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DEPARTMENT OF TRADE AND COMMERCE

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CENSUS OF INDUSTRY

MINING, METALLURGICAL & CHEMICAL BRANCH

THE GYPSUM INDUSTRY IN CANADA 1941

including: 1. The Gypsum Mining Industry
2. The Gypsum Products Industry

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THE GYPSUM INDUSTRY, 1941

PART 1 - PRIMARY PRODUCTION - THE GYPSUM MINING AND QUARRYING INDUSTRY

Production (producers' sales and consumption) of gypsum in Canada during 1941 totalled 1,593,406 short tons valued at $2,248,428 compared with 1,448,788 short tons at $2,065,933 in 1940. The tonnage in both years represents various grades of crude gypsum and anhydrite shipped from quarries or mines together with the tonnage of calcined gypsum used in or shipped from quarry or "primary" plants. The quantity of the mineral produced in 1941 established an all-time high record in the history of the Canadian gypsum mining industry; the value, however, was exceeded annually during the years 1925-1930 inclusive.

Of the 1941 output, Nova Scotia properties contributed 1,395,172 tons valued at $1,517,297; Ontario, 90,599 tons at $276,459; New Brunswick, 56,172 tons at $150,530; Manitoba, 27,601 tons at $162,822, and British Columbia, 23,862 tons worth $141,320.

The quantity of crude gypsum mined in 1941 amounted to 1,532,228 short tons while the tonnage of anhydrite mined (all in Nova Scotia) totalled 28,212 short tons. Crude gypsum calcined in primary or quarry plants totalled 197,413 short tons.

The following are the average prices per short ton recorded in 1941 by the industry for total sales of various grades, including anhydrite: crude lump, $1.31; crushed crude, $1.10 and ground crude, $7.44.

In 1941 the number of firms reporting production was 8 and the gypsum quarries and mines in operation totalled 15. Some of the Canadian gypsum mining companies confine their operations in the Dominion to the production and sale of crude gypsum or anhydrite, while others, in addition to marketing various grades of crude gypsu, produce a calcine for sale or for consumption in their own gypsum products plants. Gypsum is exported from Canada almost entirely in the crude form.

Capital employed by Canadian gypsum mining companies totalled $5,175,821 in 1941; employees aggregated 648; salaries and wages paid amounted to $745,008 and the total value of fuel, purchased electricity and process supplies used was computed at $452,008.

During 1941 both the quarry and mill of the Canadian Gypsum Company Limited, near Windsor, Nova Scotia, were in operation from April 1; both anhydrite and crushed gypsum were exported to the United States from this property. In Hants County, Nova Scotia, the Connecticut Adamant Plaster Company operated its Cheverie quarry from June to December and exported crude lump gypsum to its plants in the United States. Crushed gypsum was shipped for Canadian consumption by Gypsum, Lime and Alabastine, Canada, Limited from Baddeck, Nova Scotia. The Victoria Gypsum Company Limited operated at Little Narrows, Victoria County, Nova Scotia, and commercial shipments of crushed gypsum were made to both Canadian and United States markets. At Windsor, Nova Scotia, the Windsor Plaster Company Limited operated both its quarry and manufacturing plant; this company produces hardwall plasters and other gypsum products.

National Gypsum (Canada) Limited, operating in Nova Scotia, reported that operations at its Cheticamp mine and mill were restricted to shipping and maintenance;

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shipments from this property consisted solely of crushed gypsum. The company carried on both mining and milling operations at Walton from April 15 until the close of the year. Production from the Walton mill represented the mineral in the crushed form. Mining operations were conducted by this same company at its Dingwall quarry from March 15th to December 20th; the Dingwall mill was active throughout the entire year and large tonnages of crushed gypsum were shipped to both United States and Canadian consumers.

Gypsum was produced in New Brunswick in 1941 only by the Canadian Gypsum Company Limited. This company operates at Hillsboro and carried on both mining and milling operations throughout the year under review. Crude gypsum was shipped in the crushed state while large quantities of the mineral in the calcined form were used by the company in its manufacturing plant for the production of wallboard and various other gypsum products; underground mining is conducted at Hillsboro.

