THE MINERAL INDUSTRY OF

ISRAEL

By Thomas R. Yager

In 2001, Israel was a producer of such metals and metal products as lead, magnesium, steel, and zinc and such industrial minerals as bromine, bromine derivatives, flint clay, gypsum, kaolin, magnesia, phosphate rock, potash, silica sand, and sulfur. Building materials produced in Israel included cement, crushed stone, marble, and sand. The country also cut imported diamond and produced caustic soda, fertilizers, natural gas, petroleum and petroleum products, phosphoric acid, and sulfuric acid.

In 2001, Israel's gross domestic product (GDP) at purchasing power parity amounted to \$118.4 billion; per capita GDP in 2000 amounted to \$18,600 at purchasing power parity. The GDP decreased by 0.6% in 2001 after increasing by 6.4% in 2000, 2.6% in 1999, and 2.7% in 1998. In 2000, the constant dollar value of nonmetallic mineral products and production in the Israeli mining and quarrying industry fell by 8.3% and 2.3%, respectively, and chemicals and refined petroleum and metal rose by 3.4% and 1.9%, respectively. Chemicals and refined petroleum accounted for 9.9% of industrial production; nonmetallic minerals, 3.7%; mining and quarrying industry, 2.7%; and metal, 2.1% (Israel Central Bureau of Statistics, 2001, p. 20.13-20.15; International Monetary Fund, 2002, p. 158; 2002a§, b§).

In 2000, Israel's total exports amounted to nearly \$28.3 billion. The value of fertilizer exports amounted to \$418.4 million; metal exports, \$279.3 million; refined petroleum products, \$227.8 million; crude fertilizers and minerals, \$175.2 million; and metalliferous ores and scrap, \$52.8 million. Imports amounted to \$35.2 billion, of which mineral fuels accounted for nearly \$3.25 billion; iron and steel, \$629 million; nonferrous metals, \$424.8 million; and crude fertilizers and minerals, \$168.9 million (Israel Central Bureau of Statistics, 2001, p. 16.7-16.8).

Commodity Review

Metals

Lead.—In 2001, Harkunas Lead Works, which was Israel's secondary lead smelter, increased its output owing to an expansion project that nearly doubled capacity to 25,000 metric tons per year (t/yr). Harkunas imported most of its lead scrap material from Eastern Europe; most of the plant's exports were shipped to Greece, Italy, and Spain (Metal Bulletin, 2000). The International Lead and Zinc Study Group (2002, p. 8) estimated that Israel's consumption of refined lead increased to 14,000 metric tons (t) in 2000 and 2001 from 12,000 t in 1999 and 11,000 t in 1998.

Magnesium.—Dead Sea Magnesium Ltd. (DSM) [a joint venture between Israel Chemicals Limited (ICL) (65%) and Volkswagen AG of Germany (35%)] operated a magnesium

refinery with a capacity of 34,000 t/yr. The plant's raw material was carnallite from the Dead Sea, which was dehydrated, melted, and electrolytically refined to yield magnesium metal and chlorine.

Brines from the Dead Sea were exploited by Dead Sea Periclase Ltd. (DSP) (a subsidiary of ICL) in the production of magnesia. DSP produced 95,000 t/yr of magnesia, of which about 65,000 t/yr was dead-burned magnesia. About 13,000 t/yr of dead-burned magnesia was fused in-house by Taheto Dead Sea Fused Magnesia Company [a joint venture between DSP (50%) and Taheto Chemical Industries of Japan (50%)].

Other magnesium derivatives produced in Israel included magnesium chloride flakes and magnesium nitrate fertilizers, which were produced by the Dead Sea Works Ltd. (DSW) (a subsidiary of ICL) and Haifa Chemicals Ltd. (a subsidiary of Trans Resources Inc.), respectively.

