



# 2019 Minerals Yearbook

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**ISRAEL [ADVANCE RELEASE]**

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# THE MINERAL INDUSTRY OF ISRAEL

By Philip A. Szczesniak

Israel remained a major producer of bromine, fertilizers, magnesium metal, phosphate rock, and potash in 2019. As the world's leading producer of bromine, Israel accounted for 42% of the world's bromine production (excluding that of the United States). In addition, Israel was the world's 5th-ranked producer of magnesium metal in 2019, accounting for 1.9% of the estimated world output of magnesium metal production (excluding that of the United States); the 6th-ranked producer of potash, accounting for 4.9% of the estimated world production of potash; and the 13th-ranked producer of phosphate rock, accounting for 1.2% of the estimated world production of phosphate rock. Other mining and mineral-processing operations included those for cement, clay, crushed stone, diamond cutting and polishing, fertilizers, gypsum, refined secondary lead, lime, natural gas, salt, steel products, sulfur, and petroleum (both crude and refinery products). Israel consumed substantial amounts of bromine, phosphate rock, and potash in downstream processing operations; most of the final output from these operations was exported (Kimberley Process Certification Scheme, 2020; Bray, 2021; Jasinski, 2021a, b; Schnebele, 2021).

## Minerals in the National Economy

In 2019, Israel's gross domestic product (GDP) increased to \$358 billion<sup>1</sup>; manufacturing and mining and quarrying together contributed 12.0% of the GDP. The real GDP growth rate was 3.3%. The manufacturing sector employed 349,500 workers; the basic metals and fabricated metal products sector employed 41,200 workers; the chemicals, chemical products, and petroleum products sector employed 19,500 workers; the industrial minerals sector, 9,500; the mining and quarrying sector, 4,900; and the working of diamonds sector, 1,800. Israel's total exports of goods were valued at \$51.9 billion in 2019, of which the manufacturing sector and the mining and quarrying sector (excluding worked diamonds) together accounted for \$46.1 billion; the working of diamonds sector, \$3.4 billion; and the wholesale of diamonds sector, \$1.4 billion. Total imports of goods were valued at about \$75.7 billion; mineral-related imports included fuels valued at \$9.3 billion, and unworked and worked diamonds (net), \$3.9 billion. Israel's top five leading export destinations in 2019 were the United States (received 28% of exports); the European Union, 21%; the United Kingdom, 9%; China, 8%; and Hong Kong, 5%. Israel's top five leading import sources in 2019 were the European Union (supplied 32% of imports); the United States, 16%; Switzerland, 11%; China, 9%; and the United Kingdom, 6% (Central Bureau of Statistics, 2020a, p. 1; 2020b, c; European Commission, 2020, p. 8).

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<sup>1</sup>Where necessary, values have been converted from Israeli shekels (NIS) to U.S. dollars (US\$) at an annual average exchange rate of NIS 3.5628=US \$1.00 for 2019.

Israel's exports of goods to the United States were valued at about \$19.5 billion in 2019. Gem diamond accounted for about 34% of these exports, which were valued at about \$6.6 billion. Other significant mineral-related exports to the United States included chemicals (fertilizers), \$217.3 million; gemstones (other), \$101.5 million; stone, sand, and cement, \$93.0 million; iron and steel products (not elsewhere classified), \$69.7 million; nonferrous metals (other), \$45.8 million; petroleum products (other), \$40.5 million; copper, \$9.7 million; and bauxite and aluminum, \$9.3 million. Israel's imports from the United States were valued at \$14.4 billion in 2019. Gem diamond valued at about \$4.2 billion accounted for about 29% of these imports. Other significant mineral-related imports from the United States included crude petroleum valued at \$295.9 million; petroleum products (other), \$180.1 million; nonferrous metals (other), \$60.5 million; and aluminum and alumina, \$53.0 million; and fuel oil, \$31.5 million; precious metals (other), \$11.3 million; and nonmetallic minerals, \$1.5 million (U.S. Census Bureau, 2020a, b).

