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

THE LIME INDUSTRY
IN
CANADA
1942



OTTAWA
1944

Price 25 cents

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REPORT OF THE COMMISSIONER OF THE GENERAL LAND OFFICE
ON THE STATE OF THE LANDS BELONGING TO THE CROWN IN CANADA

CANADA

DEPARTMENT OF THE INTERIOR

OTTAWA

1902

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LIME INDUSTRY, 1942

Production of quick and hydrated lime in Canada during 1942 totalled 884,830 net tons valued at \$6,530,839 compared with 860,885 net tons worth \$6,357,941 in 1941. The output in 1942 comprised 749,282 net tons of quicklime valued at \$5,646,049 and 135,548 net tons of hydrated lime at \$884,790. During the year under review, 712,307 net tons of quicklime and 89,252 net tons of hydrated lime were sold or used by lime producers for chemical manufacture, while the balance of Canadian lime production, totalling 83,271 net tons was sold or used for building, agricultural and other purposes.

Stone used in the production of lime in Canada includes calcium, high calcium and dolomitic varieties of limestone. It is estimated that about 1,574,508 net tons of limestone were consumed in the production of lime in 1942. In 1942 lime was produced in all Canadian provinces with the exception of Prince Edward Island and Saskatchewan; no commercial production of lime in the Territories has ever been officially reported. Of the total Canadian output of lime in 1942, Ontario plants produced 415,698 net tons or approximately 47 per cent, and Quebec 348,576 net tons or 39.4 per cent. Data relating to Canadian imports and exports of lime are not available for publication during the war, and such information is supplied only for confidential use by the External Trade Branch of the Dominion Bureau of Statistics, Ottawa.

During 1942 the industry reported 48 plants as active; capital employed totalled \$4,742,066, and \$1,312,320 in salaries and wages were distributed to 1,022 employees. The cost of fuels and purchased electricity used amounted to \$2,421,292 and the value of explosives, chemicals and other process supplies consumed aggregated \$177,268.

Lime is marketed in the form of quicklime and in the hydrated state, the latter being a specially prepared slaked lime in the form of a fine powder that is usually marketed in 50-pound, multi-wall paper bags.

Quicklime is marketed in the lump, pebble, crushed and pulverized forms; lump lime and pebble lime are sold either in bulk or packed in barrels; crushed lime (1 inch and under) and pulverized lime (ground to minus 20 mesh, and in some plants to minus 50 mesh) are sold in airtight multi-wall paper bags.

Prices of the various lime products vary over a wide range depending on the geographical position of the plants and on differences in quality of the lime.

A review of lime in 1942 by the Bureau of Mines, Ottawa, contains the following information:

"The steadily increasing demand for lime by the war industries has raised production above all previous records, and most of the forty-eight plants throughout the country operated at capacity during 1942. A new source of hydrated lime became available in 1942 with the coming into operation of the magnesia plant of the Aluminum Company of Canada, Limited at Wakefield, Quebec. At this plant hydrated lime is produced as a co-product of magnesia. The large rotary-kiln lime plant of Shawinigan Chemicals Limited at Shawinigan Falls, Quebec was enlarged in 1942 by the addition of two kilns.

"There are many prospective lime-producing localities in Canada because of the abundance of suitable limestone throughout the country. With the northward development of the mining industry, considerable interest is being manifested in making lime from limestone deposits in the far north."

Table 1 - PRINCIPAL STATISTICS OF THE LIME INDUSTRY IN CANADA, 1941 and 1942

	1941	1942
Number of firms	45	44
Number of plants	50	48
Capital employed	\$ 4,633,946	4,742,066
Number of employees - On salary	92	98
On wages	1,013	924
Total	1,105	1,022
Salaries and wages - Salaries	\$ 150,695	161,777
Wages	\$ 1,170,376	1,150,543
Total	\$ 1,321,571	1,312,320
Selling value of products (gross)	\$ 6,357,941	6,530,839
Cost of fuel and electricity	\$ 2,008,142	2,421,292
Process supplies used	\$ 188,387	177,268
Selling value of products (net)	\$ 4,161,412	3,932,279