Steel.—Yehuda Steel Ltd. operated rolling mills at Ashdod and Gedera and produced rebar rods for domestic consumption. The company also produced crude steel. In 2001, United Steel Mills Ltd. (USM) sold its rolling mill at Kiryat Gat to Israel-based Hod Metals. USM had previously sold its rebar fabricator Shovailit Steel and its steel mesh producer Maas Construction to Newman Building Steel Industries. In August 2001, USM entered liquidation when it shut down its facilities at Akko, which consisted of a meltshop, a rolling mill, and a scrap processing plant. The fate of the plants at Akko remained undetermined at the end of 2001 (Metal Bulletin, 2002).

The International Iron and Steel Institute (2001, p. 82, 86, 92) estimated that Israel's imports of semimanufactured and finished steel products amounted to nearly 1.42 million metric tons (Mt) in 2000. This was a decrease from 1.62 Mt in 1999 and 1.49 Mt in 1995. From 1995 to 2000, Israel's apparent consumption of crude steel fell to 1.84 Mt from 1.87 Mt, and apparent consumption of finished steel fell to 1.65 Mt from 1.67 Mt.

Zinc.—Numinor Chemical Industries Ltd. used zinc scrap to produce refined zinc ingots, zinc powder, zinc oxide, and other zinc containing materials. The company exported its products to African, Asian, and European countries. The International Lead and Zinc Study Group (2002, p. 40) estimated that Israel's consumption of refined zinc was 11,000 t/yr from 1999 to 2001.

Industrial Minerals

Bromine.—Brines and carnallite from the Dead Sea were extracted by the Dead Sea Bromine Group (DSBG) (a subsidiary of ICL). The company produced bromine as well as bromine derivatives with applications in air conditioning, batteries, cleaning solvents, flame retardants, mineral

separation, oil drilling, photography, and water treatment; more than 90% of sales was from exports. DSBG accounted for 35% of world bromine production.

Cement.—Nesher Israel Cement Enterprises Ltd., which was the country's sole producer of cement, operated the Haifa, the Har-Tuv, and the Ramla plants. These plants had a total production capacity of 8 million metric tons per year (Mt/yr). The International Cement Review (2001) forecast that Israel's cement consumption would increase to 5.15 Mt in 2001 from 5.1 Mt in 2000 and 5.05 Mt in 1998. Exports, which were destined mostly for the Gaza Strip and the West Bank, were expected to increase to 1.8 Mt in 2001 from 1.5 Mt in 1998. All imported cement came from Turkey, and clinker, from Croatia, Cyprus, Greece, and Turkey.

Diamond.—Fabrikant & Salant Ltd., L.L.D. Diamonds Ltd., and Schachter & Namdar Polishing Works Ltd. were the largest exporters of diamond in Israel. In 2001, the value of imported rough diamond amounted to \$3.37 billion, which was a decrease from \$3.95 billion in 1996. Nearly \$1.03 billion of rough diamond was re-exported in 2001. From 1996 to 2001, the value of exported polished diamond increased to \$4.53 billion from \$4 billion. Nearly \$1.79 billion of polished diamond was re-exported in 2001. Exports of polished diamond cut locally fell to about 1.37 million carats at a value of \$2.74 billion in 2001 from 2.52 million carats at a value of \$3.21 billion in 1996 (Even-Zohar, 2000§; International Diamond Exchange, 2002a§, b§).

Nitrogen.—In 2001, Israel imported 85,900 t (nitrogen content), which was an increase from 84,100 t in 2000 and a decrease from 89,600 t in 1999. Most ammonia imports were sourced from Ukraine. Israel also imported 7,600 t (nitrogen content) of urea in 2001. Fertilizers & Chemicals Ltd. (a subsidiary of ICL), Haifa Chemicals, and Rotem Amfert Negev Ltd. (a subsidiary of ICL) produced compound fertilizers contained nitrogen, potassium, and phosphorous.

Phosphate.—Israel's phosphate rock resources were exploited by Rotem; the company produced phosphoric acid, and such fertilizers as monopotassium phosphate, single superphosphate, and triple superphosphate (TSP). Haifa Chemicals also produced phosphoric acid and phosphate fertilizers

Preliminary figures for 2001 indicate that Rotem exported nearly 29% of its phosphate rock production. Brazil accounted for about 37% of phosphate rock exports; the Netherlands, 26%; India, 14%; Taiwan, 9%; and others, 14%. In 2000, nearly 76% of Israel's phosphoric acid production was exported. The Netherlands accounted for 40% of phosphoric acid exports; India, 34%; Turkey, 6%; Italy, 5%; and others, 15%. Israel also exported about 211,000 t of TSP and 7,000 t of monoammonium phosphate.

