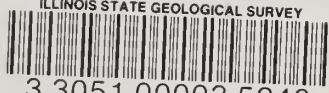



ILLINOIS STATE GEOLOGICAL SURVEY



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M. M. Leighton, Chief  
Urbana, Illinois

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C I R C U L A R

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DOLOMITE, LIMESTONE, CEMENT, AND LIME  
PRODUCED IN ILLINOIS IN 1942

Preliminary Report

by

Walter H. Voskuil and Douglas F. Stevens

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Shipments of dolomite, limestone, cement, and lime produced in Illinois during 1942 all showed large increases, according to reports received from producers by the Illinois State Geological Survey, in cooperation with the Bureau of Mines, United States Department of the Interior. Details of this production are shown in the tables which follow.



Dolomite.--The importance of the production in Illinois of dolomite--a variety of limestone containing a high proportion (25 per cent or more) of magnesium carbonate--makes it desirable to separate data on this material from that on limestone. This has been done for the first time in Table 1. During 1942 shipments of dolomite produced in Illinois amounted to over 8,420,000 tons, or 60 per cent of the total stone produced. The value at quarries of the dolomite was \$7,124,000, or 55 per cent of the total value of stone. The principal uses were for concrete and paving, agriculture, refractory dolomite and railroad ballast.

Limestone.--Data on the production of limestone during 1942 are presented in Table 1. This amounted to 5,585,000 tons, valued at \$5,890,000. Its principal uses during 1942 were for agricultural limestone, concrete and paving, railroad ballast, metallurgical uses and flux.

Limestone and dolomite, used in the manufacture of cement and lime are reported only under the finished products and not under stone. Production from commercial operations is separated from that of government-and-contractor operations, which include the following: The State of Illinois, counties, townships, municipalities, and the Work Projects Administration, produced either by themselves or by contractors expressly for their consumption.

Total stone, both limestone and dolomite sold or used by producers in Illinois, during 1941 and 1942, is shown in Table 2. Total for 1942 was over 14,000,000 tons, valued at the quarries at more than \$13,000,000. This was an increase in value of 17 per cent over the previous year which had established an all-time high record.

Cement.--During 1942 shipments of cement produced in Illinois increased in value nearly 17 per cent from the previous year, as shown in Table 3. This amounted to 7,087,000 bbls. valued at the plants at more than \$10,284,000. This increase was due to the large amount of construction for military purposes, and for plants producing war materials and for housing needed in connection with them.





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Table 1. Limestone and Dolomite Sold or Used by Producers in Illinois, 1942<sup>a/</sup>

Use	Type of Operation	Limestone				Dolomite			
		Plants reporting	Amount tons	Value at Quarry		Plants reporting	Amount tons	Value at Quarry	
				Total	Aver.			Total	Aver.
Agricultural <sup>b/</sup>	Comm.	89	2,240,798	\$2,240,938	\$1.00	42	1,400,736	\$1,181,655	\$0.84
Agricultural	Gov.-Contr.	2	111,292	73,423	.66	1	1,724	1,034	.60
Concrete and paving	Comm.	36	1,946,134	1,813,830	.93	17	5,603,515	4,140,765	.74
Concrete and paving	Gov.-Contr.	9	507,552	837,875	1.66	8	116,109	113,972	.98
Railroad ballast	Comm.	6	266,755	216,226	.81	10	538,098	401,762	.75
Metallurgical and flux	Comm.	5	252,522	259,223	1.03	4	595,071 <sup>d/</sup>	972,088	1.63
Whiting substitutes-paint and putty fillers	Comm.	5	4,379	20,933	4.77				
Whiting substitutes-rubber and other fillers and pottery	Comm.	4	6,957	27,740	3.98				
Miscellaneous fillers-asphalt, fertilizers, etc. <sup>c/</sup>	Comm.	4	34,316	133,247	3.88	3	68,235	226,583	3.31
Rubble and veneering stone	Comm.	7	17,188	16,861	.98	4	22,416	20,073	.90
Flagging	Comm.	3	158	785	4.97				
Riprap	Comm.	16	46,269	40,782	.88		e/	e/	
Riprap	Gov.-Contr.	2	31,596	42,373	1.34				
Other uses	Comm.	12	119,736 <sup>f/</sup>	166,158	1.39	4	70,000 <sup>g/</sup>	66,053	.95
Total commercial operations	Comm.	92	4,935,212	\$4,936,773	\$1.00	46	8,303,071	\$7,003,979	\$.84
Total Gov.-Contr. operations	Gov.-Contr.	9	650,440	953,671	1.47	8	117,833	115,006	.98
Total	Both	101	5,585,652	\$5,890,444	\$1.05	54	8,420,904	\$7,123,985	\$0.85

<sup>a/</sup> Based upon joint canvass by Illinois Geol. Survey and U. S. Bur. Mines.

