



2005 Minerals Yearbook

ISRAEL

THE MINERAL INDUSTRY OF ISRAEL

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Israel was the world's second ranked producer of bromine, the fifth ranked producer of potash, and the ninth ranked producer of phosphate rock in 2005. The country also produced such industrial minerals as flint clay, gypsum, kaolin, magnesia, silica sand, and sulfur and such metals and metal products as lead, magnesium, and steel. Building materials produced in Israel included cement, crushed stone, marble, and sand. Israel also cut imported diamond and other gemstones and produced natural gas, petroleum, and petroleum products (Jasinski, 2007; Kostick, 2007; Lyday, 2007).

In August 2005, Altos Hornos de México S.A. de C.V. (AHMSA) reached an agreement with the Government to reopen the Timna copper mines, which had been shut down for more than 20 years. AHMSA planned to spend \$160 million to restart production, which was expected to be 45,000 metric tons per year (t/yr) of refined copper. All Timna's production was expected to be exported (Global Mining News, 2005).

Dead Sea Magnesium Ltd. (DSM) [Israel Chemicals Ltd. (ICL), 65%, and Volkswagen AG of Germany, 35%] was a producer of magnesium metal and magnesium alloys. In 2004 and 2005, the company produced about 28,000 metric tons (t) of magnesium metal compared with 26,000 t in 2003. North America accounted for 65% of DSM's sales, and Europe, 33% (Israel Chemicals Ltd., 2006, p. 87).

In 2005, Dead Sea Bromine Group (DSBG) (a subsidiary of ICL) produced about 207,000 t of bromine compared with 202,000 t in 2004 and 176,000 t in 2003. The company consumed about 75% of its bromine in the manufacture of bromine compounds. DSBG planned to increase its capacity to 280,000 t/yr in 2006 from 240,000 t/yr (Israel Chemicals Ltd., 2006, p. 48, 58).

Lime & Stone Production Company Ltd. operated 15 quarries that produced more than 15 million metric tons per year of aggregate. The company operated a quarry and factory that produced between 170,000 and 250,000 square meters per year of marble. Israel produced an estimated 38 million metric tons (Mt) of crushed stone in 2005 compared with 41 Mt in 2004; sand production increased to an estimated 7 Mt from 6 Mt (Dun & Bradstreet Israel Ltd., 2006[§], Housing & Construction Holding Company Ltd., undated[§]).

Lime & Stone also produced 100,000 t/yr of lime. Negev Industrial Minerals Ltd. (NIM) (a subsidiary of Doraz D.R.) resumed mining of flint clay in 2005; the company also produced gypsum, lime, limestone, quartz, and silica sand. Phoenicia America-Israel (Flat Glass) Ltd. purchased between 270 and 290 metric tons per day of silica sand from NIM for use in the production of float and pattern glass (Housing & Construction Holding Company Ltd., undated[§]).

Mining of phosphate rock by Rotem Amfert Negev Ltd. (a subsidiary of ICL) increased to about 3 Mt in 2005 from 2.9 Mt in 2004. In 2005, Rotem consumed about 90% of its output in the manufacture of phosphate fertilizers and phosphoric acid. The company was building a new plant to produce monoammonium phosphate at Mishor Rotem (Israel Chemicals Ltd., 2006, p. 23, 29; Sharbel Shehadeh, Ministry of National Infrastructures, written commun., November 17, 2006).

Dead Sea Works (DSW) (a subsidiary of ICL) increased its domestic potash production to 2.26 Mt in 2005 from 2.17 Mt in 2004. By 2008, DSW planned to increase its potash production capacity by using fewer of its brine ponds for salt precipitation and more for carnallite precipitation (Israel Chemicals Ltd., 2006, p. 22; Sharbel Shehadeh, Ministry of National Infrastructures, written commun., November 17, 2006).

Salt was produced by DSW and Israel Salt Industries Ltd.; the latter company produced more than 200,000 t/yr of salt. National salt production was 406,000 t in 2005 compared with 385,000 t in 2004 (Harben, 2005).

