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Minister of Trade and Commerce.

CANADA

DEPARTMENT OF TRADE AND COMMERCE

DOMINION BUREAU OF STATISTICS

CENSUS OF INDUSTRY

MINING, METALLURGICAL & CHEMICAL BRANCH

THE CEMENT MANUFACTURING INDUSTRY

IN

CANADA

1942

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OTTAWA
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Price 25 cents

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DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS
CENSUS OF INDUSTRY
MINING, METALLURGICAL AND CHEMICAL BRANCH
OTTAWA - CANADA

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THE CEMENT MANUFACTURING INDUSTRY, 1942

Producers' sales of cement in 1942 as reported by the Canadian cement industry totalled 9,126,041 barrels valued at $14,365,237, compared with 8,368,711 barrels valued at $13,063,588 in 1941. The output in 1942 was the largest attained since 1931 when production totalled 10,161,658 barrels worth $15,826,243. Of the 1942 sales, 4,446,416 barrels were produced in Quebec plants; 2,784,782 barrels in Ontario; 654,855 barrels in Manitoba; 668,043 barrels in Alberta, and 571,945 barrels in British Columbia. The high and low prices per barrel in 1942 were $2.70 and $1.25.

The number of firms reporting commercial production of Portland cement in Canada during 1942 was 3 and the plants in operation numbered 8. Capital employed totalled $51,121,894 and the industry distributed $2,059,337 in salaries and wages to 1,241 employees. The total value of fuel and electricity used during the year under review amounted to $3,127,264, of which $2,308,873 were expended for coal and $771,092 for purchased electricity. Process supplies consumed, including chemicals, explosives, etc., were valued at $1,024.057.

The following tonnages of primary materials of mineral origin were used in the manufacture of the final product: limestone, 2,155,750; clay, 188,202; gypsum, 49,816; shale, 30,498; silica sand, 20,711; and iron oxide, 2,094. Data relating to imports and exports of cement are being withheld from publication until the termination of the war.

The erection or expansion of plants for the production of munitions of war, the building of office structures for war-time service, and the construction of air training centres and other military projects have greatly stimulated the production of cement in Canada since the outbreak of war in 1939. A report on cement, prepared by the Bureau of Mines, Ottawa, contains the following information:

"Portland cement, the principal raw materials for which are limestone and clay, is manufactured in five provinces of Canada. In addition to the standard or ordinary variety of Portland cement, several other varieties, including high-early-strength, alkali-resistant, and white cement are made in this country, the last named variety, however, being made from imported clinker.

"Canada Cement Company, Limited, operates plants at Hull and Montreal East in Quebec; at Port Colborne and Belleville in Ontario; at Fort Whyte, Manitoba; and at Exshaw, Alberta. St. Mary's Cement Company, Limited operates a plant at St. Mary's, Ontario. British Columbia Cement Company operates at Bamberton, British Columbia. The total rated daily capacity of all plants is about 35,000 barrels, (a barrel of cement weighs 350 pounds net).

"When the change-over from the "dry" to the "wet" process, now underway at the Exshaw plant of Canada Cement Company, is completed, all Canadian plants

making cement from domestic raw materials will be using the wet process. Remarkable uniformity in the chemical and physical properties of the standard variety of cement is achieved throughout the country as the result of close technical control and improvements in plant equipment.

"Froth flotation is used in a number of plants in the United States and other countries to remove certain materials, principally excess silica and mica, from limestone. The successful adaptation of this process to the beneficiation of cement raw materials has permitted the utilization of limestone deposits, which, though advantageously situated, were not sufficiently pure in their natural state for cement manufacture."