<sup>b/</sup> Canvass by Illinois Geol. Survey.

<sup>c/</sup> Includes stone for coal-mine dusting.

<sup>d/</sup> Refractory dolomite.

<sup>e/</sup> Included in rubble and veneering stone.

<sup>f/</sup> Includes filler for "black-top" roads, stone for reprocessing, filter beds, stock feeds, poultry grit, glass factories, etc.

<sup>g/</sup> Includes stone for filter beds, stone sand, regrinding, etc.

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Table 2. Stone (Limestone and Dolomite) Sold or Used by Producers in Illinois, 1941 and 1942<sup>a/</sup>

Use	Type of Operation	1941				1942				Per cent change in value from 1941
		Plants reporting	Amount tons	Value at Quarry		Plants reporting	Amount tons	Value at Quarry		
				Total	Aver.			Total	Aver.	
Agricultural <sup>b/</sup>	Comm.	151	2,799,321	\$ 2,689,946	\$0.96	131	3,641,534	\$ 3,422,593	\$0.94	+ 27.0
Agricultural	Gov.-Contr.	5	195,140	99,524	.52	3	113,016	74,457	.66	- 25.0
Concrete and paving	Comm.	58	6,470,237	5,068,430	.79	53	7,554,649	5,954,595	.79	+ 17.9
Concrete and paving	Gov.-Contr.	19	1,282,098	1,753,852	1.33	17	623,661	951,847	1.52	- 45.4
Railroad ballast	Comm.	19	529,329	385,961	.73	16	804,853	617,988	.77	+ 60.0
Metallurgical and flux	Comm.	9	563,989	532,874	.95	9	847,593	1,231,311	1.45	+130.0
Whiting substitutes-paint and putty fillers	Comm.	3	14,225	81,569	5.73	5	4,379	20,983	4.77	- 74.3
Whiting substitutes-rubber and other fillers and pottery	Comm.		<u>c/</u>	<u>c/</u>		4	6,957	27,740	3.98	
Miscellaneous fillers-asphalt, fertilizer, etc. <sup>c/</sup>	Comm.	5	75,923	178,848	2.33	7	102,551	359,830	3.50	+102.0
Rubble and veneering stone	Comm.	11	7,159	25,761	3.50	10	31,047	29,169	.94	+ 13.0
Flagging	Comm.	5	355	1,463	4.11	3	158	785	4.97	- 46.5
Riprap	Comm.	21	82,276	86,921	1.06	18	54,826	48,547	.89	- 44.0
Riprap	Gov.-Contr.	5	74,417	79,487	1.07	2	31,596	42,373	1.34	- 46.7
Other uses <sup>d/</sup>	Comm.	10	111,667	1,194,468	1.07	18	189,736	232,211	1.22	+ 94.0
Total limestone and dolomite	Comm.	161	10,654,481	\$ 9,171,241	\$ .86	138	13,238,283	\$11,945,752	\$ .90	+ 30.0
Total limestone and dolomite	Gov.-Contr.	20	1,551,655	1,932,863	1.24	17	768,273	1,068,677	1.39	- 44.7
Total stone	Both	181	12,206,136	\$11,104,104	\$ .91	155	14,006,556	\$13,014,429	\$ .93	+ 17.2

<sup>a/</sup> Based upon joint canvass made by Illinois Geol. Survey and U. S. Bur. Mines.

<sup>b/</sup> Canvass made by Illinois Geol. Survey.

<sup>c/</sup> Includes stone for coal-mine dusting.

<sup>d/</sup> Includes filler for "black-top" roads, stone sand, stone for filter beds, poultry grit, stock feeds, reprocessing, regrinding, glass factories, mineral (rock) wool, concrete blocks, etc.

<sup>e/</sup> Included in whiting substitutes-paint and putty fillers.

