. (JCFC) (Lafarge S.A., 50.28%; Social Security Corp., 21.86%; others, 27.87%)	Fuheis and Ar-Rashadiya	4,800	
Do.	Modern Cement and Mining Co. (Manaseer Group for Industries and Commercial Investments of Jordan, 100%)	do.	1,200 ¹	
Do.	Northern Cement Co.	Mill at Muwaqar	1,000	
Feldspar	General Mining Co. Ltd.	Al-Jaishiah	10	
Gypsum	Al-Nasr Mining Establishment	Mujib	31	
Do.	Al-Nisr/Ali Manaseer	do.	89	
Do.	Al-Noor Mining Co.	do.	11	
Do.	Falahat Mining Establishment	do.	25	
Do.	Isam Alshoouly & Maksim	do.	13	
Do.	Jordan Lafarge Cement Factories Company P.S.C.	Zarqa	73	
Do.	Mansour Al Shoabaki Establishment	Mujib	2	
Do.	Public Mining Co. Ltd.	do.	68	
Do.	Shaker Al-Talib Establishment	Subeihi	15	
Kaolin	Al-Faori Enterprise for Mining	Al-Adasieh	110	
Do.	Jordanian Company for Mining and Processing of Kaolin and Feldspar	Qanasieh	216	
Do.	Public Mining Company Ltd.	Fuahais	38	
Do.	do.	Batn el-Ghoul	31	
Lime	Arab Company for White Cement Industry	Khalidiah	NA	
Natural gas	million cubic meters	National Petroleum Co. (Government, 100%)	Risha	210
Petroleum:				
Crude	thousand 42-gallon barrels	do.	Hamza	16
Refined	do.	Jordan Petroleum Refinery Co. Ltd. (Government, 100%)	Zarqa	36,500
Phosphate:				
Phosphate rock	Jordan Phosphate Mines Co. p.l.c. (JPMC) (Kamil Holding Ltd., 37.0%; Jordan Investment Corp., 25.661%; Social Security Corp., 15.97%; Kuwait Investment Corp. 9.33%; Passport Global Master Fund Spc Ltd., 2.03%; Jordan Islamic Bank, 1.58%; others, 8.43%)	Al-Abiad, Al-Hassa, Eshidiya, and Russeifa Mines	7,000	
Phosphatic fertilizers	do.	Aqaba	650	
Do.	Jordan Abyad Fertilizers and Chemicals Co. P.S.C. (JAFCCO) (Venture Capital Bank, 57.2%; Al-Fares Investments, 17.8%; Jordan Phosphate Mines Co. p.l.c. (JMPC), 15%; Arab Mining Co., 10%)	do.	80	
Do.	Nippon Jordan Fertilizer Co. [Asahi Industries Company Ltd. 10%; Mitsubishi Corp., 10%; Mitsubishi Chemicals Corp., 10%; Zen-Noh, 30%; Arab Potash Co. Ltd. (APC), 20%; Jordan Phosphate Mines Co. p.l.c. (JPMC), 20%]	Eshidiya	300	

See footnotes at end of table.

TABLE 2—Continued
 JORDAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2010

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual
Phosphate—Continued:			
Phosphoric acid	Jordan Phosphate Mines Co. p.l.c. (JPMC)	Aqaba	350
Do.	Jordan Indian Fertilizer Co. (JIFCO) [Indian Farmers Fertilizers Cooperative of India (IFFCO), 52%, and Jordan Phosphate Mines Co. p.l.c. (JPMC), 48%]	Eshidiya	475 ¹
Do.	Indo-Jordan Chemicals Co. Ltd. (Jordan Phosphate Mines Co. p.l.c. (JPMC), 87%, and Arab Investment Co., 13%)	do.	250
Potash	Arab Potash Co. Ltd. (APC) (Potash Corporation of Saskatchewan, Inc., 27.96%; Arab Mining Co., 19.92%; Islamic Development Bank, 5.16%; Social Security Corp., 5.04%; Iraqi Government, 4.71%; Libyan Arab Company for Foreign Investments, 4.06%; Kuwait Investment Authority, 3.95%; other investors, 2.32%)	al-Safi	2,450
Potassium nitrate	Arab Fertilizers and Chemicals Industries Ltd. [Arab Potash Co. Ltd. (APC), 100%]	Aqaba	150
Potassium sulfate	Jordan Abyad Fertilizers and Chemicals Co. P.S.C. (JAFCCO) (Venture Capital Bank, 57.2%; Al-Fares Investments, 17.8%; Jordan Phosphate Mines Co. p.l.c. (JMPC), 15%; Arab Mining Co., 10%)	do.	80
Pozzolanic material	Jordan Lafarge Cement Factories Co. P.S.C.	Tel Remah	350
Do.	do.	Rashahdieh	150
Salt	Arab Potash Co. Ltd. (APC), 100%	al-Safi	17
Sand, silica	Middle East Regional Development Enterprises	Ras al-Naqab	530
Do.	Al-Habahbeh and Sons Company for Mining	do.	28
Do.	Al-Rehab for Industrial and Trading Establishment	do.	27
Do.	Al-Fares Company for Glass Sand Mining	do.	17
Do.	International Silica Industries	Dabbet Hanot/Ras En Naql	NA
Do.	Green Technology Group	AL-Homaimeh	NA
Steel:			
Crude	Jordan Steel Co. p.l.c.	Amman	360
Semimanufactured	do.	do.	300
Do.	National Steel Industry Co.	Awajan	100
Do.	Jordan Steel Co. p.l.c.	Amman	506
Sulfuric acid	Jordan Abyad Fertilizers and Chemicals Co. P.S.C. (JAFCCO) (Venture Capital Bank, 57.2%; Al-Fares Investments, 17.8%; Jordan Phosphate Mines Co. p.l.c. (JMPC), 15%; Arab Mining Co., 10%)	Aqaba	132
Do.	Jordan Phosphate Mines Co. p.l.c. (JPMC)	do.	1,100
Do.	Jordan Indian Fertilizer Co. (JIFCO) [Indian Farmers Fertilizers Cooperative of India (IFFCO), 52%, and Jordan Phosphate Mines Co. p.l.c. (JPMC), 48%]	Eshidiya	1,500 ¹
Do.	Indo-Jordan Chemicals Co. (Jordan Phosphate Mines Co. p.l.c. (JPMC), 87%, and Arab Investment Co., 13%)	do.	730
Zeolite	Amana Agricultural & Industrial Co.	Tel Hesban	NA
Do.	Green Technology Group of Jordan for Mining	Al Aritayn /Al-Marfaq	NA
Do.	Jordanian Factory for Soil Development & Moisture Drying Co.	do.	NA

Do., do. Ditto. NA Not available.

¹Under construction.