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Economic Geology (111201491)

The Ore deposits of Jordan

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Jordan in 2011 was one of the world's top producers and exporters of

- Bromine rank fourth,
- phosphate rock rank fifth, and
- potash rank seventh.

Phosphate Rock.

About 64% of Jordan phosphate rock production in 2011 came from the Eshidiya Mine. The Eshidiya deposit, which is situated in southern Jordan.

25% came from the Wadi Al-Abiad Mine,
and

11% came from the Al Hassa Mine.

Jordan also produced such mineral commodities as

- calcium carbonate,
- cement, clay,
- fertilizer,
- kaolin,
- limestone,
- pozzolanic materials,
- refined petroleum products,
- silica sand,
- steel, and zeolitic tuff

- Jordan, however, had been importing 95% of the energy it consumed because it has negligible crude oil and natural gas reserves.
- Government was looking for alternative sources of energy by promoting foreign investment to develop the country's huge shale oil reserves.
- These were estimated by the Natural Resources Authority (NRA) to be more than 40 billion metric tons (Gt) of near-surface oil shale reserves and to contain more than 4 Gt of crude oil spread across 26 localities around the country.

- The Government had plans to build a nuclear powerplant and to exploit the country's large uranium deposits, which were estimated to contain 140,000 metric tons (t) of recoverable uranium ore and 59,000 t of uranium oxide (U_3O_8) that could be extracted from phosphate deposits

TABLE I
JORDAN: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons unless otherwise specified)

Commodity	2007	2008	2009	2010	2011
METALS					
Steel: ^c					
Crude	150	150	150	150	150
Semimanufactured	360	360	360	360	360
INDUSTRIAL MINERALS					
Bromine	85	85 ^r	69	329	148
Calcium carbonate	328	415	317	411	46
Cement, hydraulic	4,255 ^r	4,375 ^r	3,876 ^r	5,000 ^r	6,000
Clay:					
Common clay	948	762	765	929	421
Dead Sea mud	207	256	1,348	227	225
Kaolin	101	181	177	115	90
Feldspar	10	3	--	--	--
Fluorine, aluminum fluoride	11	9	9	9	11
Gypsum	288	232	304	292	255
Lime	12	15	8	16	18
Limestone, pure	482	1,840	2,352	559	187
Phosphate:					
Phosphate rock, mine output:					
Gross weight	5,552	6,266	5,282	6,529	7,643
P ₂ O ₅ content	1,780	2,002	1,690	2,090	2,446
Phosphatic fertilizers	831	788	721	812 ^r	824
Phosphoric acid	480	477	488	549	504
Potash:					
Crude salts	1,797	2,005	1,120	2,141 ²	2,259
K ₂ O equivalent	1,090	1,223	683	1,185 ^r	1,355

Salt:					
Brine	17	25	23	33	--
Dead Sea	1,289	1,375	191	1,152	1,150 ^e
Sand: ³					
Silica	628	23	298	150	88
Other	4,370	4,400	4,620	3,930	4,000
Stone:					
Basalt	21	5	44	14	15
Dimension:					
Worked	5,657	6,053	6,356	6,356	4,032
Marble	41	44	46	46	50
Gravel and crushed rock:					
Basalt	3	1	1	1	1
Granite	4	4	4	4	4
Marble	27	29	31	46	46
Other	15	14	15	31	30 ^e
Pozzolanic material	495	538	619	104	104 ^e
Travertine	3	6	11	9	9 ^e
Zeolite tuff	2	11	12 ^r	12 ^r	15
Sulfuric acid:					
Gross weight	1,022	933	918	1,067	932
S content	334	305	300	349	304

JORDAN: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons unless otherwise specified)

Commodity	2007	2008	2009	2010	2011
MINERAL FUELS AND RELATED MATERIALS					
Natural gas, dry million cubic meters	219	210	257	214	226
Petroleum:					
Crude 42-gallon barrels	8,578	15,604	9,397	8,909	7,190
Refinery products:					
Liquefied petroleum gas do.	1,245	1,200	1,235	985	958
Lubricants do.	118	110	119	107	110
Gasoline do.	5,787	5,700	7,566	7,029	6,810
Jet fuel do.	2,304	2,300	2,444	2,717	2,721
Kerosene do.	1,075	1,080	625	654	448
Distillate fuel oil do.	9,047	9,000	8,750	6,739	7,684
Residual fuel oil do.	8,024	8,000	6,124	7,195	5,781
Asphalt do.	453	136	1,171	914	648
Total do.	28,053	27,526	28,034	26,340	25,160

Structure of the Mineral Industry

Arab Potash Co. Ltd. (APC), which was the only producer of potash in the country, had 1,966 employees in 2011 and produced fine, granular, industrial, and standard grades of potash.

Arab Fertilizers and Chemicals Industries Ltd., produced potassium nitrate and dicalcium phosphate;

Jordan dead Sea Industries Co.; Jordan Magnesia Co., which was under liquidation; and Numiera Mixed Salts and Mud Co. , Jordan Bromine Co.; Jordan Industrial Ports Co.; Jordan Safi Salt

Jordan Phosphate Mines Co. plc. (JPMC), which was the country's only phosphate rock producer, employed 3,767 produced phosphate rock, phosphate-based fertilizers, and phosphoric and sulfuric acids.

Five companies were active in cement production in Jordan

Al-Rajhi Cement–Jordan,

Jordan Lafarge Cement Factories Co. P.S.C. (JCFC),

Northern Cement Co., which

Qatrana Cement Co.,

Modern Cement and Mining Co.