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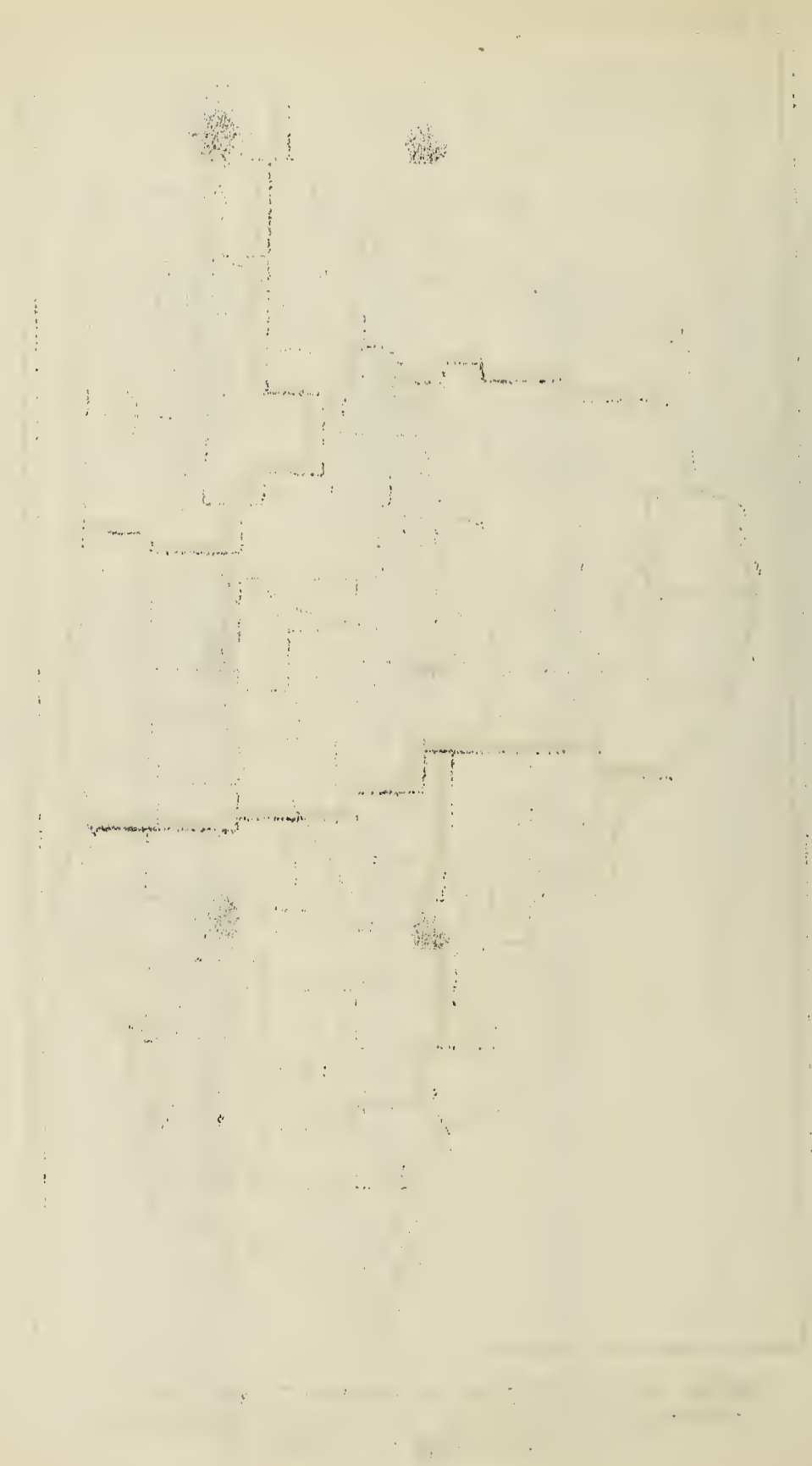


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CLAY PRODUCTS INDUSTRY IN ILLINOIS IN 1935

PRELIMINARY REPORT

By W. A. Newton and Walter H. Voskuil

May, 1936



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Illinois State Geological Survey  
Urbana, Illinois

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Preliminary Report

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The clay products industry is one of the largest non-fuels mineral industries in Illinois, in terms of value of production. It is the purpose of this preliminary report to place in the hands of the producers at an early date a summary of statistical data that has been obtained through their prompt cooperation.