In 2005, production of natural gas rose to 1.66 billion cubic meters from 1.19 billion cubic meters in 2004 because of higher output from the Mari-B gasfield in the Mediterranean Sea. Noble Energy Inc. and its partners increased their sales to Israel Electric Corporation Ltd. from Mari-B because of the conversion of the Eshkol power station to natural gas. The companies also started supplying the petroleum refinery in Ashdod in the fourth quarter of 2005. Sales to other industrial customers that included a desalination plant and a paper mill were expected to start in 2007 (Noble Energy Inc., 2006, p. 5).

Outlook

The outlook for Israel's bromine, lead, magnesium, phosphate, potash, and salt industries depends heavily upon world market conditions for these commodities. The cement, crushed stone, gypsum, lime, marble, and natural gas industries, however, depend mainly upon the strength of the Israeli economy.

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[§]References that include a section mark (§) are found in the Internet References Cited section.

Internet References Cited

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TABLE 1
ISRAEL: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2001	2002	2003	2004	2005
METALS					
Iron and steel, steel, crude ^c	220,000	150,000	150,000	280,000	350,000
Lead, refined secondary	20,000	22,000	25,000	27,000	27,000 ^e
Magnesium metal	34,000	26,000	26,000	28,000	27,853
INDUSTRIAL MINERALS					
Bromine, elemental	200,000 ^e	185,000	176,000	202,000	207,048
Caustic soda ^c	47,000	54,000	57,000	64,000	64,000
Cement, hydraulic	4,700	4,584	4,632	4,494	5,093
Clays:					
Brick clay	36,000 ^e	35,672	36,256	65,732	54,586
Flint clay	-- ^e	--	--	--	2,200
Fuller's earth	NA	998,193	892,658	850,000	1,072,491
Diamond ³	1,367	1,188	771	770 ^e	770 ^e
Gypsum	130,000 ^{r,e}	123,119 ^r	141,000 ^r	124,678 ^r	106,798
Lime	550,000 ^{r,e}	751,857	702,373	113,102 ^r	165,894
Magnesia, Mg content ^c	55,000	50,000	45,000	40,000	40,000
Phosphate:					
Phosphate rock, mine output:					
Beneficiated	3,511	3,400 ^r	3,300 ^r	2,900 ^r	3,000
P ₂ O ₅ content	1,115	900 ^r	900 ^r	800 ^r	800
Phosphatic fertilizers, P ₂ O ₅ equivalent:					
Monoammonium phosphate	13,000	13,000	12,000	12,000	12,000 ^e
Triple superphosphate	94,000	108,000	202,000	170,000	160,000 ^e
Phosphoric acid, P ₂ O ₅ equivalent	561,000	567,000	580,000	543,000	520,000 ^e
Potash, K ₂ O equivalent	1,770	1,950 ^r	1,990 ^r	2,170 ^r	2,260
Salt, marketed ^c	460	392	376	385 ⁴	406 ⁴
Sand:					
Silica sand	250,000 ^e	209,347	210,815	196,330	196,254
Other ^e	8,000	6,000	6,000	6,000	7,000
Stone:					
Crushed ^c	40,000	49,000	44,000	41,000	38,000
Dimension, marble	120,000 ^e	106,302	68,605	30,045 ^r	35,829
Sulfur:					
Byproduct from petroleum	35	36	45	42	44
Sulfuric acid:					
Gross weight	1,900	1,956	1,894	1,789	1,700
S content	621	639	619	581	550
MINERAL FUELS AND RELATED MATERIALS					
Gas, natural, dry	10 ^e	9	8	1,193	1,655
Petroleum:					
Oil shales	415,000	457,900	436,500	439,200	428,900
Crude	29,800	33,438 ^r	27,396 ^r	23,135 ^r	22,835
Refinery products:					
Liquefied petroleum gas	6,045	5,591	5,500	6,170	5,650
Gasoline	16,911	18,863	19,034	21,046	21,114
Naphtha	7,089	3,798	4,376	3,722	4,066
Kerosene	8,195	7,886	8,639	8,555	9,549
Distillate fuel oil	23,424	21,169	22,208	20,516	22,433
Residual fuel oil	23,787	22,432	22,910	11,880	16,850
Other	1,959	2,007	2,151	1,835	1,696
Total	87,410	81,746	84,818	73,724	81,358

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

¹Table includes data available through November 30, 2006.