Table 2 - CAPITAL EMPLOYED IN THE LIME INDUSTRY IN CANADA, BY PROVINCES, 1942

Province	Capital employed as represented by:					TOTAL
	Present cash value of land	Present value of buildings, fixtures, machinery, tools and other equipment	Inventory value of stone on hand, fuel and miscellaneous supplies on hand	Inventory value of finished products on hand	Operating capital (cash, bills and accounts receivable, prepaid expenses, etc.)	
	\$	\$	\$	\$	\$	\$
New Brunswick(x)	25,500	116,742	11,313	3,168	47,507	204,235
Quebec	20,650	487,553	203,662	10,245	255,643	977,758
Ontario	111,216	1,821,232	332,612	14,089	39,711	2,318,860
Manitoba .....	...	498,791	26,487	9,144	...	534,422
Alberta	2,500	137,868	11,500	3,900	39,220	244,988
British Columbia	5,000	309,588	67,186	5,466	74,563	461,803
CANADA	164,866	3,421,774	652,765	46,012	456,649	4,742,066

(x) Includes data for 2 firms in Nova Scotia.

Table 3 - NUMBER OF FIRMS, EMPLOYEES, SALARIES AND WAGES AND LIME (Quick and Hydrated) SOLD OR USED, BY PROVINCES, 1940 - 1942

Province	Number of firms	Number of employees	Salaries and wages \$	Fuel, electricity and process supplies used \$	Production	
					Tons of lime, sold or used	Value (gross) \$
<u>1940</u>						
New Brunswick(x)	6	125	138,955	81,031	43,250	359,501
Quebec	18	874	331,726	693,316	233,419	1,480,466
Ontario	17	259	324,229	684,001	372,634	2,752,787
Manitoba	3	89	74,229	75,199	22,167	217,547
Alberta	3	32	38,508	38,082	16,872	149,720
British Columbia	3	83	96,024	29,417	28,388	234,534
CANADA	50	962	1,003,671	1,601,546	716,730	5,194,555
<u>1941</u>						
New Brunswick(x)	6	130	155,376	88,316	42,693	379,710
Quebec	15	419	437,801	1,099,006	306,515	2,062,744
Ontario	14	309	450,576	817,753	431,125	3,246,648
Manitoba	3	98	95,266	98,542	27,100	273,492
Alberta	4	41	52,232	42,406	17,950	151,296
British Columbia	3	108	130,320	50,508	35,502	244,051
CANADA	45	1,105	1,321,571	2,196,529	860,385	6,357,941
<u>1942</u>						
New Brunswick(x)	6	138	181,751	99,172	44,277	423,815
Quebec	14	399	440,289	1,432,111	348,576	2,323,707
Ontario	14	264	435,265	857,242	415,698	3,125,574
Manitoba	4	95	99,626	109,212	26,424	265,079
Alberta	4	46	70,036	45,934	18,821	155,760
British Columbia	2	80	35,353	54,889	31,034	236,904
CANADA	44	1,022	1,312,320	2,598,560	884,830	6,530,839

(x) Includes data relating to two firms in Nova Scotia.

Table 4 - NUMBER OF WAGE-EARNERS WHO WORKED THE NUMBER OF HOURS SPECIFIED, DURING ONE WEEK IN MONTH OF HIGHEST EMPLOYMENT, INCLUDING OVERTIME

Hours	1942		Hours	1942	
	No.	No.		No.	No.
30 hours or less	18		51-54 hours		128
31-43 hours	52		55 hours		62
44 hours	49		56-64 hours		331
45-47 hours	6		65 hours and over		99
48 hours	205		GRAND TOTAL		960
49-50 hours	10		Total wages paid in that week	\$	26,601