Table 1 - PRINCIPAL STATISTICS OF THE CEMENT MANUFACTURING INDUSTRY IN CANADA, 1940-1942

		1940	1941	1942
Number of firms		3	3	3
Number of plants		8	8	8
Capital employed	$	50,370,276	51,108,294	51,121,894
Number of employees - On salary..		83	87	89
On wages ..		969	1,148	1,152
Total ..		1,052	1,235	1,241
Salaries and wages - Salaries ...	$	191,548	190,771	200,779
Wages	$	1,324,218	1,670,160	1,858,558
Total ..	$	1,515,766	1,860,931	2,059,337
Selling value of products (Gross)	$	13,006,643	14,323,372	15,628,403
Cost of fuel and electricity	$	2,347,730	2,897,383	3,127,264
Cost of process supplies (x)	$	712,193	887,041	1,024,057
Value of containers	$	1,231,298	1,259,784	1,263,166
Net value of products sold	$	8,715,422	9,279,164	10,213,916

(x) Other than fuel and electricity.

Table 2 - WAGE-EARNERS ON 15th OF EACH MONTH, OR NEAREST REPRESENTATIVE DATE, 1940-1942

Month	1940	1941	1942	
			Quarry	Mill
January	736	1,051	146	932
February	711	1,058	154	938
March	795	1,084	150	961
April	974	1,169	159	989
May	1,021	1,177	153	988
June	1,041	1,219	150	1,032
July	1,046	1,221	154	1,058
August	1,052	1,177	155	1,038
September	1,111	1,197	148	1,040
October	1,148	1,158	156	993
November	1,100	1,145	157	1,018
December	923	1,124	155	973

(13 Nov. '43)

Table 3 - NUMBER OF WAGE-EARNERS WHO WORKED THE NUMBER OF HOURS SPECIFIED, DURING ONE WEEK IN MONTH OF HIGHEST EMPLOYMENT

Hours	1942	Hours	1942
	No.		No.
30 hours or less	15	51-54 hours	88
31-43 hours	55	55 hours	21
44 hours	35	56-64 hours	414
45-47 hours	27	65 hours and over...	106
48 hours	426	GRAND TOTAL	1,249
49-50 hours	62	Total wages paid in that week ..... $	39,916

Table 4 - TOTAL FUEL AND ELECTRICITY USED IN THE CEMENT MANUFACTURING INDUSTRY, 1941 and 1942

	Unit of measure	1941 Quantity	1941 Value	1942 Quantity	1942 Value
			$		$
Bituminous coal - Canadian	short ton	125,740	772,829	156,544	1,003,490
Imported	short ton	203,905	1,331,448	192,105	1,305,383
Gasoline	Imp.gal.	157,133	38,277	152,146	41,295
Kerosene	Imp.gal.	5,831	1,102	5,121	972
Fuel oil and diesel oil ..	Imp.gal.	41,911	4,969	40,212	4,946
Wood (cords of 128 cu.ft.)	cord	35	127	13	86
Electricity purchased, including service charges..	K.W.H.	151,845,680	748,631	154,502,140	771,092
TOTAL	...	...	2,897,383	...	3,127,264
Process supplies used, explosives, etc.	...	...	887,041	...	1,024,057

Table 5 - COAL USED IN CANADIAN CEMENT PLANTS, 1933-1942

Year	Canadian Tons	Canadian $	Foreign Tons	Foreign $
1933	48,905	236,947	46,955	229,399
1934	69,853	367,880	60,877	330,432
1935	78,477	433,347	53,338	291,741
1936	119,903	635,631	66,460	367,740
1937	145,791	760,766	90,925	513,417
1938	127,812	656,187	89,172	499,812
1939	190,538	1,010,071	16,141	82,336
1940	185,325	1,108,287	85,885	513,224
1941	125,740	772,829	203,905	1,331,448
1942	156,544	1,003,490	192,105	1,305,383

Table 6 - NUMBER AND CAPACITY OF KILNS IN CANADIAN CEMENT PLANTS, 1933-1942

Year	Total kilns		Kilns in use during the year	
	Number	Total capacity Barrels per 24 hours	Number	Total capacity Barrels per 24 hours
1933	41	43,622	(x)	(x)
1934	41	43,722	(x)	(x)
1935	20	32,650	(x)	(x)
1936	19	33,000	(x)	(x)
1937	18	33,900	(x)	(x)
1938	21	35,200	10	23,100
1939	21	35,000	11	23,700
1940	21	35,000	13	27,950
1941	20	33,050	16	30,350
1942	19	34,650	17	32,450

(x) Data not recorded.