Potash.—Carnallite that contains potassium from the Dead Sea was exploited as raw material for DSW's potash plants. The company, which was the world's fourth largest producer of potash, planned to increase capacity to 3.25 Mt/yr from 2.8 Mt/yr. About 87% of domestic potash production was exported in 2000. Brazil accounted for 26% of Israel's potash exports;

India, 19%; and China, 13% (Green Markets, 2000; Fertilizer Markets, 2001).

Haifa Chemicals, which was the world's largest producer of potassium nitrate, consumed DSW's potash in its production process. From 1995 to 1999, Israel's exports of potassium nitrate increased to 263,455 t at a value of \$104.8 million from 203,730 t at a value of \$86 million. In 1999, Spain accounted for nearly 35% of potassium nitrate exports; Italy, 13%; South Korea, 8%; France, 8%; and South Africa, 7% (International Trade Center and United Nations Statistics Division, 2001).

Silica Sand.—At the Hatira plant, Negev Industrial Minerals (NIM) (a subsidiary of ICL) mined and screened high-purity silica sand, which was consumed by the ceramics, construction, die casting, and flat and container glass industries. NIM's silica sand was used by Phoenicia America-Israel (Flat Glass) Ltd., which was Israel's sole producer of float and pattern glass. In 2000, Phoenicia's exports amounted to \$47 million.

Sulfur.—From 1997 to 2000, Israel's production of sulfur averaged nearly 33,000 t/yr. Sulfur was produced at the Ashdod and the Haifa refineries, which were operated by Oil Refineries Ltd. (table 2). Most of Israel's demand for sulfur was met through imports, of which Russia accounted for 41%; Canada, 39%; Italy, 11%; and Germany, 9%.

Sulfuric acid was produced by Rotem for the manufacture of fertilizers; about 68% of Israel's sulfuric acid was consumed in fertilizer production. In 2000, Israel consumed about 1.88 Mt of sulfuric acid, which was an increase from 1.82 Mt in 1998 and 938,000 t in 1995.

Mineral Fuels

Coal.—Israel had no coal reserves and was dependent upon imports of coal and petroleum for most of its energy needs. The country's consumption of coal increased to 10.31 Mt in 2000 from 9.26 Mt in 1999 and 6.57 Mt in 1995 (Israel Electric Corporation Ltd., undated, p. 20).

Natural Gas.—At the end of 2001, Israel's reserves of natural gas amounted to nearly 46 billion cubic meters. In March 2001, Israel Electric Corporation (IEC) announced that it would sign an agreement to purchase nearly 1.8 billion cubic meters per year of natural gas from Yam Thetis [a joint venture between Semedan Mediterranean (47%), Delek Drilling Ltd. (25.6%), Avner Oil Exploration LP (23%), and Delek Investments and Properties Ltd. (4.4%)]. The Noa and the Mari-B blocks would supply the gas to IEC's powerplants by the end of 2003 (Radler, 2001; Noble Affiliates, 2001§).

A joint venture among British Gas Group (BG), Delek Drilling Ltd., Isramco Inc., and Middle East Energy engaged in offshore exploration for natural gas at Med Ashdod and Med Yavne. In 2001, BG withdrew from the Gal C licenses; the company expected to decide whether to drill in the Gal A and the Gal B blocks by June 2002. BG also held licenses off the shore of Gaza (British Gas Group Plc, 2002, p. 19).

Petroleum.—From 1997 to 2000, Israel's production of petroleum declined by nearly 75% (table 1). Israel's petroleum reserves were not significant; most of the country's demand for crude petroleum was met through imports. At the end of 2001,

Israel's reserves of crude petroleum were estimated to be 3.84 million barrels (Radler, 2001).