²In addition to the commodities listed, imported gemstones are cut; and potassium nitrate, 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.

³Imported diamond cut in Israel.

⁴Reported figure.

TABLE 2
ISRAEL: STRUCTURE OF THE MINERAL INDUSTRY IN 2005

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies	Location of main facilities	Annual capacity
Aggregates		Lime & Stone Production Company Ltd. (Housing & Construction Holding Company Ltd., 50%, and Readymix (Israel) Ltd., 50%)	15 quarries	15,000. ^c
Bromine		Dead Sea Bromine Group (DSBG) (Israel Chemicals Ltd. (ICL), 100%)	Sdom	240.
Cement		Nesher Israel Cement Enterprises Ltd. (Clal Industries and Investments Ltd., 75%)	Ramla	5,000 clinker; 3,600 cement.
Do.		do.	Haifa	2,000 clinker; 450 cement.
Do.		do.	Har Tuv	1,000 clinker; 700 cement.
Flint clay and quartz		Negev Industrial Minerals Ltd. (NIM) (Doraz D.R.)	Mactesh Ramon	25.
Lead, refined, secondary		Harkunas Lead Works	Ashdod	25.
Lime		Lime & Stone Production Co. Ltd.	NA	170.
Do.		Negev Industrial Minerals Ltd. (NIM)	Mishor Rotem	90.
Magnesium:				
Magnesia		Dead Sea Periclase Ltd. (DSP) (Israel Chemicals Ltd., 100%)	do.	95.
Do.		Tateho Dead Sea Fused Magnesia Co. (DSP, 50%, and Tateho Chemical Industries Co. of Japan, 50%)	do.	13.
Magnesium, refined		Dead Sea Magnesium Ltd. (Israel Chemicals Ltd., 65%, and Volkswagen AG of Germany, 35%)	Sdom	34.
Natural gas	million cubic meters	Samedan, Mediterranean Sea Inc. (Noble Energy Inc., 100%)	Mari-B gasfield	6,200.
Petroleum:				
Crude	thousand 42-gallon barrels	Lapidoth Israel Oil Prospectors Corp.	Heletz-Brur	22.
Do.	do.	do.	Kochav	9.
Refined	do.	Oil Refineries Ltd. (Government, 100%)	Haifa	58,400.
Do.	do.	do.	Ashdod	36,500.
Potash		Dead Sea Works (DSW) (Israel Chemicals Ltd., 100%)	Sdom	2,800.
Phosphate:				
Phosphate rock		Rotem Amfert Negev Ltd. (Israel Chemicals Ltd., 100%)	Arad, Oron, and Zin	4,500.
Phosphatic fertilizers		do.	Rotem	1,700.
Do.		Haifa Chemicals Ltd.	Haifa	NA.
Phosphoric acid ¹		Rotem Amfert Negev Ltd.	Rotem	640.
Do.		Haifa Chemicals Ltd.	Haifa	NA.
Salt				
Do.		Dead Sea Works (DSW)	Sdom	700.
Do.		Israel Salt Industries Ltd. (subsidiary of Danker Group)	Eliat	150.
Do.		do.	Kalia	60.
Do.		do.	Atlit	16.
Sand		Negev Industrial Minerals Ltd. (NIM)	Mactesh Htira	300.
Steel:				
Crude		Hod Metals	Akko	300.
Do.		Yehuda Steel Ltd.	Ashdod	180.
Billet		do.	Bene Ayish	200.
Do.		do.	Ashdod	180.
Rebar		do.	Bene Ayish	200.
Do.		do.	Ashdod	120.
Do.		Hod Metals	Kiryat Gat	300.
Sulfur		Oil Refineries Ltd.	Ashdod	40.
Do.		do.	Haifa	33.
Sulfuric acid		Rotem Amfert Negev Ltd.	Rotem	NA.
Zinc		Numinor Chemical Industries Ltd.	Maalot	NA.

^cEstimated; estimated data are rounded to no more than three significant digits. NA Not available.

¹P₂O₅ equivalent.