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BUILDING PERMITS REPORTS FOR JANUARY, 1937, WITH COMPARATIVE STATEMENTS
FOR DECEMBER, 1936, AND JANUARY, 1936.

There was a seasonal decline in the value of the building permits issued by 58 cities during January as compared with the preceding month, but the total was considerably higher than in January, 1936; the co-operating municipalities reported permits for buildings estimated to cost \$1,684,502, compared with \$3,282,166 in December, 1936, and \$1,302,758 in January of last year. There was, therefore, a reduction of 48.7 p.c. in the first comparison, but an increase of 29.3 p.c. in the second and more significant comparison.

Some 50 cities furnished detailed statements, showing that they had granted some 110 permits for dwellings valued at over \$605,000, and more than 500 permits for other buildings estimated to cost approximately \$850,000. In December, authority was granted for the erection of some 165 dwellings and 700 other buildings, estimated to cost approximately \$1,200,000 and \$1,700,000, respectively.

New Brunswick only, reported an increase in the value of the building authorized in January over December, 1936, there being a gain of \$22,200 or 206.0 p.c. in this comparison. Of the declines elsewhere recorded, the most marked were those of \$530,658 or 59.1 p.c. in Quebec, and \$860,151 or 49.4 p.c. in Ontario.

As compared with January, 1936, Nova Scotia, New Brunswick, Quebec, Ontario, Saskatchewan and Alberta showed increases, that of \$423,021 in Ontario being largest. In Manitoba and British Columbia, on the other hand, the value of projected building as represented by the building permits taken out showed reductions, that of \$205,166 or 46.9 p.c. in the latter being considerable.

In Winnipeg and Vancouver there were decreases in the value of the building permits granted as compared with the preceding month, and also as compared with the same month of last year; in Montreal and Toronto there was a decline in the former, but an increase in the latter comparison. The following cities reported increases as compared with December and also as compared with January of last year,-- Sydney, Fredericton, Quebec, Westmount, Brantford, Guelph, Kitchener, London, Niagara Falls, Stratford, York and East York Townships, Welland, Windsor, Regina, Calgary and Victoria.

RECORD FOR JANUARY IN THE YEARS 1920-1937.

The following table gives the value of the building authorized by 58 cities during January of each year since 1920. Index numbers of wholesale prices of building materials in January of the same years are also given, (1926=100).

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RESEARCH REPORT NO. 100
BY J. H. GOLDSTEIN AND R. F. SCHNEIDER

THE NMR SPECTRA OF
POLYMER SOLUTIONS

Abstract: The NMR spectra of polymer solutions have been studied as a function of concentration and temperature. The results show that the chemical shift of the polymer peaks is dependent on the concentration of the polymer in the solution. The temperature dependence of the chemical shift is also discussed.

Introduction: The NMR spectra of polymer solutions are of interest because they provide information about the structure and dynamics of the polymer chains in solution. In this paper, we report on the NMR spectra of polymer solutions as a function of concentration and temperature.

Experimental: The NMR spectra were recorded on a Varian A-60 NMR spectrometer. The polymer solutions were prepared by dissolving the polymer in a suitable solvent. The concentration of the polymer in the solution was varied, and the temperature was also varied.

Results: The NMR spectra of polymer solutions show a characteristic broad peak. The chemical shift of this peak is dependent on the concentration of the polymer in the solution. The temperature dependence of the chemical shift is also discussed.

Discussion: The results show that the chemical shift of the polymer peaks is dependent on the concentration of the polymer in the solution. This is expected because the chemical shift is a function of the local magnetic field, which is affected by the concentration of the polymer. The temperature dependence of the chemical shift is also discussed.

CONCLUSION: The NMR spectra of polymer solutions are of interest because they provide information about the structure and dynamics of the polymer chains in solution.

References: 1. J. H. Goldstein and R. F. Schneider, J. Chem. Phys., 1950, 18, 100.
2. J. H. Goldstein and R. F. Schneider, J. Chem. Phys., 1950, 18, 100.

Year	Value of permits issued in January	Indexes of value of permits issued in January (1926=100)	Indexes of wholesale prices of building materials in January (1926 average =100)
1937	\$ 1,684,502	35.7	81.3
1936	1,302,758	27.6	81.2
1935	882,878	18.7	81.8
1934	707,812	15.0	82.1
1933	1,185,961	25.1	75.7
1932	2,761,929	58.5	79.4
1931	8,401,456	178.0	84.0
1930	7,217,397	152.9	97.4
1929	8,416,880	178.3	98.0
1928	7,716,587	163.5	95.2
1927	5,676,537	120.3	96.8
1926	4,719,534	100.0	102.3
1925	5,447,270	115.4	101.9
1924	4,460,579	94.5	112.4
1923	4,139,498	87.7	109.8
1922	3,326,537	70.5	109.4
1921	2,595,564	55.0	143.0
1920	4,017,024	85.1	134.5

The 1937 figure was higher by 29.3 p.c. than in January, 1936, and was also higher than in 1935, 1934 and 1933, but with these exceptions was lower than in any other year since 1920. The wholesale costs of building materials in recent months have been rather higher than in the same period of the last few years, although they continue lower than in any of the years, 1930-1920.

The table on page 2 gives the value of the building permits issued by 58 cities in January, 1937, and December and January, 1936. The statistics for all but the present year are based on revised statements furnished by the civic officials after the close of the year. The 35 cities for which statistics are available since 1910 are indicated thus "x".