The Ministry of Energy oversaw activities in the mining sector; the mining sector was governed by regulations enacted in 1973 and 1978. The regulations enacted in 1978 included the establishment of the Quarry Rehabilitation Fund to reduce environmental damage from quarry operations and to ensure the rehabilitation of abandoned mines and quarries. The Dead Sea Concession Law of 1961 and amended in 1986 granted a concession to Israel Chemicals Ltd. (ICL) to utilize the resources of the Dead Sea and to lease the land required for its plants in Sodom until 2030. Upstream exploration and production of natural gas and petroleum were governed by the Petroleum Law of 1952, Petroleum Regulations of 1953, and the Petroleum Profits Taxation Law of 2011. Downstream production and other activities were governed by the Natural Gas Sector Law of 2002, which established a licensing system for natural gas distribution and transmission and liquefied natural gas facilities (Ministry of Energy, 2018, [undated]; United Nations, 2010, p. 21; Israel Chemicals Ltd., 2020a, p. 107; Weintraub and Anouchi, 2020).

## Production

In 2019, production of naphtha increased by 28%; residual fuel oil, by 26%; magnesium chloride (Mg content), by 22%; lime, by 15%; crude petroleum, by 14%; monoammonium phosphate fertilizer, by 13%; and distillate fuel oil, by 12%. Decreased production included that of stone (dimension marble), by 25%; phosphate rock, by 21%; salt (marketable), by 20%; lead refined (secondary), by 16%; asphalt and cement (hydraulic), each by 15%; and potash, by 12% (table 1).

## Structure of the Mineral Industry

Most of Israel's mining and mineral processing operations were privately owned, including the producers of aggregates, cement, clay, dolomite, lime, and salt. ICL, which was owned by Israel Corp. (45.86%) and institutional investors and the public (54.14%), was the country's sole producer of bromine, magnesia, refined magnesium metal, phosphates, potash, and sulfuric acid. Other commodities produced by only one company included refined secondary lead, by Hakurnas Lead Works Ltd.; refined secondary zinc, by Numinor Chemical Industries Ltd.; and silica sand, by Negev Industrial Minerals Ltd. Cement was produced by two companies, namely Har Tuv Cement Ltd. and Neshet Israel Cement Enterprises Ltd. The diamond cutting and polishing industry was composed of many small producers. Natural gas was produced by partnerships among Israel's Delek Group, Noble Energy Inc. of the United States, and several other companies, which operated in the Leviathan and the Tamar offshore gasfields in the eastern Mediterranean Sea. Table 2 is a list of major mineral industry facilities (Israel Chemicals Ltd., 2020a, p. 3, 48; 2020b; Noble Energy Inc., 2020, p. 12).

## Commodity Review

### Metals

**Magnesium.**—In 2019, Israel produced 21,350 metric tons (t) of magnesium metal compared with 21,000 t in 2018. Dead Sea Magnesium Ltd. (DSM; a subsidiary of ICL) was the only producer of magnesium metal in the country. DSM operated a plant in Sodom in southeastern Israel near the southern end of the Dead Sea; the plant had a production capacity of 24,000 metric tons per year (t/yr) of magnesium metal. During the year, ICL noted that its magnesium metal production was negatively affected by a decrease in its exports to the United States owing to an antidumping claim by the United States in October 2018. In May 2019, the United States imposed a countervailing duty of 7.48%, and later, in July, an antidumping duty rate of 193.24% was imposed. In December, the U.S. International Trade Administration canceled the custom duty rates that had been imposed earlier in the year owing to their finding that no material injury was caused to the United States from the imports of magnesium metal from Israel (table 1; Bray 2020; Israel Chemicals Ltd., 2020a, p. 21, 59, 88).