In Ontario gypsum was mined in 1941, at Caledonia by Gypsum, Lime and Alabastine, Canada, Limited and at Hagersville by the Canadian Gypsum Company Limited. Underground mining was carried on by both these companies throughout the year. Manufacturing plants are operated by these firms for the production of a wide range of gypsum products.

At Amaranth, Manitoba, underground mining operations were reported during most of the year by Western Gypsum Products Limited. The milling and manufacturing plants of this company, located in Winnipeg, were also active throughout 1941. Gypsum used in 1941 by Gypsum, Lime and Alabastine Canada, Limited, in its Winnipeg plant was obtained from the company's quarry located at Gypsumville. In addition to the gypsum used by these companies, in their own plants, considerable quantities of the crude mineral, in the crushed or ground state, were marketed in the Prairie Provinces.

In British Columbia quarrying operations were carried on during 1941 by Gypsum, Lime and Alabastine, Canada, Limited at Falkland. Gypsum mined from the Falkland deposit was shipped to the company's mill and manufacturing plant located at New Westminster. In addition to the mineral used for manufacturing gypsum products in its New Westminster plant, the company shipped relatively large tonnages of crude milled gypsum to points in both British Columbia and Alberta. During 1941 Messrs. Rogers and Little mined a comparatively small tonnage of gypsite at Knutsford, in the Kamloops district; this was marketed in the Fraser Valley.

The following information was abstracted from a report prepared by the Bureau of Mines, Ottawa:-

"The world production of gypsum is estimated at between 9 and 10 million metric tons. Canada probably occupies third rank among the world's producers.

"Gypsum is marketed in the crude lump form, ground as "land plaster" and "terra alba", or ground and calcined, as plaster of Paris or wall plaster. Each year an increasing portion of the calcined material enters into the manufacture of wall-board, gypsum blocks, insulating material, acoustic plaster, etc. Anhydrite is used mainly as a fertilizer for the peanut crop in the Atlantic seaboard states of the southern United States.

"The use of anhydrite in England for the manufacture of sulphuric acid, ammonium sulphate, cement and special plasters is increasing, and in normal times there is a good opportunity for the Canadian material in this market. Canada is fortunate in having extensive deposits, favourably situated for commercial exploitation,

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the material from which has been proved by tests carried out by the Department of Mines and Resources to be of excellent grade. Prior to 1937 the small production in Canada was exported principally for use as a fertilizer for the peanut crop, but it is possible that an industry will be started in this country in which the anhydrite may be used for the manufacture of sulphur or sulphur compounds as well as of special plasters, similar to those now being marketed in England.

"The gypsum industry, which is entirely dependent on the building industry, has not shown as rapid a rate of increase as some of the other industries. Nevertheless, the improvement in recent years has been quite marked.

"The use of gypsum products in the building trades has made rapid progress because of their lightness, durability, fire-resisting, insulating and accustic properties; and tiles, wallboards, blocks, and special insulating and accustic plasters have been developed. It is probable that production of gypsum for domestic use will continue to decline during the war, but as most of the crude gypsum is shipped to the United States for the manufacture of gypsum products, industrial conditions in that country will continue to have an important bearing on the industry.

"Crude gypsum is a low priced commodity, and its selling price f.o.b. quarry is dependent largely upon the quantity produced and the production facilities available. For export, contracts are generally made with the producer for the year's requirements of the purchaser and these contracts are generally made early in each year."

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Table 1 - PRINCIPAL STATISTICS OF THE GYPSUM MINING INDUSTRY IN CANADA, 1939 - 1941.