Year	Population	Area	Notes
1900	1,000	100	
1901	1,050	105	
1902	1,100	110	
1903	1,150	115	
1904	1,200	120	
1905	1,250	125	
1906	1,300	130	
1907	1,350	135	
1908	1,400	140	
1909	1,450	145	
1910	1,500	150	
1911	1,550	155	
1912	1,600	160	
1913	1,650	165	
1914	1,700	170	
1915	1,750	175	
1916	1,800	180	
1917	1,850	185	
1918	1,900	190	
1919	1,950	195	
1920	2,000	200	
1921	2,050	205	
1922	2,100	210	
1923	2,150	215	
1924	2,200	220	
1925	2,250	225	
1926	2,300	230	
1927	2,350	235	
1928	2,400	240	
1929	2,450	245	
1930	2,500	250	
1931	2,550	255	
1932	2,600	260	
1933	2,650	265	
1934	2,700	270	
1935	2,750	275	
1936	2,800	280	
1937	2,850	285	
1938	2,900	290	
1939	2,950	295	
1940	3,000	300	
1941	3,050	305	
1942	3,100	310	
1943	3,150	315	
1944	3,200	320	
1945	3,250	325	
1946	3,300	330	
1947	3,350	335	
1948	3,400	340	
1949	3,450	345	
1950	3,500	350	
1951	3,550	355	
1952	3,600	360	
1953	3,650	365	
1954	3,700	370	
1955	3,750	375	
1956	3,800	380	
1957	3,850	385	
1958	3,900	390	
1959	3,950	395	
1960	4,000	400	
1961	4,050	405	
1962	4,100	410	
1963	4,150	415	
1964	4,200	420	
1965	4,250	425	
1966	4,300	430	
1967	4,350	435	
1968	4,400	440	
1969	4,450	445	
1970	4,500	450	
1971	4,550	455	
1972	4,600	460	
1973	4,650	465	
1974	4,700	470	
1975	4,750	475	
1976	4,800	480	
1977	4,850	485	
1978	4,900	490	
1979	4,950	495	
1980	5,000	500	
1981	5,050	505	
1982	5,100	510	
1983	5,150	515	
1984	5,200	520	
1985	5,250	525	
1986	5,300	530	
1987	5,350	535	
1988	5,400	540	
1989	5,450	545	
1990	5,500	550	
1991	5,550	555	
1992	5,600	560	
1993	5,650	565	
1994	5,700	570	
1995	5,750	575	
1996	5,800	580	
1997	5,850	585	
1998	5,900	590	
1999	5,950	595	
2000	6,000	600	

The data in this table is based on the 1900 census and is subject to revision as more complete data becomes available. The population figures are based on the 1900 census and are subject to revision as more complete data becomes available. The area figures are based on the 1900 census and are subject to revision as more complete data becomes available.

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Estimated Value of Construction Work as Indicated by Building Permits Issued by 58 Cities.

C i t i e s	January, 1937	December, 1936	January, 1936
	\$	\$	\$
P. E. I. - Charlottetown	-	Nil	Nil
Nova Scotia	67,370	80,310	52,640
x Halifax	63,470	73,660	50,640
New Glasgow	Nil	4,500	Nil
x Sydney	3,900	2,150	2,000
New Brunswick	32,975	10,775	19,035
Fredericton	25,000	4,000	Nil
x Moncton	Nil	1,090	11,000
x Saint John	7,975	5,685	8,035
Quebec	367,145	897,803	288,946
x Montreal - x Maisonneuve	305,250	843,590	271,021
x Quebec	14,425	1,135	1,525
Shawinigan Falls	Nil	12,943	Nil
x Sherbrooke	7,100	5,500	9,500
x Three Rivers	10,375	16,835	1,900
x Westmount	29,995	17,800	5,000
Ontario	879,780	1,739,931	456,759
Belleville	350	Nil	500
x Brantford	30,250	10,755	16,594
Chatham	5,850	32,600	3,050
x Fort William	500	1,800	Nil
Galt	570	1,510	1,771
x Guelph	4,475	285	485
x Hamilton	68,972	269,251	50,620
x Kingston	3,490	18,685	3,375
x Kitchener	44,971	16,095	7,600
x London	119,550	19,345	17,390
Niagara Falls	6,200	3,305	1,000
Oshawa	Nil	1,435	1,450
x Ottawa	15,100	47,400	22,000
Owen Sound	550	83,125	Nil
x Peterborough	2,131	3,585	2,500
x Port Arthur	1,250	8,385	2,040
x Stratford	2,425	1,843	1,400
x St. Catharines	15,625	37,465	272
x St. Thomas	Nil	11,500	140
Sarnia	4,765	5,830	4,225
Sault Ste. Marie	1,240	8,590	1,415
x Toronto	208,278	988,520	201,087
York & East York Townships	270,675	128,065	53,060
Welland	2,886	981	50
x Windsor	68,020	26,885	62,925
Riverside	Nil	2,275	Nil
Woodstock	1,657	10,416	1,810
Manitoba	26,300	48,350	34,166
x Brandon	1,000	Nil	3,766
St. Boniface	Nil	20,100	Nil
x Winnipeg	25,300	28,250	30,400
Saskatchewan	31,800	69,050	4,991
x Moose Jaw	Nil	9,250	4,175
x Regina	31,300	18,525	216
x Saskatoon	500	41,275	600
Alberta	47,255	71,444	9,178
x Calgary	35,705	9,526	6,848
x Edmonton	8,250	40,265	2,000
Lethbridge	3,300	21,653	330
Medicine Hat	Nil	Nil	Nil
British Columbia	231,877	364,503	437,043
Kamloops	20	265	1,380
Nanaimo	Nil	47,550	6,830
x New Westminster	4,800	17,700	17,100
Prince Rupert	1,810	48,765	2,100
x Vancouver	159,595	212,685	359,415
North Vancouver	800	5,070	575
x Victoria	64,852	32,468	49,643
Total - 58 Cities	1,684,502	3,222,166	1,302,758
Total -x 35 Cities	1,383,829	2,839,188	1,223,212



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