### Industrial Minerals

**Bromine.**—Dead Sea Bromine Company Ltd. (DSBC; a subsidiary of ICL) extracted brines from the Dead Sea at DSBC's plant at Sodom, which had a production capacity of 280,000 t/yr of bromine. DSBC's production of bromine increased to 180,000 t in 2019 from about 175,000 t in 2018. ICL consumed most of the bromine produced in the downstream manufacturing of bromine compounds at its plants in China, Israel, and the Netherlands. Bromine compounds produced by DSBC were used in such applications as flame retardants, natural gas and crude petroleum production, pharmaceuticals, and water treatment. In September, ICL announced that it was increasing its bromine compounds production capacity after entering into several agreements with customers in Asia.

The company said it would invest about \$50 million at its Sodom plant. The expansion, which was expected to be completed by 2021, was expected to increase the capacity to produce tetrabromobisphenol A (TBBA, a flame retardant bromine compound used primarily in the manufacturing of printed circuit boards for the electronics industry) by up to 25,000 t/yr. In 2019, ICL sold approximately 245,000 t of bromine compounds from its facilities in China, Israel, and the Netherlands (table 1; Thomson Reuters, 2019; Israel Chemicals Ltd., 2020a, p. 46, 48–49, 51, 98, 121).

**Cement.**—Israel's production of cement decreased by an estimated 15% to 5.0 million metric tons (Mt) in 2019, which was the lowest level in 5 years and a decrease of more than 30% since the recent high of 7.2 Mt in 2016. The decrease in production was owing to competition from lower-priced cement imports from Greece and Turkey. In April, Israel's Ministry of Economy imposed an antidumping duty on imports of portland cement from Turkey and Greece. The rate of duty on imports from Greece was set at 0.25% and the rate from Turkey was set at between 0% and 0.25%. The duty was expected to remain in effect until October 2021. Israel's biggest cement producer remained Neshet Israel Cement Enterprises Ltd. (Neshet), which was a subsidiary of Clal Industries and Investment Ltd. Neshet operated the Ramla plant, which had a production capacity of 5 million metric tons per year (Mt/yr) of cement and 4 Mt/yr of clinker, and the Haifa grinding mill, which had a production capacity of 1.2 Mt/yr of cement (Times of Israel, The, 2018a; Global Trade Alert, 2019; Neshet Israel Cement Enterprises Ltd., 2020).

**Phosphate Rock.**—Rotem Amfert Negev Ltd. (a subsidiary of ICL) continued to produce phosphate rock at the Oron, the Rotem, and the Zin Mines in the Negev Desert in southern Israel. The open pit mines had a combined production capacity of 4.5 Mt/yr. As of yearend 2019, the estimated remaining life of the Oron Mine was 4 years; the Rotem Mine, 5 years; and the Zin Mine, 10 years. Israel's production of beneficiated phosphate rock decreased by nearly 21% to 2.81 Mt in 2019, which was the lowest level in 5 years and a decrease of about 29% since the recent high of 3.95 Mt in 2016. ICL reported that the decrease in production in 2019 was owing to a temporary shutdown of the Zin Mine during part of the year owing to lower global demand and prices. ICL exported phosphate rock through the Port of Ashdod, an eastern Israeli port about 40 kilometers (km) south of Tel Aviv on the Mediterranean Sea, and the Port of Eilat, a southern Israeli port and resort town on the Red Sea (tables 1, 2; Israel Chemicals Ltd., 2020a, p. 63, 103, 113, 117).

**Potash.**—The production of potash in Israel decreased by 12% to 3.33 Mt in 2019 from 3.80 Mt in 2018. ICL reported that the decrease in production in 2019 was owing to a temporary shutdown to upgrade its Dead Sea facilities; the production capacity was expected to increase by 5% in the coming years as a result of the upgrade, which was completed in December. Dead Sea Works (DSW; a subsidiary of ICL) extracted carnallite, which is a compound of potassium chloride and magnesium chloride, from the Dead Sea to supply raw material for its potash plants in Sodom; the plant's production capacity was 4.0 Mt/yr of potash (table 2; Israel Chemicals Ltd., 2020a, p. 52–53; Thomson Reuters, 2020).