		Nova Scotia	New Brunswick, Ontario, Manitoba, British Columbia	TOTAL CANADA
Number of firms	1939	7	3(a)	10
	1940	6	3(a)	9
	1941	6	2(a)	8
Capital employed	1939	$4,370,893	2,436,014	6,806,907
	1940	$2,406,561	2,242,101	4,648,662
	1941	$2,812,465	2,363,356	5,175,821
Number of employees ...	On salary			
	1939	29	37	66
	1940	33	24	57
	1941	34	14	48
	On Wages -			
	1939	440	208	648
	1940	389	248	637
	1941	328	272	600
Salaries and wages	Salaries -			
	1939	$ 53,680	59,235	112,915
	1940	$ 60,374	51,048	111,422
	1941	$ 62,083	28,852	90,935
	Wages -			
	1939	$ 402,134	177,109	579,243
	1940	$ 369,090	237,154	606,244
	1941	$ 358,356	315,717	654,073
Fuel and electricity..	Cost -			
	1939	$ 90,394	103,094	193,488
	1940	$ 76,224	118,740	194,964
	1941	$ 73,784	148,780	222,564
Value of process supplies used -				
	1939	$ 85,166	20,665	105,831
	1940	$ 194,005	29,370	223,375
	1941	$ 199,875	29,569	229,444
Selling value of products (gross) -				
	1939	$1,340,830	594,297	1,935,127
	1940	$1,302,347	763,586	2,065,933
	1941	$1,517,297	731,131	2,248,428

(a) Includes 2 companies also operating in Nova Scotia.

Table 2 - FUEL AND ELECTRICITY USED IN THE GYPSUM MINING INDUSTRY, 1941, WITH TOTALS FOR 1940 and 1939.

	Unit of Measure	Nova Scotia		New Brunswick, Ontario Manitoba, British Columbia		CANADA	
		Quantity	Cost at works	Quantity	Cost at works	Quantity	Cost at works
			$		$		$
Coal - Bituminous - Canadian	ton	1,499	10,905	9,796	62,523	11,295	73,428
Bituminous - Imported	ton	-	-	1,613	12,552	1,613	12,552
Lignite	ton	-	-	1,695	6,042	1,695	6,042
Coke	ton	-	-	559	6,537	559	6,537
Gasoline	Imp.gal.	124,622	28,702	14,335	3,726	138,957	32,428
Kerosene	Imp.gal.	577	113	246	48	823	161
Fuel oil and diesel oil	Imp.gal.	120,769	11,913	3,633	448	124,342	12,361
Wood	cord	-	-	506	2,678	506	2,678
Gas - Manufactured	M cu.ft.	-	-	-	-	-	-
Natural	M cu.ft.	-	-	8,542	3,424	8,542	3,424
Other fuel	xxxx	-	-	-	-	-	-
Electricity purchased	K.W.H.	1,532,950	22,151	12,105,416	50,802	13,638,366	72,953
TOTAL - 1941	$	-	73,784	-	148,780	-	222,564
TOTAL - 1940	$	-	76,224	-	118,740	-	194,964
TOTAL - 1939	$	-	90,394	-	103,094	-	193,488
Electricity generated for own use -							
1940	K.W.H.	100,000	-	415,505	-	515,505	-
1939	K.W.H.	379,086	-	395,872	-	774,958	-
1941	K.W.H.	194,000	-	137,185	-	331,185	-

NOTE - 1 ton = 2,000 pounds.

Table 3 - NUMBER OF WAGE-EARNERS ON PAYROLL OR TIME RECORD ON THE LAST DAY OF EACH MONTH OR NEAREST WORK-DAY, 1939, 1940 and 1941.

Month	1939		1940		1941		
	Mine	Mill	Mine	Mill	Mine		Mill
					Surface	Underground x	
January	263	93	201	107	142	68	128
February	253	99	214	106	130	75	125
March	376	119	295	135	160	72	142
April	386	234	317	134	335	78	213
May	451	248	551	198	400	81	197
June	565	241	484	192	427	101	224
July	713	193	647	198	465	101	218
August	645	193	710	248	375	108	236
September	713	219	700	218	407	98	228
October	657	193	614	234	350	95	229
November	421	160	436	172	337	86	229
December	222	131	345	150	285	83	170

x Underground work confined to New Brunswick, Ontario and Manitoba.