The figures given in this report are subject to final revision, although more than 95 per cent of the producers have reported to date.

The total value of clay products in Illinois continued to increase in 1935, the preliminary total being \$6,731,597 for this year, in comparison with \$5,945,199 for the year 1934. However, the following table shows that this increase was in the pottery division of the industry and that there was actually a slight decrease in the structural and refractory clay products division.

Table 1. - Value of Clay Products, 1932 to 1935

	1932	1933	1934	1935
Structural and refractory clay products	\$2,504,610	\$2,328,556	\$4,498,960	\$4,467,076
Pottery	1,837,033	1,816,467	1,446,239	2,264,521
Total	<u>\$4,341,643</u>	<u>\$4,145,033</u>	<u>\$5,945,199</u>	<u>\$6,731,597</u>

This decrease was largely the result of almost a 50 per cent reduction in production value of paving blocks in 1935. There was a slight decrease also in value of refractory cement and in non-clay refractories. The figures given in Table 2 show an increase over the

1934 totals in the following classes: common brick, face brick, hollow brick, hollow building tile, drain tile, fireclay products, and clay sold (raw or prepared). The value of those classes included under other clay products (except pottery) which decreased in 1935 includes terra cotta, sewer pipe, flue lining and non-clay refractories. Wall coping was the only product included in this category which showed an increase in 1935 over 1934.

Table 2. - Production of Clay Products,  
by Classes, 1935

	Quantity	Value	Quantity Stocks on hand Dec. 31, 1935
Common brick (M)	83,445.4	\$ 689,538.69	56,517.6
Face brick (M)	34,945.4	479,118.76	17,508.6
Hollow brick (M)	2,778.8	53,916.50	680.1
Hollow building tile (Tons)	46,624.8	198,119.68	34,057.1
Vitrified brick or block for paving (M)	6,411	104,171.77	4,188.6
for other purposes (M)	977	53,245.89	1,110.7
Drain tile (Tons)	38,757.4	249,589.07	13,971.6
Fireclay products		750,284.42	
Refractory cement (clay) (Tons)	175	7,822.67	21
Clay sold, raw or prepared (etc.)		160,429.10	
*Other clay products (except Pottery)		1,720,839.58	
Pottery		2,264,520.97	

\* Terra cotta, sewer pipe, flue lining, wall coping, and non-clay refractories included under "Other clay products, except Pottery."

Table 3 presents data compiled from the Bureau of Census statistics from selected identical plants for the years 1932 to 1935. Total shipments, value of shipments, monthly averages, average values per unit, and stocks on hand December 31 of each year are given for common brick, face brick, and hollow building tile.

Table 3. - Shipments of Common Brick Face Brick, and  
Hollow Building Tile in Illinois by Years  
1932-1935  
(Data from the U. S. Bureau of Census)

Year	SHIPMENTS		VALUE			Stocks on hand at end of year Thousands
	Total Thousands	Average per month Thousands	Total Dollars	Average per month Dollars	Average value per Thousand	
Common Brick						
1932	56,388	4,699	446,906	37,242	7.93	69,771
1933	51,011	4,251	403,813	33,651	7.92	58,993
1934	62,269	5,189	564,164	47,014	9.06	55,120
1935	84,085	7,007	835,775	69,648	9.94	63,283
Face Brick						
1932	32,439	2,703	464,398	38,700	14.31	46,668
1933	22,825	1,902	305,168	25,432	13.81	26,863
1934	24,657	2,055	409,542	34,128	16.61	23,281
1935	36,923	3,077	596,248	49,687	18.85	24,411
Hollow Building Tile						
1932	30,930	2,578	104,922	8,744	3.39	45,282
1933	16,585	1,382	65,615	5,468	3.96	39,519
1934	31,580	2,632	163,312	13,609	5.17	34,766
1935	21,978	1,832	131,370	10,948	5.98	28,757