## Mineral Fuels

**Natural Gas.**—Natural gas production in Israel increased slightly to 10.5 billion cubic meters in 2019 owing to increased output in the Tamar field to meet increased domestic consumption. Israel's largest producing natural gas field continued to be the Tamar offshore gasfield, which was discovered 90 km offshore near Haifa Bay in 2009 and started production in 2013. The Tamar gasfield was owned by a consortium made up of Isramco Negev 2 LLP (28.75%), Noble Energy Inc. of the United States (25%), Delek Group (22%), Tamar Petroleum Ltd. (16.75%), Dor Gas Exploration Ltd. (4%), and Everest Infrastructure LLP (3.5%). The production capacity of the Tamar gasfield was 11.4 billion cubic meters per year. Israel's other significant natural gas field was the Leviathan field, which included Leviathan North and Leviathan South. This field, which was discovered in 2010 and started production in December 2019, was expected to become Israel's leading producing natural gas field and to have a production capacity of 12.4 billion cubic meters per year. The Leviathan gasfield, which was located 130 to 140 km west of Haifa and covered a total area of 500 square kilometers, was jointly owned by the Delek Group (45.34%), Noble Energy (39.7%), and Ratio Oil Exploration Ltd. (15%). At yearend 2019, total estimated reserves for the Leviathan and the Tamar gasfields were reported to be 414 billion cubic meters and 345 billion cubic meters of natural gas, respectively (tables 1, 2; Bronner, 2010; Delek Group, 2020, p. A-20, A-26, A-39–40, A-79, A-93, A-114).

In October, the partners in the Leviathan and Tamar gasfields amended a supply agreement that was signed in February 2018 with Dolphinus Holdings Ltd. of Egypt. In the amended agreement, Dolphinus Holdings agreed to purchase natural gas from Israel valued at \$19.5 billion, which amounted to 85 billion cubic meters (previously 64 billion cubic meters) of natural gas over 15 years with 60 billion cubic meters coming from the Leviathan gasfield and the remaining 25 billion cubic meters coming from the Tamar gasfield. Under the amended deal, natural gas exports from Israel were expected to begin in 2020 and to continue through 2034. Israel's Energy Minister noted that the deal with Dolphinus Holdings was the most significant trade deal between Israel and Egypt since their peace treaty in 1979. In September 2018, the consortium made up of the Delek Group, Egyptian East Gas Co., and Noble Energy had announced a \$500 million deal that would allow these natural gas exports from Israel to Egypt; this involved the purchase from the Egyptian East Mediterranean Gas Co. of a 39% interest of a disused pipeline connecting the Israeli coastal city of Ashkelon with North Sinai in Egypt. The purchase of the interest in the pipeline and subsequent approval by the Israeli Government in October was necessary to allow the two natural gas export deals to move forward (Cohen and Rabinotvich, 2018; Times of Israel, The, 2018b; Azran and others, 2019; Magdy and Benmeleh, 2019).

The Delek Group reported in 2019 that the development plan of the first phase of the Leviathan natural gas project would be implemented in two stages. The first stage would include four production wells and installation of treatment facilities with an annual capacity of up to 12 billion cubic meters per year; an investment of \$3.75 billion would be required for this stage.

The second stage would include four additional wells and expansion of the treatment facilities with an additional annual capacity of up to 9 billion cubic meters; an investment of \$1.5 billion to \$2.0 billion would be required for the second stage. The first stage started production at the end of 2019; no specific date was announced for the startup of the second stage (Delek Group, 2020, p. A-35).

Energean Oil and Gas plc. (Energean) of Greece continued to develop the Karish and the Tanin offshore natural gas fields in 2019; these fields were located north of the Tamar offshore gasfield or about 90 km northwest of the Port of Haifa. Estimated combined reserves for the fields, were 68 billion cubic meters of natural gas and 33 million barrels of light oil or condensate. Energean acquired a 100% share in the Karish and the Tanin Fields in 2016; the Tanin Field was discovered in 2011 and the Karish field was discovered in 2013. In November, Energean confirmed its discovery earlier in the year of additional natural gas resources of 25 billion cubic meters in the nearby Karish North Field. Energean planned to start production from the fields in 2021 (Oil and Gas Journal, 2017; Halon, 2019).