Oil Refineries Ltd. operated refineries in Haifa and Ashdod with capacities of 130,000 barrels per day (bbl/d) and 90,000 bbl/d, respectively. In 2000, Israel's exports of petroleum products increased to \$227.7 million from \$134.3 million in 1999 and \$102 million in 1995 (Israel Central Bureau of Statistics, 1997, p. 228; 2001, p. 16.8).

Infrastructure

In 2000, the IEC produced 41,355 gigawatthours (GWh) of electricity, which was an increase from 37,656 GWh in 1999 and 29,504 GWh in 1995. Coal-fired powerplants accounted for nearly 71% of electricity generated; diesel, 24%; and natural gas and combined cycle, 5%. From 1995 to 2000, installed generating capacity increased to 9,129 megawatts (MW) from 6,920 MW. The largest powerplants were located at Orot Rabin, which had 2,590 MW; Rutenberg, 1,700 MW; Eshkol, 1,206 MW; Reading, 528 MW; and Haifa, 426 MW. The IEC planned to increase generating capacity to 11,918 MW in 2005 and 15,250 MW in 2010 (Israel Electric Corporation Ltd., undated, p. 16, 17).

In 2000, Israel consumed 37,791 GWh of electricity, which was an increase from 34,298 GWh in 1999 and 26,986 GWh in 1995. The chemicals and petroleum sector consumed 1,754 GWh; nonmetallic mineral products, 741 GWh; mining and quarrying, 506 GWh; basic metal, 293 GWh; and diamond, 45 GWh (Israel Electric Corporation Ltd., undated, p. 36).

Israel's transportation network comprised nearly 16,000 kilometers (km) of paved highways and 610 km of railroads. There were 708 km of pipelines for crude oil, 290 km for petroleum products, and 89 km for natural gas.

Outlook

The outlook for Israel's bromine, lead, magnesium, phosphate, potash, and salt industries depends heavily upon world market conditions for these commodities, and the cement, crushed stone, gypsum, lime, and marble industries are more dependent upon the strength of the domestic economy. The International Monetary Fund (2002, p. 158) predicted that Israel's GDP would grow by 1.3% in 2002 and 3.8% in 2003; unrest owing to the collapse of the peace process could have substantial effects upon the economy in 2002.

The IEC's plans to build new powerplants and to convert existing plants from diesel-fired to gas, as well as increasing industrial demand, could increase Israel's minimal consumption of natural gas to 4 billion cubic meters per year by 2005.

Global demand for bromine was expected to grow by 2% to 3% per year, but much stronger growth has been forecast for such bromine compounds as tetrabromobisphenol-A. Although world demand for magnesium was expected to grow by 6% per year through 2010, the market was likely to be oversupplied for several years. From 2001-02 to 2005-06, phosphate supply available for fertilizer was expected to increase by 1.6% per year, and phosphate fertilizer consumption, by nearly 2.6% per year. During the same period, potash supply available for fertilizer was expected to increase by nearly 0.7% per year, and potash fertilizer consumption, by 2.5% per year. Declining

global mine output in 2002 and rising consumption in 2003 were expected to result in higher lead prices (Kendall, 2000; Burstow, 2001; Food and Agricultural Organization of the United Nations, 2001; SG Securities Ltd., 2001; Twidale, 2001).

References Cited

British Gas Group Plc, 2002, 2001 annual report and accounts: Reading, Berkshire, United Kingdom, British Gas Group Plc, 129 p.

Burstow, Clive, 2001, Supply side holds key to Mg: Metal Bulletin, no. 8549, February 12, p. 11.

Fertilizer Markets, 2001, DSW sales up to Brazil, elsewhere: Fertilizer Markets, February 23, p. 2-3.

Food and Agricultural Organization of the United Nations, 2001, Current world fertilizer trend and outlook to 2005/2006: Rome, Food and Agricultural Organization of the United Nations, 14 p.

Green Markets, 2000, Potash—Israel: Green Markets, v. 24., no. 8, July 10, p. 8.