Table 5 - NUMBER OF WAGE-EARNERS ON PAYROLL OR TIME RECORD ON THE LAST DAY OF EACH MONTH OR NEAREST WORK DAY, 1939-1942

Month	1939		1940		1941		1942	
	Quarry	Kiln	Quarry	Kiln	Quarry	Kiln	Quarry	Kiln
January	274	450	275	440	300	605	235	628
February	252	449	271	463	319	630	297	619
March	300	489	274	297	343	650	314	647
April	340	492	316	530	350	665	311	640
May	366	539	366	563	375	668	318	643
June	370	522	370	554	363	674	331	637
July	362	539	390	590	379	705	327	633
August	369	533	372	596	372	666	307	604
September ...	359	549	365	582	375	660	299	587
October	351	585	378	594	373	674	261	631
November	347	539	328	597	365	659	271	614
December	310	471	326	536	333	631	272	590

Table 6 - FUEL AND ELECTRICITY USED IN THE LIME INDUSTRY IN CANADA, 1941 and 1942

Kind	Unit of measure	1941		1942	
		Quantity	Value	Quantity	Value
Bituminous coal - Canadian	short ton	116,102	886,538	143,049	1,124,675
Imported	short ton	96,491	535,335	34,895	531,279
Anthracite coal	short ton	2,527	23,046	10,043	87,135
Lignite coal	short ton	101	381	85	333
Coke	short ton	13,798	167,013	20,654	190,863
Gasoline	Imp. gal.	113,066	29,514	105,355	30,984
Kerosene	Imp. gal.	105	24	123	30
Fuel oil and diesel oil ..	Imp. gal.	644,704	27,537	645,325	31,381
Wood	cord	66,368	241,556	59,668	253,322
Gas, natural	M cu.ft.	49,994	16,530	...	...
Other fuel .....	...	...	1,236	...	935
Electricity purchased	K. W. H.	13,325,379	79,427	15,703,933	25,355
TOTAL .....	...	...	2,008,142	...	2,421,292

Note: Electricity generated for own use in 1942 totalled 1,603,415 K.W.H., and 1,478,083 K.W.H. in 1941.

Table 7 - POWER EQUIPMENT IN CANADIAN LIME PLANTS, 1942

	Number of units (x)	Total rated horse power
Steam engines and steam turbines	9	285
Diesel engines	5	579
Other internal combustion engines	25	785
Electric motors	508	8,301
Boilers	16	1,710

(x) Includes reserve equipment.

Table 8 - PRODUCTION OF LIME IN CANADA, 1931-1942

Year	Sold or Used (x)		Year	Sold	Used	Total Value
	Short tons	Value		Short tons	Short tons	
1931 ...	344,785	2,764,415	1939 ...	288,252	263,957	4,003,514
1932 ...	320,650	2,394,537	1940 ...	359,180	357,550	5,194,555
1933 ...	323,540	2,432,306	1941 ...	451,361	409,524	6,357,941
1934 ...	368,113	2,745,797	1942 ...	470,382	413,948	6,530,839
1935 ...	405,419	2,925,791				
1936 ...	463,401	3,335,970				
1937 ...	549,353	3,824,917				
1938 ...	486,922	3,542,652				

(x) Separate data for Sold and Used not available till 1939.

Table 9 - LIME SOLD OR USED FOR CHEMICAL AND OTHER PURPOSES IN CANADA, 1931-1942

Year	Lime sold or used for chemical purposes				Lime sold or used for building or other non-chemical purposes			
	Quicklime		Hydrated Lime		Quicklime		Hydrated Lime	
	Short tons	\$	Short tons	\$	Short tons	\$	Short tons	\$
1931 ...	213,782	1,469,434	18,055	167,385	65,726	595,550	47,222	531,546
1932 ...	234,342	1,627,720	21,130	131,178	33,926	287,795	31,252	347,844
1933 ...	207,463	1,496,271	28,347	168,675	60,464	459,451	27,266	307,909
1934 ...	201,609	1,440,221	28,297	158,685	106,513	798,035	31,694	348,856
1935 ...	229,597	1,596,518	31,288	179,139	112,450	828,904	32,084	321,230
1936 ...	349,940	2,499,074	39,384	171,192	41,559	290,398	37,513	374,806
1937 ...	421,867	2,922,482	44,929	189,665	44,671	329,901	37,886	382,869
1938 ...	373,278	2,587,329	30,547	159,598	42,483	365,762	40,614	429,963
1939 ...	424,287	2,887,244	30,361	172,062	50,466	439,403	46,595	504,805
1940 ...	568,479	3,944,748	44,421	256,570	55,324	477,010	48,506	516,227
1941 ...	665,319	4,797,078	86,202	496,531	58,545	490,633	50,819	573,699
1942 ...	712,307	5,314,653	89,252	386,809	36,975	331,396	46,296	497,981