In the year 1933 each item listed under common brick and face brick decreased in comparison to the corresponding figure for 1932. The greatest comparable decrease took place in face brick. Likewise, with the exception of stocks, each figure for these two types of brick increased in both 1934 and 1935, the 1935 totals in each case being greater than those of 1932. Not since 1932 has the total value of face brick shipments been greater than those of common brick, and it is yet lagging considerably.

A comparison of the data on hollow building tile with that of common and face brick gives quite a different picture. The trend in shipments and value of shipments in all three commodities is similar for the first three years, being downward in 1932 and upward in 1933, but in 1935 the tile trend falls again while the brick trend rises very markedly. This may be in part due to a natural decrease in demand for tile in 1935 or to the steady increase in value per unit placed on hollow building tile each year since 1932. The average value for both kinds of brick fluctuated with demand during these years.

It is important to note that stocks in both common and face brick increased in 1935 for the first time. This suggests that heavy inventories have been reduced to a more normal level. Stocks of hollow building tile on hand necessarily continued to decrease in 1935. The stocks of tile on hand at the end of the year were still greater than the total shipped during 1935. However, the stocks have shrunk 37 per cent from the 1932 total.

The important part that the stocks on hand play in the economic picture is not the actual number or quantity but the relation of the quantity of stocks to the demand. The producer can determine the size of the stocks he should carry on hand to meet emergencies only through past experience. Probably the most pertinent data available to judge future demands are shipments of the past year, with an analysis of the probable increase or decrease in demand for the coming months. Table 4 shows the relation of stocks on hand at the end of each year to the demand for that current year in terms of month's supplies on hand, December 31.

Table 4. - Supply of Stocks on Hand at End of Year, in Terms of Months, 1932-1935

Year	Common Brick (Months)	Face Brick (Months)	Hollow Building Tile (Months)
1932	14.8	17.3	17.6
1933	13.9	14.1	28.6
1934	10.6	11.3	13.2
1935	9.0	7.9	15.7

The actual quantity of stocks on hand as seen in Table 3 was increased for both common and face brick in 1935. However, the relation of these stocks to current demand has continued to decrease through 1935 and will continue to do so until this portion of the industry is stabilized. The stocks of hollow building tile on hand at the end of each year as seen in Table 4 has in no way coincided with demand and at the present time is no doubt much larger than that necessary to meet adequately the current requirements.

The clay products industry is more or less dependent upon the extent of building activity. A brief study of construction as revealed by building permit data in Illinois and in the country as a whole for the past few years may give some indications of future trends.

The first pronounced measure of building recovery was in 1935 as shown in Table 5 below. This 84 per cent increase over the 1934 total building permits issued in the 16 Illinois cities and St. Louis, Missouri, is gratifying not only in that it marks a definite upturn for the severely deflated construction industries but in that the value of

building permits of this group of cities is 14.3 per cent above the average for 811 cities throughout the United States, as compiled by the U. S. Department of Labor, shown in Table 6.

Table 5. - Value of Building Permits in 16 Illinois Cities and St. Louis, Missouri (a)

	1933	1934	1935 (Preliminary)
Aurora	\$ 104,966	\$ 282,282	\$ 250,270
Bloomington	192,570	238,046	579,022
Chicago	3,683,960	7,727,351	12,936,409
Cicero	56,165	162,885	198,240
Decatur	157,605	577,640	588,102
E. St. Louis	212,742	265,498	869,123
Elgin	105,953	169,946	217,945
Evanston	402,600	741,700	947,750
Freeport	102,782	99,887	230,135
Moline	102,685	170,653	335,893
Oak Park	122,940	181,850	626,200
Peoria	1,891,320	910,987	1,791,342
Quincy	73,954	58,314	81,716
Rockford	117,720	227,300	347,065
Rock Island	186,426	322,892	332,906
Springfield	535,929	326,184	456,453
St. Louis, Missouri	10,106,632	4,998,453	11,355,867
Total	\$18,156,949	\$17,461,868	\$32,144,438

(a) Data from Commercial and Financial Chronicle.