Table 4 - NUMBER OF WAGE-EARNERS WHO WORKED THE NUMBER OF HOURS SPECIFIED, DURING ONE WEEK IN MONTH OF HIGHEST EMPLOYMENT, 1941

Hours	No.	Hours	No.
30 or less	79	49 - 50	29
31 - 43	46	51 - 54	69
44	59	55	18
45 - 47	30	56 - 64	222
48	81	65/	186

/ Grand total employees in week specified 819.
Total wages paid in week specified $19,030.

Table 5 - POWER EQUIPMENT INSTALLATION, 1941.

Description	Ordinarily in use		In reserve or idle	
	No. of units	Total h.p. (manufacturers' rating)	No. of units	Total h.p. (manufacturers' rating)
1. Steam engines and steam turbines	13	1,385	3	110
2. Diesel engines	20	2,526	-	-
3. Gasoline, gas and oil engines, other than diesel engines	46	2,219	15	943
4. Hydraulic turbines or water wheels	-	-	-	-
5. Electric motors - (a) Operated by purchased power	160	5,251	23	358
TOTAL - (1), (2), (3), (4) and (5a)	239	11,381	41	1,911
(b) Operated by power generated by the establishment	35	832	13	465
Stationary boilers	6	815	5	375

Table 6 - PRODUCTION IN CANADA, OF GYPSUM, 1940 and 1941.

	1940		1941	
	Quantity	Value	Quantity	Value
	Tons	$	Tons	$
SHIPMENTS BY GRADES -				
Crude (1) - Lump or mine run	21,101	23,201	39,776	52,156
Crushed	1,296,769	1,331,843	1,396,364	1,541,431
Fine ground	521	2,961	277	2,061
Calcined gypsum, sold and used (2)	130,397	707,928	156,989	652,780
TOTAL	1,448,788	2,065,933	1,593,406	2,248,428
SHIPMENTS BY PROVINCES -				
Nova Scotia	1,278,204	1,302,347	1,395,172	1,517,297
New Brunswick	52,218	192,980	56,172	150,530
Ontario	75,271	313,512	90,599	276,459
Manitoba	23,108	137,051	27,601	162,822
British Columbia	19,987	120,043	23,862	141,320
TOTAL	1,448,788	2,065,933	1,593,406	2,248,428
Total gypsum mined and quarried (1)	1,540,795	-	1,560,440	-
Total gypsum calcined (2)	156,372	-	197,413	-

(1) Includes some anhydrite quarried in Nova Scotia.

(2) Does not include gypsum calcined in manufacturing plants located in Montreal and Calgary, but includes calcine used in manufacturing plants operated in direct conjunction with the mines--the value of calcine used is its value as a process material.

Table 7 - PRODUCTION (SALES) OF CRUDE AND CALCINED GYPSUM IN CANADA, 1914-1941.

Year	Tons	Value	Year	Tons	Value
		$			$
1914	516,880	1,156,207	1928	1,246,368	3,743,648
1915	474,815	854,929	1929	1,211,689	3,345,696
1916	342,915	738,593	1930	1,070,968	2,818,788
1917	336,332	881,984	1931	863,752	2,111,517
1918	152,287	823,006	1932	438,629	1,080,379
1919	299,063	1,215,287	1933	382,736	675,822
1920	429,144	1,893,991	1934	461,237	863,776
1921	386,550	1,785,538	1935	541,864	932,203
1922	559,265	2,160,898	1936	833,822	1,278,971
1923	578,301	2,243,100	1937	1,047,187	1,540,483
1924	646,016	2,208,108	1938	1,008,799	1,502,265
1925	740,323	2,389,891	1939	1,421,934	1,935,127
1926	883,728	2,770,813	1940	1,448,788	2,065,933
1927	1,063,117	3,251,015	1941	1,593,406	2,248,428

Table 8 - CONSUMPTION OF GYPSUM IN CANADIAN CEMENT INDUSTRY, 1932 - 1941.

Year	Tons	Year	Tons
1932	27,537	1937	33,691
1933	13,319	1938	51,975
1934	19,172	1939	31,492
1935	21,611	1940	38,903
1936	25,447	1941	49,031

Gypsum

LIST OF OPERATORS IN CANADIAN GYPSUM MINING INDUSTRY, 1941.