Table 7 - QUANTITY AND VALUE OF ELECTRICITY PURCHASED BY CANADIAN CEMENT COMPANIES, 1933-1942

Year	Kilowatt hours	$ (x)	Year	Kilowatt hours	$ (x)
1933	48,160,143	508,841	1938	59,705,200	583,858
1934	48,457,250	496,138	1939	105,938,210	589,190
1935	51,958,859	494,538	1940	126,737,622	690,266
1936	62,038,700	553,212	1941	151,845,680	748,631
1937	61,045,600	606,969	1942	154,502,140	771,092

(x) Includes service charges.

Table 8 - POWER EQUIPMENT IN CANADIAN CEMENT PLANTS, 1942

Description	Ordinarily in Use		In Reserve or Idle	
	Number of units	Total horse power (x)	Number of units	Total horse power (x)
Steam engines and steam turbines..	...	...	1	50
Diesel engines	5	1,176	...	...
Gasoline, gas and oil engines, other than diesel engines	39	1,445	6	242
Hydraulic turbines or water wheels	...	...	...	...
Electric motors -				
(a) Operated by purchased power..	1,479	77,069	294	13,753
TOTAL	1,523	79,690	301	14,045
(b) Operated by power generated by the establishment	26	968	6	210
Stationary boilers	9	515	1	40
Motor generator sets	7	541	7	160

(x) According to manufacturers' rating.

Table 9 - SUMMARY STATISTICS OF CEMENT PRODUCTION, SALES, ETC., IN CANADA, 1941 and 1942

	1941		1942	
	Barrels(x)	Value	Barrels(x)	Value
		$		$
Output	8,480,987	...	8,634,184	...
Sold or used	8,368,711	13,063,588	9,126,041	14,365,237
Stocks on hand December 31 ...	1,365,676	...	873,819	...
APPARENT CONSUMPTION	8,069,824	...	8,878,481	...

(x) 1 barrel = 350 pounds.

Table 10 - PRODUCTION AND APPARENT CONSUMPTION OF CEMENT IN CANADA, 1929-1942

Year	SOLD OR USED		APPARENT CONSUMPTION
	Barrels	$	Barrels
1929	12,284,081	19,337,235	12,105,950
1930	11,032,538	17,713,067	10,977,238
1931	10,161,658	15,826,243	10,085,986
1932	4,498,721	6,930,721	4,466,738
1933	3,007,432	4,536,935	2,974,020
1934	3,783,226	5,667,946	3,727,521
1935	3,648,086	5,580,043	3,610,217
1936	4,508,718	6,908,192	4,479,656
1937	6,168,971	9,095,867	6,157,485
1938	5,519,102	8,241,350	5,478,180
1939	5,731,264	8,511,211	5,591,328
1940	7,559,648	11,775,345	7,272,886
1941	8,368,711	13,063,588	8,069,824
1942	9,126,041	14,365,237	8,878,481

Table 11 - PRODUCERS' SALES OF CEMENT IN CANADA, BY PROVINCES, 1940 - 1942

Province	1940		1941		1942	
	Barrels	Value (x)	Barrels	Value (x)	Barrels	Value (x)
		$		$		$
Quebec	3,854,339	5,432,105	4,048,749	5,798,188	4,446,416	6,487,078
Ontario	2,355,352	3,518,247	2,748,854	4,019,656	2,784,782	3,998,294
Manitoba	572,408	1,287,918	576,648	1,274,392	654,855	1,374,498
Alberta	414,183	832,508	492,515	985,030	668,043	1,307,353
British Columbia	363,366	704,567	501,945	986,322	571,945	1,198,014
CANADA	7,559,648	11,775,345	8,368,711	13,063,588	9,126,041	14,365,237

(x) Less value of containers.