International Cement Review, 2001, Israel, *in* The global cement report: Dorking, United Kingdom, Tradeship Publications, Ltd., p. 171-172.

International Iron and Steel Institute, 2001, Steel statistical yearbook 2001: Brussels, International Iron and Steel Institute, 109 p.

International Lead and Zinc Study Group, 2002, Table 31. Refined zinc—Metal consumption: Lead and Zinc Statistics, v. 42, no. 5, May, 67 p

International Monetary Fund, 2002, World economic outlook—Recoveries and recessions: Washington, DC, International Monetary Fund, April, 225 p.

International Trade Center and United Nations Statistics Division, 2001, Trade Analysis System on personal computer: New York, International Trade Center and United Nations Statistics Division, CD-ROM.

Israel Central Bureau of Statistics, 1997, Statistical abstract of Israel 1997: Jerusalem, Israel Central Bureau of Statistics, 704 p.

Israel Central Bureau of Statistics, 2001, Statistical abstract of Israel 2001: Jerusalem, Israel Central Bureau of Statistics, 899 p.

Israel Electric Corporation Ltd., [undated], Statistical report 2000: Haifa, Israel Electric Corporation Ltd., 66 p.

Kendall, Tom, 2000, Fertilisers bear fruit—IM projects in Jordan and Saudi Arabia: Industrial Minerals, no. 398, November, p. 49-53.

Metal Bulletin, 2000, Harkunas expansion nears completion: Metal Bulletin, no. 8517, October 16, p. 14.

Metal Bulletin, 2002, Delays on USM decision irritate Israeli market: Metal Bulletin, no. 8651, February 21, p. 20.

Radler, Marilyn, 2001, World crude, gas reserves expand as production shrinks: Oil & Gas Journal, v. 99, no. 52, p. 125-127.

SG Securities Ltd., 2001, Quarterly Metals Review—A mountain to climb: London, SG Securities Ltd., October, 28 p.

Twidale, Susanna, 2001, Overcapacity in magnesium market is set to continue: Metal Bulletin, no. 8577, May 24, p. 8.

Internet References Cited

- Evan-Zohar, Chaim, 2000 (January 6), Israel records \$4.5 billion net polished exports in 1999, accessed May 8, 2002, at URL
- http://www.diamondconsult.com/TACY-Articles/jan06999.htm.
- International Diamond Exchange, 2002a (January 3), Israeli polished figures for December 2001, accessed April 3, 2002, at URL https://www.idexonline.com/art030102-01.asp.
- International Diamond Exchange, 2002b (January 3), Israeli rough figures for December 2001, accessed May 8, 2002, at URL https://www.idexonline.com/art030102-02.asp.
- International Monetary Fund, 2002a (April 18), The world economic outlook database—Selected world aggregates, accessed April 23, 2002, at URL http://www.imf.org/external/pubs/ft/weo/ 2002/01/data/w1.csv.
- International Monetary Fund, 2002b (April 18), The world economic outlook database—Shares of aggregate GDP based on purchasing power parity (PPP) valuation of country GDP—Developing countries, accessed April 23, 2002, at URL http://www.imf.org/external/pubs/ft/ weo/2002/01/data/ppp_a.csv.
- Noble Affiliates, 2001 (March 14), Noble Affiliates announces selection as Israeli gas supplier, accessed May 10, 2002, at URL http://www.prnewswire.com/cgi-bin/stories.pl?ACCT=105&STORY=/www/story/03-14-2001/0001447704.

TABLE 1 ISRAEL: PRODUCTION OF MINERAL COMMODITIES 1/2/

(Metric tons unless otherwise specified)