Name of Firm	Head Office Address	Quarry Location
NOVA SCOTIA -		
National Gypsum Co.(Can.)Ltd.	192 Delaware Ave., Buffalo, N.Y., U.S.A.	Dingwall, Cheticamp and Walton
Canadian Gypsum Co. Ltd.	170 Bloor St. W., Toronto,Ont.	Wentworth
The Connecticut Adamant Plaster Co.	10 River St., New Haven, Conn., U.S.A.	Cheverie
Windsor Plaster Co. Ltd.	Windsor, N.S.	Brooklyn, Hants Co.
Victoria Gypsum Co.	Little Narrows, N.S.	Little Narrows
Gypsum, Lime and Alabastine, Canada, Limited	Paris, Ont.	Baddeck Bay
NEW BRUNSWICK -		
Canadian Gypsum Co. Ltd.	170 Bloor St. W., Toronto Ont.	Hillsborough
Fraser, Donald (x)	Plaster Rock	Plaster Rock
ONTARIO -		
Canadian Gypsum Co. Ltd.	170 Bloor St. W., Toronto, Ont.	Hagersville
Gypsum, Lime and Alabastine, Canada, Ltd.	Paris	Caledonia
MANITOBA -		
Gypsum, Lime and Alabastine, Canada, Ltd.	Paris, Ont.	Gypsumville
Western Gypsum Products Ltd.	503 McArthur Bldg., Winnipeg	Amaranth
BRITISH COLUMBIA		
Gypsum, Lime and Alabastine, Canada, Ltd.	Paris, Ont.	Falkland
Rogers and Little (a)	Knutsford,	Knutsford
Summit Lime Works (x)	Box 273, Lethbridge, Alta.	Fort Steele,M.D.

(a) Ship gypsite.

(x) Did not ship in 1941.

Gypsum.

PART II - SECONDARY PRODUCTION - THE GYPSUM PRODUCTS INDUSTRY, 1941.

Nine Canadian factories, operated by four companies, manufactured gypsum products having a factory selling value of $4,601,093 during 1941. This output was 11.9 per cent over the 1940 total of $4,110,795 and 44.9 per cent over the 1939 value of $3,174,137. The main products were gypsum wallboard, gypsum hardwall plaster, gypsum tile and gypsum blocks.

Capital employed in these nine manufacturing plants amounted to $5,431,883 in 1941, including $1,668,647 as the value of buildings and equipment, $525,925 as the value of inventories at the year-end and $1,236,311 as cash, bills receivable, etc. The average number of employees in 1941 was 374 to whom $464,776 was paid in salaries and wages. Expenditures for fuel and electricity amounted to $191,685, while materials used in manufacturing processes cost $1,941,052.

Table 9 - PRINCIPAL STATISTICS OF THE GYPSUM PRODUCTS INDUSTRY, 1940 and 1941.

		1940	1941
Number of establishments		9	9
Capital employed	$	3,151,533	3,431,883
Number of employees		362	374
Salaries and wages	$	425,025	464,776
Cost of fuel and electricity	$	157,299	191,685
Cost of materials at works	$	1,630,819	1,941,052
Selling value of products at works	$	4,110,795	4,601,093

Note - Profits or losses cannot be calculated from above figures as data are not available for general expense items such as interest, rent, depreciation, taxes, insurance, advertising, etc.

Table 10 - WAGE-EARNERS, BY MONTHS, 1940 and 1941.

Month	Number of wage-earners 1940	1941	Month	Number of wage-earners 1940	1941
January	237	314	July	346	382
February	227	300	August	392	365
March	285	293	September	403	354
April	265	328	October	420	362
May	312	371	November	383	358
June	348	381	December	354	357
			AVERAGE	332	345

Table 11 - HOURS WORKED PER WEEK BY WAGE-EARNERS, 1940 and 1941.
(In one week of month of highest employment)

	Number of Wage-Earners 1940	1941
30 hours or less	16	14
31-43 hours	10	9
44 hours	26	36
45-47 hours	15	14
48 hours	24	22
49-50 hours	22	21
51-54 hours	63	46
55 hours	8	8
56-64 hours	153	106
65 hours or over	88	124
Total	425	400
Total wages paid in selected week $	9,680	9,670

Table 12 - FUEL AND ELECTRICITY USED, 1940 and 1941.