Table 12 - SELLING PRICE PER BARREL OF CANADIAN CEMENT, F.O.B. WORKS, 1933-1942

Year	High	Low	Year	High	Low
	$	$		$	$
1933	2.55	1.25	1938	2.35	1.25
1934	2.36	1.25	1939	2.35	1.25
1935	2.79	1.25	1940	2.35	1.32
1936	2.68	1.25	1941	2.70	1.25
1937	2.68	1.25	1942	2.70	1.25

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Table 13 - SPECIFIED MATERIALS USED IN CANADIAN CEMENT PLANTS, 1933-1942

Year	Shale	Limestone	Gypsum	Silica Sand	Clay	Iron Oxides (✓)
	tons	tons	tons	tons	tons	tons
1933 ...	(x)	616,364	13,319	(x)	(x)	(x)
1934 ...	(x)	806,546	19,172	(x)	(x)	(x)
1935 ...	(x)	818,443	21,611	5,047	(x)	(x)
1936 ...	(x)	1,180,358	25,447	8,549	94,943	(x)
1937 ...	(x)	1,465,168	33,691	9,281	195,877	444
1938 ...	13,821	1,344,868	51,975	9,465	143,421	22
1939 ...	27,241	1,379,858	31,492	7,942	105,982	16
1940 ...	18,347	1,765,944	38,903	15,298	144,152	170
1941 ...	26,837	2,086,781	49,031	16,110	185,054	614
1942 ...	30,498	2,155,750	49,816	20,711	188,202	2,094

(x) Data not recorded. (✓) Produced from iron pyrites by the chemical industry.

Table 14 - VALUE OF CONSTRUCTION CONTRACTS AWARDED, BY PROVINCES, 1938-1942
(MacLean Building Reports Ltd.)

Province	1938	1939	1940	1941	1942
	$	$	$	$	$
Maritimes	19,522,800	16,146,300	21,142,100	36,736,400	26,305,500
Quebec	65,778,900	62,846,600	96,326,300	154,541,200	92,235,500
Ontario	73,070,100	82,605,500	146,806,100	145,598,600	108,673,500
Manitoba	6,115,200	5,374,400	28,003,700	11,701,600	18,914,300
Saskatchewan ...	3,969,000	3,246,100	12,566,700	11,098,700	5,480,200
Alberta	8,180,000	5,234,900	23,940,100	15,538,800	14,401,100
British Columbia	10,641,900	11,724,700	17,224,800	18,716,000	20,578,000
CANADA	187,277,900	187,178,500	346,009,800	393,931,300	281,594,100

Table 15 - INDEX NUMBERS OF CANADIAN WHOLESALE PRICES OF SPECIFIED BUILDING AND CONSTRUCTION MATERIALS AND OF GENERAL WHOLESALE PRICES--1926=100
(Internal Trade Branch)

Year	Building and Construction Materials	Lumber Index	Miscellaneous Materials Index (x)	Paint Materials Index	Cement Index	General Wholesale Price Index
1913	67.0	67.4	67.1	57.5	90.9	64.0
1926	100.0	100.0	100.0	100.0	100.0	100.0
1927	96.1	97.5	95.7	92.2	94.0	97.7
1928	97.4	102.3	95.4	86.2	97.0	96.4
1929	99.0	103.5	96.3	92.0	100.2	95.6
1930	90.8	90.1	92.5	86.9	100.8	86.6
1931	81.9	77.4	89.4	69.1	102.3	72.1
1932	77.2	68.8	88.7	63.5	105.3	66.7
1933	78.3	70.8	88.4	66.2	105.5	67.1
1934	82.5	78.6	88.2	75.0	105.2	71.6
1935	81.2	77.8	87.0	71.1	105.2	72.1
1936	85.3	86.3	88.6	68.2	105.8	74.6
1937	94.4	98.1	95.9	74.6	106.2	84.6
1938	89.1	89.8	93.3	69.6	102.4	78.6
1939	89.7	94.0	90.9	68.0	96.7	75.4
1940	95.6	103.6	93.4	74.1	98.4	82.9
1941	107.3	120.6	100.8	82.3	104.1	90.0
1942	115.2	133.0	104.9	87.9	106.5	95.7

(x) Determined partly from cement prices.

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