Table 6. - Comparison of Building Activity in 811 U. S. Cities, 1934-1935

Class of construction	Number of Buildings			Estimated Cost		
	1935	1934	P.C. change	1935	1934	P.C. change
New residential	53,058	21,773	+143.7	291,227,231	107,146,264	+171.8
New non-residential additions, alterations, repairs	79,439	64,546	+23.1	316,730,227	215,402,856	+47.0
All construction	317,626	264,241	+20.2	228,546,659	168,505,689	+35.6
	450,123	350,560	+28.4	836,504,117	491,054,809	+70.3

Data from U. S. Department of Labor.

Most important in Table 6 is the significant increase in new residential construction. This class of construction acts as a business barometer and is important because of its greater relative volume in normal times, and in that it is a measure of public purchasing power and a reflection of the confidence of private capital.

It must be remembered, however, that although building activity in 1935 was substantially greater than in the previous year, the total value for 1934 as given in Table 5 was actually less than in 1933. This was particularly due to the decline of almost 50 per cent in value of permits issued in St. Louis, most of the cities showing somewhat of an increase.

The building industry usually contracts more than others of the durable or capital goods classification and its advance after the worst effects of a depression is usually tardy. The striking improvement now recorded is highly important for this reason. The building industry in Illinois began its decline in 1926 and reached the lowest level of activity in 1933. In 1934 many cities showed an increase and in 1935 all cities recorded in Table 5, with one exception, evidenced improvement.

Table 7. - Value of Building Permits of Six Groups of Illinois Cities from 1920 to 1935  
(In millions of dollars)

Year	Chicago, Oak Park, Evanston, Cicero	St. Louis and East St. Louis	Rock Island and Moline	Rockford and Freeport	Elgin and Aurora	Spring- field, Decatur, Bloom- ington, Peoria
1920	79.5	19.6				9.3
1921	135.6	18.0				8.1
1922	243.7	27.9				11.2
1923	351.3	44.3	2.1	4.8	4.7	10.1
1924	316.9	43.1	2.2	4.9	4.4	15.3
1925	382.9	60.1	2.3	7.4	7.2	17.9
1926	386.9	44.3	2.6	6.5	7.7	16.4
1927	378.0	47.7	3.4	8.2	4.7	14.0
1928	338.3	45.5	2.8	7.7	5.7	13.2
1929	216.2	29.8	4.4	6.2	3.7	11.9
1930	84.6	18.8	2.1	3.5	2.2	9.3
1931	48.5	17.7	1.2	.9	1.8	5.4
1932	4.8	4.6	.3	.9	.3	1.5
1933	4.3	10.3	.3	.2	.2	2.8
1934	8.8	5.3	.5	.3	.5	2.1
1935	14.7	12.2	.7	.6	.5	3.4

Table 7 presents building permit data for six groups of Illinois cities, in millions of dollars, for the years 1920 to 1935. These figures suggest that the building industry in this State is definitely on the up-turn after having experienced its lowest level in the year 1932 of the industrial depression. Also pictured by this table are the great strides construction must take before it can be said that normal building and industrial conditions are restored. This fact is further substantiated when the 1935 total value of permits issued in these cities, \$32,144,438, is compared to the total of \$415,526,483 in 1928. While it is improbable that the activity of building in the period 1926-1928 will occur in the future, the level of building activity in 1935 is probably much below normal requirements.

Governmental activities may have aided to some degree the improvement in building in the United States since 1933. However, such activities could not have made for such an enormous decline in building as witnessed during the first stages of the depression. Building construction was overdone by private capital during the years of increasing prosperity and it would be impossible for public works to tighten the slack in the building industry drained of these private funds. The slack is justly being taken up by an increased residential and industrial building program which will be the basis for a normal building program.