Table 10 - PRODUCTION OF LIME IN CANADA, BY PROVINCES, 1941, SHOWING PURPOSES FOR WHICH USED (x) OR SOLD

	Nova Scotia and New Brunswick		Quebec	Ontario	Manitoba and Alberta	British Columbia	TOTAL CANADA
	ton	\$					
(1 ton = 2,000 pounds)							
<u>QUICKLIME</u>							
Building trades -							
Finishing lime	ton	...	1,192	3,583	3,415	119	8,308
	\$	...	11,072	23,253	27,077	2,990	64,392
Masons' lime	ton	2,323	5,477	12,365	1,313	...	21,478
	\$	21,124	63,932	107,722	13,677	...	206,515
Sand-lime brick	ton	...	1,786	6,448	40	...	8,274
	\$	...	8,478	44,260	1,032	...	53,770
Agriculture	ton	195	2	293	...	79	569
	\$	2,000	34	1,376	...	454	3,864

Table 10 - PRODUCTION OF LIME IN CANADA, BY PROVINCES, 1941, SHOWING PURPOSES FOR WHICH USED (x) OR SOLD - (Continued)

		Nova Scotia and New Brunswick	Quebec	Ontario	Manitoba and Alberta	British Columbia	TOTAL CANADA
(1 ton = 2,000 pounds)							
<u>CHEMICAL -</u>							
Smelters (non-ferrous) ton	...		1,724	5,751	3,007	29	10,511
	\$	...	11,068	34,941	30,070	175	76,254
Iron and steel furnaces (x)	\$	25,179	3,876	34,469	181	35	61,740
	\$	219,567	30,730	248,326	1,429	211	500,233
Cyanide and flotation mills .....	\$	...	4,163	15,567	7,847	930	28,507
	\$	...	31,801	97,135	67,219	5,599	201,754
Pulp and paper mills..	ton	9,311	105,740	8,289	10,959	19,223	153,522
	\$	75,003	653,226	56,905	79,232	139,181	1,003,547
Glass works	ton	...	...	11,909	175	...	12,084
	\$	...	...	79,773	1,382	...	81,155
Sugar refineries	ton	200	20	7,642	3,217	45	16,124
	\$	1,800	240	78,466	65,756	271	146,513
Tanneries	ton	...	1,080	3,402	2	...	4,484
	\$	...	9,030	22,842	20	...	31,892
Fertilizer plants	ton	...	...	350	...	...	350
	\$	...	...	2,725	...	...	2,725
Insecticide plants ...	ton	40	...	1,430	...	244	1,714
	\$	580	...	9,681	...	1,469	11,710
Other chemical works..	ton	30	112,736	261,463	2,004	...	376,233
	\$	800	891,273	1,832,853	16,332	...	2,741,258
Uses unspecified	ton	...	3,013	966	1,560	9,372	13,916
	\$	...	30,660	9,039	15,974	56,419	162,092
TOTAL QUICKLIME	ton	35,323	245,814	373,927	33,720	30,075	723,864
	\$	320,854	1,791,604	2,649,304	319,180	206,769	5,287,711

HYDRATED LIME

<u>Building trades -</u>							
Finishing lime	ton	54	...	20,346	5,863	...	26,263
	\$	560	...	250,524	39,633	...	350,737
Masons' lime	ton	332	1,664	9,317	...	...	11,813
	\$	7,156	24,146	32,237	...	...	113,533
Sand-lime brick	ton	...	...	...	...	...	...
	\$
Agriculture	ton	1,070	588	2,962	...	3,787	8,407
	\$	3,370	4,391	29,917	...	26,016	69,694