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Table 3. Cement Sold or Used by Producers in Illinois, 1941 and 1942<sup>a/</sup>

Kind	Lbs. per bbl.	1941				1942				Per cent change in value from 1941
		Plants report- ing	Amount bbls.	Value at Plant		Plants report- ing	Amount bbls.	Value at Plant		
				Total	Aver.			Total	Aver.	
Standard Portland cement	376		<u>d/</u>			4	6,165,989	\$ 8,585,213	\$1.39	
Special Portland cements: High-early-strength, and Portland-puzzolan	376		<u>d/</u>			3	502,483	1,000,565	1.99	
Low-heat-of-hardening, white, and other	376		<u>d/</u>			3	136,328	201,159	1.47	
Special hydraulic cements: Masonry	280		<u>d/</u>			4	379,342 <sup>b/</sup>	497,174	1.32	
Total cement	<sup>Equiv.</sup> 376	5	6,033,440 <sup>e/</sup>	\$8,799,667	\$1.46	4	7,087,400 <sup>e/</sup>	\$10,284,111	\$1.45	+ 16.9

a/ Canvass by U. S. Bur. Mines.

b/ Masonry-cement barrels containing 280 pounds each.

c/ Includes masonry-cement reduced to equivalent standard barrels.

d/ Not differentiated.

e/ Includes Portland cement and natural cement.

Lime.--Shipments of lime produced in Illinois during 1942, as shown in Table 4, increased in value 31 per cent from the previous year, which had established an all-time high record. This new record amounted to 314,000 tons, valued at plants at \$2,266,000.

Shipments of quicklime and dead-burned (sintered) dolomite produced in Illinois during 1942 increased in value 42 per cent from the previous year, due to large amounts used in steel and other industries directly connected with war materials. Shipments of hydrated lime for the same period decreased 20 per cent, due to decline in normal building operations.





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Table 4. Lime Sold or Used by Producers in Illinois, 1941 and 1942<sup>a/</sup>

Kind and Use	1941				1942				Per cent change in value from 1941
	Plants reporting	Amount tons	Value at Plant		Plants reporting	Amount tons	Value at Plant		
			Total	Aver.			Total	Aver.	
Quicklime <sup>b/</sup> :									
Building lime	5	16,020	\$ 142,735	\$8.91	5	8,725	\$ 83,943	\$9.56	- 41.2
Chemical and industrial line:									
Paper-strawboard process, etc.	5	11,221	67,286	6.00	3	11,778	62,629	5.32	- 7.0
Other industrial uses <sup>c/</sup>	7	179,337	1,219,834	6.80	6	262,158	1,885,295	7.20	+ 54.6
Total quicklime	9	206,578	\$1,429,855	\$6.93	8	282,661	\$2,031,867	\$7.19	+ 42.1
Hydrated lime:									
Building lime	6	6,358	\$ 60,403	\$9.50	6	4,128	\$ 39,481	\$9.56	- 34.7
Agricultural lime	3	285	2,440	8.56	5	439	2,877	6.55	+ 17.9
Chemical and industrial line <sup>d/</sup>	6	33,057	231,147	7.00	5	26,849	191,927	7.15	- 17.0
Total hydrated lime	6	39,700	\$ 293,995	\$7.41	6	31,416	\$ 234,285	\$7.46	- 20.0
Total lime	9	246,278	\$1,723,850	\$6.99	9	314,077	\$2,266,152	\$7.21	+ 31.5

a/ Canvass by U. S. Bur. Mines.

b/ Following procedure of U. S. Bur. Mines, data on dead-burned (sintered) dolomite are included with quicklime.

To avoid disclosing operations of individual producers, data on this material are included with other industrial uses.

c/ Includes dead-burned (sintered) dolomite; quicklime used in metallurgy-steel (open-hearth furnaces), wire drawing, and smelter flux; petroleum refining; refining aluminum oxide; sewage and trade-wastes treatment; tanneries; water purification and softening; and in manufacturing sand-lime, slag, and silica brick, calcium carbide and cyanamide, coke and gas, insecticides, fungicides, and disinfectants, paints and varnish, retarder, soap and fat, glue.

d/ Includes hydrated lime used in metallurgy-wire drawing; paper-sulphite process; petroleum refining; refining aluminum oxide; tanneries; water purification and softening; and in manufacturing sand-lime, slag and silica brick, coke and gas, insecticides, etc., paints and varnish, soap and fat.