The Ministry of Energy announced in November that Israel would stop using coal for electricity generation by 2025, which is 5 years earlier than the 2030 target set in the Government's Policy 2030 plan. The decision to change the date to convert the last two remaining coal-fired powerplants to natural gas was made after a review by the Israeli Electricity Authority, which cited the coal plants' high environmental, capital, and operational costs along with increased domestic natural gas supplies for the decision. The announcement related to the two main electricity power stations in the northern city of Hadera and the southern city of Ashkelon (Xinhua, 2019).

## Outlook

Israel's real GDP was forecast to decrease by 5.9% in 2020 but then to increase by 4.9% in 2021; the manufacturing and mining and quarrying sectors are expected to continue to be significant contributors to the economy and will likely grow in importance as the country continues to develop its offshore energy resources. Natural gas production is expected to increase significantly in the next few years with the rampup of the Leviathan gasfield; the expansion of the Tamar gasfield; and the startup of the Karish and the Tanin gasfields to fulfill export demand (especially to Egypt) and to satisfy increasing domestic demand for natural-gas-generated electric power. The gasfields may transform Israel into a major natural-gas-producing country in the Eastern Mediterranean region. The production outlooks for bromine, fertilizer, and phosphate rock will likely depend on market conditions in the world economy (International Monetary Fund, 2020, p. 58).

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

(Metric tons, gross weight, unless otherwise specified)

Commodity <sup>2</sup>	2015	2016	2017	2018	2019
METALS					
Lead, refinery, secondary	26,000 <sup>e</sup>	24,128	25,261	28,700	24,090
Magnesium, primary, metal	19,307	22,548	23,000	21,000	21,350
INDUSTRIAL MINERALS					
Bromine, elemental	115,583	161,986	180,000	175,000	180,000
Cement, hydraulic	6,904	7,150	6,361	5,858	5,000 <sup>e</sup>
Clay:					
Brick	45,000	44,000	34,288	32,700	33,000 <sup>e</sup>
Common	1,041,509	1,152,694	1,158,600	1,019,000	1,000,000 <sup>e</sup>
Flint <sup>e</sup>	330,000	330,000	330,000	300,000	300,000
Fertilizers, phosphate fertilizer:					
Monoammonium phosphate	86,381	87,061	29,150	35,500 <sup>e</sup>	40,000 <sup>e</sup>
Triple superphosphate	431,630	625,329	655,900	662,300	659,000
Other	242,379	288,901	299,550	300,000 <sup>e</sup>	310,000 <sup>e</sup>
Gypsum	159,299	147,000	116,000	75,800	72,000
Lime	554,000 <sup>e</sup>	573,000	384,900	614,000	706,000
Magnesium compounds:					
Magnesia	29,708	34,648	45,000	30,870	31,699
Magnesium chloride, Mg content	95,397	107,274	90,000	113,000	138,000
Phosphate, compounds, phosphoric acid	606,955	614,560	726,900	583,600	588,800
Phosphate rock, beneficiated:					
Gross weight	3,848	3,946	3,332	3,550	2,807
P <sub>2</sub> O <sub>5</sub> content <sup>e</sup>	1,190	1,220	1,030	1,100	870
Potash:					
Gross weight	2,438	3,739	3,700	3,800	3,334
K <sub>2</sub> O content	1,540	2,068	1,900	2,200 <sup>e</sup>	2,040
Compounds, potassium nitrate	358,500	396,600	124,400	192,700	189,400
Salt, marketable	333	389	514	377 <sup>r</sup>	301
Sand and gravel, industrial, unspecified	218,000	302,000	559,800	409,400 <sup>r</sup>	417,000
Stone, sand, and gravel, construction:					
Sand and gravel, other	5,500	4,904	5,113	4,900	4,654
Stone:					
Crushed, unspecified	51,650	55,254	57,442	55,300 <sup>e</sup>	54,600
Dimension, marble	77,000	76,000 <sup>e</sup>	76,000 <sup>e</sup>	40,000 <sup>r,e</sup>	30,000 <sup>e</sup>
Sulfur:					
Byproduct, petroleum, S content	72	71	77 <sup>r</sup>	76 <sup>r</sup>	76 <sup>e</sup>
Compounds, sulfuric acid:					
Gross weight	2,148	2,185	2,118	2,057	2,099
S content	702	720	700 <sup>e</sup>	680 <sup>e</sup>	700 <sup>e</sup>
MINERAL FUELS AND RELATED MATERIALS					
Natural gas:					
Gross	8,370	9,390	9,570	10,480	10,500
Marketable <sup>e</sup>	7,500	8,500	8,600	9,400	9,400
Petroleum:					
Crude	473	681	480	552	627
Refinery:					
Asphalt	1,684	1,566	1,876	1,892	1,609
Distillate fuel oil	24,168	24,326	30,054	35,895	40,279
Gasoline	22,250	21,980	23,470	25,567	25,058
Kerosene	8,673	9,550	8,842	10,635	11,565
Liquefied petroleum gas	5,505	5,015	5,164	5,874	5,814
Lubricants	45	114	115 <sup>e</sup>	115 <sup>e</sup>	120 <sup>e</sup>
Naphtha	6,817	5,544	7,545	5,993	7,693
Oil shale	210 <sup>e</sup>	NA	NA	NA	NA
Residual fuel oil	15,709	14,656	13,533	13,103	16,479