CHEMICAL -

Smelters (non-ferrous) ton	...		37,739	19,689	20	650	58,098
	\$	...	94,343	184,151	200	4,465	283,164
Iron and steel furnaces .....	\$	...	...	104	...	...	104
	\$	...	...	1,115	...	...	1,115
Cyanide and flotation mills .....	\$	...	4,788	530	255	...	5,623
	\$	...	24,850	6,181	2,550	...	33,531
Pulp and paper mills..	ton	5,175	3,514	142	...	...	11,331
	\$	40,000	53,230	1,474	...	...	94,704
Sugar refineries	ton	32	130	93	...	...	355
	\$	750	1,630	973	...	...	3,343

Table 10 - PRODUCTION OF LIME IN CANADA, BY PROVINCES, 1941, SHOWING PURPOSES FOR WHICH USED (x) OR SOLD (Concluded)

	Nova Scotia and New Brunswick	Quebec	Ontario	Manitoba and Alberta	British Columbia	TOTAL CANADA	
(1 ton = 2,000 pounds)							
<u>Chemical (Con.) -</u>							
Tanneries	ton	...	356	574	...	930	
	\$	...	2,833	6,151	...	8,984
Fertilizer plants ..	ton	...	5,546	272	...	5,818	
	\$	...	33,276	2,346	...	35,622
Insecticide plants..	ton	152	...	...	36	188
	\$	1,520	...	...	247	1,767
Other chemical works	ton	...	213	2,350	192	3,255	
	\$	...	1,763	23,308	3,175	34,246
Uses unspecified	ton	...	3,113	269	...	4,338	
	\$	...	30,133	2,362	6,554	39,699
TOTAL HYDRATED LIME..	ton	7,365	60,701	57,198	6,330	5,427	137,021
	\$	58,856	271,140	597,344	105,608	37,282	1,070,230
GRAND TOTAL	ton	42,693	306,515	431,125	45,050	35,502	860,885
	\$	379,710	2,062,744	3,246,648	424,788	244,051	6,357,941

(/) Includes calcined dolomite used as a refractory material.

(x) Not necessarily consumed in provinces where produced.

Note: Of the total quantity of 860,885 tons of lime produced, 409,524 tons were consumed by the producers themselves.

Table 11 - PRODUCTION OF LIME IN CANADA, BY PROVINCES, 1942, SHOWING PURPOSES FOR WHICH USED (x) OR SOLD

	Nova Scotia and New Brunswick	Quebec	Ontario	Manitoba and Alberta	British Columbia	TOTAL CANADA	
(1 ton = 2,000 pounds)							
<u>QUICKLIME</u>							
<u>Building trades -</u>							
Finishing lime	ton	...	50	2,500	2,495	5,045	
	\$	...	437	15,500	22,598	38,535
Masons' lime	ton	2,760	4,394	9,401	644	17,699	
	\$	25,315	60,919	83,760	7,121	177,115	
Sand-lime brick	ton	...	1,599	4,274	...	5,873	
	\$	...	7,838	33,261	...	41,099
Agriculture	ton	100	130	75	...	305	
	\$	838	1,970	562	...	3,370	
<u>CHEMICAL -</u>							
Smelters (non-ferrous)	ton	...	10,559	6,671	3,282	25	20,537
	\$...	70,532	41,569	26,296	187	138,584
Iron and steel	ton	23,700	5,985	24,387	760	105	54,937
furnaces (/)	\$	241,744	52,133	176,034	6,080	736	476,782
Cyanide and flotation	ton	...	2,473	10,772	7,300	507	21,552
mills	\$...	17,548	70,204	70,938	3,797	162,487
Pulp and paper mills	ton	10,374	106,394	6,223	11,473	20,659	155,623
	\$	96,930	695,292	42,423	85,321	164,606	1,084,632

Table 11 - PRODUCTION OF LIME IN CANADA, BY PROVINCES, 1942, SHOWING PURPOSES FOR WHICH USED (x) OR SOLD (Con.)