Commodity 3/	1997	1998	1999	2000	2001 e/
METALS	270.000 /	200.000 /	200.000	270.000 / /	220.000
Iron and steel, steel, crude	270,000 r/	280,000 r/	280,000	270,000 r/e/	220,000
Lead, refined secondary	12,000	12,000	13,000	13,000 r/	20,000
Magnesium metal	7,400 r/	24,500 r/	24,800 r/	31,700 r/	31,700
INDUSTRIAL MINERALS					
Bromine:					
Elemental	180,000	185,200	181,000 r/	210,000 r/	206,000
Compounds e/	243,000 r/	247,000 r/	247,000 r/	250,000 r/ 5/	250,000
Caustic soda e/	41,700	41,700	41,200	44,200 r/	44,900
Caustic soda e/ Cement, hydraulic thousand tons	5,400	6,476	6,354	6,600 e/	6,900
Clays:					
Brick clay	40,000	84,000	40,000	35,000	35,700
Flint clays	45,000	23,000	17,000 r/	r/	
Kaolin	16,000	27,000	20,000 r/	13,000 r/	13,300
Diamonds 4/ thousand carats	2,373	1,795	1,833	1,672 r/	1,367 5/
Gypsum	120,875	56,484 r/	140,000 r/	130,000 r/	133,000
Lime	344,000	378,000	340,000 r/	350,000 r/	299,000
Magnesia, Mg content	53,300 e/	57,000 e/	57,000	57,000	55,000
Nitrogen, N content of ammonia and urea	56,600	500			5/
Phosphate:					
Phosphate rock:					
Beneficiated thousand tons	4,047	4,067	4,128	4,110	3,511 5/
P ₂ O ₅ content do.	1,260	1,288	1,310	1,305 r/	1,115 5/
Phosphatic fertilizers, P ₂ O ₅ equivalent: e/	,	,	,	,	,
Monoammonium phosphate		7,600	7,300	11.000	10.300
Triple superphosphate	144.000	165,000	250,000	115,000	108,000
Phosphoric acid, P ₂ O ₅ equivalent e/	630,000	650,000	725.000 r/	520,000 r/	488.000
Potash, K ₂ O equivalent thousand tons	1,488	1,668	1,702	1,748 r/	1,774 5/
Salt, marketed (mainly marine) do.	750	874	538 r/	526 r/	537
Sand:	750	071	550 I/	320 1/	331
Silica sand	275,000	257,000	320.000 r/	300.000 r/	306.000
Other thousand tons	11,000	9,000	11,000 r/	10,500 r/	10,700
Sodium and potassium compounds, caustic soda e/	30,400	30,400	30,000	32,200 r/	32,700
Stone:	30,400	50,400	50,000	32,200 1/	32,700
Crushed thousand tons	35.000	33.000	30.000 r/	29.000 r/	29.600
Dimension, marble	83,400 r/	102,860 r/	94,520 r/	127,880 r/	131,000
Sulfur:	05,400 1/	102,000 1/	74,520 1/	127,000 17	131,000
Byproduct from petroleum thousand tons	30	32	31	38 r/	39
Sulfuric acid	30	32	31	30 1/	3)
Gross weight thousand tons	1,343 r/	1,685 r/	1,814 r/	1,875 r/	1,910
S content do.	439	551	593	613	624
MINERAL FUELS AND RELATED MATERIALS	439	331	393	013	024
Gas, natural:					
Gross thousand	18.992 r/	11.938 r/	10.739 r/	9.653 r/	9.500
	10,992 1/	11,930 1/	10,739 1/	9,033 1/	9,300
Dry cubic meters do.	18,992 r/	11,938 r/	10,739 r/	9.653 r/	9,500
	18,992 1/	11,936 1/	10,739 1/	9,033 1/	9,300
Petroleum:	471 000	443,900	440.400	200.000/	396,000
Oil shales	471,800		449,400	390,000 r/	
Crude 42-gallon barrels	98,300 r/	40,800 r/	29,400 r/	25,000 r/	25,000
Refinery products:					
Liquified petroleum gas thousand 42-gallon	3,566	3,509	3,755 r/	4,285 r/	4,360
barrels					
Gasoline do.	17,107	17,080	16,834 r/	16,704 r/	17,000
Naptha do.	6,369	7,287	7,867 r/	7,915 r/	8,040
Kerosene do.	7,734	8,189	8,702	8,850 r/	8,990
				•	4-1-00
Distillate fuel oil do.	14,308	15,573	12,927 r/	17,261 r/	17,500
D 11 10 1 11		15,573 9,584	12,927 r/ 9,740 r/	17,261 r/ 9,267 r/	17,500 9,420
Distillate fuel oil do. Residual fuel oil do. Other e/ do.	14,308				