F. W. Dodge figures show that in 1935 industrial building increased slightly over that of 1934 for 37 states east of the Rocky Mountains, although it lagged as compared to an almost double outlay for residential construction in 1935. Public works and utility project contracts declined somewhat from 1934. A few building permits statistics compiled by the F. W. Dodge Corporation illustrate the importance of residential building for the improvement last year, as follows:

Table 8. - Value of Building Permits for 37 States  
East of Rocky Mountains (a)

Class	1935	1934	1933	
Residential	\$478,843,100	\$248,840,100	\$249,262,100	\$811,338,700 (1931)
Non- residential	675,488,600	543,031,800	403,723,700	2,590,221,000 (1929)
Public works	578,541,800	625,044,500		
Utility	111,671,400	126,192,000		

(a) Data compiled by F. W. Dodge Corporation

A further refinement of residential construction data for 811 identical cities has been compiled by the U. S. Department of Labor and is shown in Table 9. In 1935 there was a greater number of dwellings and more money outlaid for the one-family than for any other kind. However, the greatest increase over the 1934 dwelling construction total took place in the multi-family class, showing that business conditions are returning to the point where it is profitable to relieve the shortage in apartments.

Table 9. - Number of Family-Dwelling Units Provided in 811 Cities (U. S. Department of Labor)

	No. of new buildings for which permits issued			Families provided for		
	1935	1934	P.C. Change	1935	1934	P.C. Change
One-family	49,001	20,198	+142.6	49,001	20,198	+142.6
Two-family	2,428	1,176	+106.5	4,544	2,180	+108.4
Multi-family	1,523	341	+346.6	22,970	7,290	+215.1
All kinds	52,952	21,715	+143.8	76,515	29,668	+157.9

Total construction awards during the first two months of 1936 were 98.5 per cent higher than for the same two months of 1935 in 37 states east of the Rocky Mountains, according to F. W. Dodge figures. Table 10, given below, compares the different classes of construction for this period.

Table 10. - Construction Contracts Awarded in 37 States East of the Rocky Mountains, Comparing the First Two Months of the Years 1936 and 1935 (Figures from the F. W. Dodge Corporation)

January and February	No. of Projects	New floor space (Sq. ft.)	Valuation (Dollars)	P. C.* increase over 1935
1936 Residential bldg.	6,943	19,420,000	68,615,000	75.7
Non-residential	5,116	27,431,400	153,090,700	114.1
Public works and utilities	2,107	1,057,700	125,137,300	73.2
Total construction	14,116	47,910,000	346,843,000	98.5



Table 10 (continued)

		No. of Projects	New floor space (Sq. ft.)	Valuation (Dollars)	P.C.* increase over 1935
January and February					
1935	Residential bldg.	5,864	10,096,900	39,027,000	
	Non-residential	4,875	10,607,300	63,571,200	
	Public works and utilities	1,854	211,200	72,222,800	
	Total construction	12,593	20,915,400	174,821,000	

\* Calculated

The value of building permits for 16 Illinois cities for the first three months in 1935 and 1936 has been compiled from monthly issues of the Illinois Journal of Commerce. The results are given in Table 11 which affords a basis of comparison for construction in Illinois in the year 1935 and the possible trend building may take during the remainder of the current year.

Table 11. - Value of Building Permits in 16 Illinois Cities\*, by Months, 1935-1936

	1 9 3 5			1 9 3 6		
	Value of Building Permits	Number of Permits	Average Value of Permit	Value of Building Permits	Number of Permits	Average Value of Permit
January	94,963	151	628.8	809,143	203	3,985.9
February	165,307	222	744.6	214,525	141	1,520.6
March	704,078	379	1,857.7	974,588	632	1,542.0

\* The 16 cities: Aurora, Bloomington, Champaign, Danville, Decatur, East St. Louis, Elgin, Freeport, Joliet, Moline, Peoria, Quincy, Rockford, Rock Island, Springfield, and Waukegan.







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