		Nova Scotia and New Brunswick	Quebec	Ontario	Manitoba and Alberta	British Columbia	TOTAL CANADA
(1 ton = 2,000 pounds)							
<u>CHEMICAL (Con.) -</u>							
Glass works	ton	...	...	15,745	51	...	15,796
	\$	...	...	106,659	563	...	107,222
Sugar refineries	ton	107	30	6,924	9,593	45	16,699
	\$	963	420	59,086	79,513	337	140,324
Tanneries	ton	...	1,214	3,697	...	...	4,911
	\$	...	10,648	25,263	...	...	35,911
Fertilizer plants	ton	...	...	349	...	...	349
	\$	...	...	2,663	...	...	2,663
Insecticide plants	ton	...	...	1,607	90	135	1,832
	\$	...	...	11,127	1,105	1,011	13,243
Other chemical works ..	ton	216	128,103	289,782	1,970	...	420,071
	\$	2,311	1,043,682	2,091,502	14,310	...	3,152,805
Uses unspecified	ton	...	1,390	260	1,402	4,501	8,053
	\$	...	20,111	2,030	15,422	33,714	71,277
TOTAL QUICKLIME	ton	37,757	263,321	382,667	39,560	25,977	749,282
	\$	363,661	1,981,535	2,761,643	329,772	204,433	5,646,049

HYDRATED LIME

Building trades -

Finishing lime	ton	85	16	16,653	5,233	...	21,987
	\$	700	96	206,536	86,547	...	293,879
Masons' lime	ton	843	2,911	7,863	...	...	11,617
	\$	7,289	19,610	70,516	...	...	97,415
Sand-lime brick	ton	...	...	...	...	...	...
	\$
Agriculture	ton	872	533	3,137	...	3,769	8,311
	\$	7,820	3,474	31,865	...	24,197	67,356

CHEMICAL -

Smelters (non-ferrous)	ton	...	59,535	91	42	355	60,073
	\$	...	186,320	835	420	2,279	189,854
Iron and steel furnaces	ton	...	...	50	...	...	50
	\$	...	...	505	...	...	505
Cyanide and flotation mills	ton	...	5,267	811	310	...	6,388
	\$	...	22,640	8,627	3,100	...	34,367
Pulp and paper mills ..	ton	4,375	5,172	353	...	45	9,945
	\$	35,000	43,928	3,770	...	289	82,987
Glass works	ton	...	...	8	...	...	8
	\$	...	...	79	...	...	79
Sugar refineries	ton	35	30	87	...	...	152
	\$	315	235	939	...	...	1,539
Tanneries	ton	...	431	571	...	...	1,002
	\$	...	3,664	6,072	...	...	9,736
Fertilizer plants	ton	...	110	176	...	...	286
	\$	...	660	1,542	...	...	2,202

Table 11 - PRODUCTION OF LIME IN CANADA, BY PROVINCES, 1942, SHOWING PURPOSES FOR WHICH USED (x) OR SOLD (Concluded)

		Nova Scotia and New Brunswick	Quebec	Ontario	Manitoba and Alberta	British Columbia	TOTAL CANADA
(1 ton = 2,000 pounds)							
<u>CHEMICAL (Concluded) -</u>							
Insecticide plants ...	ton	310	...	24	...	122	456
	\$	4,030	...	232	...	783	5,045
Other chemical works..	ton	...	7,995	2,797	100	...	10,892
	\$	...	30,807	28,688	1,000	...	60,495
Uses unspecified	ton	...	3,205	410	...	766	4,381
	\$	...	30,688	3,725	...	4,918	39,331
TOTAL HYDRATED LIME ...	ton	6,520	85,255	33,031	5,685	5,057	135,548
	\$	55,154	342,172	363,931	91,067	32,466	884,790
GRAND TOTAL	ton	44,277	348,576	415,698	45,245	31,034	884,830
	\$	423,815	2,323,707	3,125,574	420,839	236,904	6,530,839

(/) Includes calcined dolomite used as a refractory material.

(x) Not necessarily consumed in provinces where produced.

Note: Of the total quantity of 884,830 tons of lime produced, 413,948 tons were consumed by the producers themselves.

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