e/ Estimated. r/ Revised. -- Zero.
1/ Table includes data available through May 10, 2002.
2/ Estimated data are rounded to no more than three significant digits; may not add to totals shown.
3/ In addition to the commodities listed, imported gemstones are cut, and secondary refined zinc, such fertilizers as monopotassium phosphate, and a variety of crude construction materials are produced, but available information is inadequate to make estimates of output.
4/ Imported diamonds cut in Israel.
5/ Reported figure.

TABLE 2 ISRAEL: STRUCTURE OF THE MINERALS INDUSTRY IN 2001

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies	Location of main facilities		Annual capacity
Bromine 1/		Dead Sea Bromine Group (DSBG) (Israel	Sdom	250	bromine.
		Chemicals Ltd. (ICL), 100%)		NA.	
Cement		Nesher Israel Cement Enterprises Ltd.	Haifa, Har-Tuv, and Ramla	5,000	clinker.
Do.		do.	do.	8,000	cement.
Lead, refined secondary		Harkunas Lead Works	Ashdod	25	
Magnesium:					
Magnesia		Dead Sea Periclase Ltd. (DSP) (ICL, 100%)	Mishor Rotem	95	
Do.		Tateho Dead Sea Fused Magnesia Co. (DSP, 50%;	do.	13	
		Tateho Chemical Industries Co. of Japan, 50%)			
Magnesium, refined		Dead Sea Magnesium Ltd. (ICL, 65%; Volkswagen	Sdom	34	
		AG of Germany, 35%)			
Petroleum:		***			
Crude thousand	barrels	Lapidoth Israel Oil Prospectors Corp.	Heletz-Brur	20	
Do.	do.	do.	Kochav	5	
Refined	do.	Oil Refineries Ltd. (Government, 100%)	Haifa	47,500	
Do.	do.	do.	Ashdod	32,800	
Potassium:					
Potash		Dead Sea Works (DSW) (ICL, 100%)	Sdom	2,800	
Potassium nitrate		Haifa Chemicals	Haifa	300	
Do.		do.	Mishor Rotem	200	
Phosphate:					
Phosphate rock		Rotem Amfert Negev (ICL, 100%)	Arad, Oron, and Zin	5,500	
Phosphatic fertilizers 2/		Rotem Amfert Negev	Rotem	50	monopotassium phosphate
Do.		do.	do.	NA.	
Do.		Haifa Chemicals	Haifa	NA.	
Phosphoric acid 3/		Rotem Amfert Negev	Rotem	640	
Do.		Haifa Chemicals	Haifa	NA.	
Salt		DSW		700	
Do.		Israel Salt Industries Ltd. (subsidiary of Danker	Atlit, Eilat, and Kalia	NA.	
		Group)			
Steel:					
Crude		United Steel Mills Ltd.	Akko	200	
Do.		Yehuda Steel	Ashdod	150	
Rebar		do.	Gedera	230	
Do.		do.	Ashdod	120	
Do.		United Steel Mills Ltd.	Akko	220	
Do.		Hod Metals	Kiryat Gat	100	
Sulfur		Oil Refineries Ltd.	Ashdod	40	
Do.		do.	Haifa	33	
Sulfuric acid 4/		Rotem Amfert Negev	Rotem	NA.	
Zinc		Numinor Chemical Industries Ltd.	Maalot	NA.	

NA Not available.

^{1/} Capacity of bromine derivatives is at least 250,000 metric tons per year (t/yr) based on recent production data.

^{2/} National capacity of triple superphosphate is at least 250,000 t/yr P_2O_5 equivalent; and monoammonium phosphate, at least 11,000 t P_2O_5 equivalent based on recent production data.

^{3/} P₂O₅ equivalent.

^{4/} Capacity of sulfuric acid is estimated to be at least 1.91 million metric tons per year based on recent production data.