See footnotes at end of table.

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

(Metric tons, gross weight, unless otherwise specified)

Commodity <sup>2</sup>	2015	2016	2017	2018	2019	
MINERAL FUELS AND RELATED MATERIALS—Continued						
Petroleum:—Continued						
Refinery:—Continued						
Other <sup>c</sup>	do.	21,000	20,000	20,000	23,000	24,000
Total	do.	106,000	103,000	111,000	122,000	133,000

<sup>c</sup>Estimated. <sup>1</sup>Revised. do. Ditto. NA Not available.

<sup>1</sup>Table includes data available through November 30, 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.

<sup>2</sup>In addition to the commodities listed, caustic soda, secondary refined zinc, and semimanufactured steel may have been produced, but available information was inadequate to make reliable estimates of output.

TABLE 2  
ISRAEL: STRUCTURE OF THE MINERAL INDUSTRY IN 2019

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Bromine		Dead Sea Bromine Company (DSBC) [Israel Chemicals Ltd. (ICL), 100%]	Plant at Sodom	280
Cement		Nesher Israel Cement Enterprises Ltd. (Clal Industries and Investments Ltd., 100%)	Plant at Ramla	5,000
Do.		do.	Clinker plant at Ramla	4,000
Do.		do.	Grinding mill at Haifa	1,200
Do.		Har Tuv Cement Ltd. (Weil family, 100%)	Plant at Beit Shemesh	850
Clay		Negev Industrial Minerals Ltd.	Mine at Ramon Crater	NA
Lead, refined, secondary		Hakurnas Lead Works Ltd.	Plant at Ashdod	50
Lime		Negev Industrial Minerals Ltd.	Plant at Mishor Rotem	180
Do.		Lime & Stone Production Co. Ltd. [Readymix (Israel) Ltd., 100%]	Plant at Shefeya	150
<b>Magnesium:</b>				
Magnesia		Dead Sea Periclase Ltd. [Israel Chemicals Ltd. (ICL), 100%]	do.	75
Magnesium metal, refined		Dead Sea Magnesium Ltd. (DSM) [Israel Chemicals Ltd. (ICL), 100%]	Plant at Sodom	24
Natural gas	million cubic meters	Delek Group, 45.34%; Noble Energy Inc., 39.66%; Ratio Oil Exploration Ltd., 15%	Leviathan gasfield (offshore)	12,400
Do.	do.	Isramco Negev 2 LLP, 28.75%; Noble Energy Inc., 25%; Delek Group, 22%; Tamar Petroleum Ltd., 16.75%; Dor Gas Exploration Ltd., 4%; Everest Infrastructures LLP, 3.5%	Tamar gasfield (offshore)	11,400
<b>Petroleum:</b>				
Crude	thousand 42-gallon barrels	Lapidoth Israel Oil Prospectors Corp.	Heletz field (onshore)	700 <sup>e</sup>
Refined	do.	Bazan Group Ltd. (Private investors, 51.4%; Israel Corp., 33.06%; Israel Petrochemical Enterprises Ltd., 15.50%)	Refinery at Haifa Bay	71,900