Kind	Unit of measure	1940 Quantity	1940 Cost at works	1941 Quantity	1941 Cost at works
			$		$
Coal - Bituminous - Canadian	ton	375	2,895	405	2,818
Imported	ton	5,353	33,399	6,087	38,985
Lignite	ton	4,176	16,016	4,556	17,537
Coke	ton	200	1,966	244	2,521
Gasoline	Imp.gal.	13,640	3,312	11,160	3,031
Kerosene	Imp.gal.	20	5	-	-
Fuel oil	Imp.gal.	1,121,479	56,262	1,571,597	82,495
Wood	cord	115	468	200	842
Gas - natural	M cu.ft.	5,516	1,464	5,589	1,502
Electricity purchased	K.W.H.	4,000,652	41,512	6,511,550	41,954
TOTAL	xxx	-	157,299	-	191,685
Electricity generated for own use	K.W.H.	333,939	-	333,939	-

Table 13 - POWER EQUIPMENT, 1940 and 1941.

	1940 Number of units	1940 Total rated horse power	1941 Number of units	1941 Total rated horse power
Steam engines and turbines	6	180	5	170
Gasoline, gas and oil engines	1	40	1	40
Total primary equipment	7	220	6	210
Electric motors run by purchased power	293	4,107	303	4,856
TOTAL	300	4,327	309	5,066
Electric motors run by power generated by above primary units	31	272	28	240
Stationary boilers	8	1,362	10	1,482

Table 14 - MATERIALS USED IN THE GYPSUM PRODUCTS INDUSTRY, 1940 and 1941.

Material	Unit of measure	1940 Quantity	1940 Cost at works	1941 Quantity	1941 Cost at works
			$		$
Gypsum, crude	ton	21,611	75,946	30,978	112,158
Gypsum, calcined (plaster of Paris)	ton	125,917	660,502	157,488	628,325
Paper	ton	9,056	491,035	13,106	718,914
Starch or paste	ton	262	18,803	487	42,310
Hair	ton	111	17,933	122	23,293
Retarder	ton	267	20,329	286	23,330
Sawdust or shavings	ton	1,176	5,577	751	5,481
Containers, etc.	xxx	-	126,794	-	124,660
All other materials	xxx	-	213,900	-	262,581
TOTAL	xxx	-	1,630,819	-	1,941,052

Gypsum.

Table 15 - OUTPUT OF THE GYPSUM PRODUCTS INDUSTRY, 1940 and 1941.

Products	Unit of measure	1940 Quantity	1940 Selling value at works	1941 Quantity	1941 Selling value at works
			$		$
Gypsum wallboard	sq. ft.	114,533,870	2,712,355	54,760,145	3,255,618
Gypsum hard wall plasters ..	ton	69,389	897,932	80,216	1,043,864
All other products (x)	xxx	-	500,508	-	301,611
TOTAL	xxx	-	4,110,795	-	4,601,093

(x) Includes gypsum tile, gypsum blocks, etc.

LIST OF FIRMS IN THE GYPSUM PRODUCTS INDUSTRY, 1941.

Name of Firm	Head Office Address	Plant Location
Windsor Plaster Co. Ltd.	Windsor, N.S.	Windsor, N.S.
Canadian Gypsum Co. Ltd.	1221 Bay Street, Toronto, Ont.	Hillsborough, N.B. Hagersville, Ont.
Gypsum, Lime and Alabastine, Canada, Limited	Paris, Ont.	Montreal, P.Q. Caledonia, Ont. Winnipeg, Man. Calgary, Alta. New Westminster, B.C.
Western Gypsum Products Ltd.	503 McArthur Bldg., Winnipeg, Man.	Winnipeg, Man.

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