Do.	do.	Paz Oil Company Ltd.	Refinery at Ashdod	40,200
<b>Phosphate:</b>				
Phosphate rock		Rotem Amfert Negev Ltd. [Israel Chemicals Ltd. (ICL), 100%]	Oron, Rotem, and Zin Mines in the Negev Desert	4,500
Phosphatic fertilizers		do.	Plant at Mishor Rotem	1,900
Phosphoric acid <sup>1</sup>		do.	do.	760
Potash		Dead Sea Works (DSW) [Israel Chemicals Ltd. (ICL), 100%]	Plant at Sodom	4,000
Salt		do.	do.	700
Do.		Israel Salt Industries Ltd. (subsidiary of Danker Group)	Plant at Eilat	150
Do.		do.	Plant at Atlit	14
Silica sand		Negev Industrial Minerals Ltd.	Mine at Mactesh Hatira	300
<b>Steel:</b>				
Billet		Hod Metal Products & Manufacturing Co. Ltd.	Plant at Acre	250
Do.		Yehuda Steel Ltd.	Plant at Bene Ayish	200
Do.		do.	Plant at Ashdod	180
Rebar		Neuman Steel Industries Group Ltd.	Plant at Petah Tikva	300
Do.		Hod Metal Products & Manufacturing Co. Ltd.	Rolling plant at Kiryat Gat	250
Do.		Yehuda Steel Ltd.	Plant at Bene Ayish	200
Do.		do.	Plant at Ashdod	120

See footnotes at end of table.



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

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Stone, sand, and gravel	Hanson Israel (subsidiary of HeidelbergCement AG)	Migdal Zedek and other quarries, about 40 kilometers east of Tel Aviv	8,000 <sup>e</sup>
Do.	Lime & Stone Production Co. Ltd. [Readymix (Israel) Ltd., 100%]	Modiim quarry, about 40 kilometers southeast of Tel Aviv	6,000 <sup>e</sup>
Do.	do.	Dragot, Ein Harod, Eilat, Golani Junction, Kadarim, Revivim, Segev, and Shefar'am quarries	5,000 <sup>e</sup>
Do.	Shapir Civil and Marine Engineering Ltd.	Etziona quarry, Beit Shemesh	2,500 <sup>e</sup>
Do.	do.	Natuf quarry, near Nili in the Occupied West Bank	2,500 <sup>e</sup>
Do.	do.	Vered quarry, near Barkai	2,500 <sup>e</sup>
Do.	do.	Zanuach quarry, near Beit Shemesh	2,500 <sup>e</sup>
Sulfur	Bazan Group Ltd. (Private investors, 51.4%; Israel Corp., 33.06%; Israel Petrochemical Enterprises Ltd., 15.50%)	Refinery at Haifa	40
Do.	Paz Oil Co. Ltd.	Refinery at Ashdod	33
Sulfuric acid	Rotem Amfert Negev Ltd. [Israel Chemicals Ltd. (ICL), 100%]	Plant at Mishor Rotem	2,400
Zinc, refined, secondary	Numinor Chemical Industries Ltd.	Plant at Ma'a lot-Tarshiha	NA

<sup>e</sup>Estimated; estimated data are rounded to no more than three significant digits. Do., do. Ditto. NA Not available.

<sup>1</sup>P<sub>2</sub>O<sub>5</sub> equivalent.