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

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GYPSUM, 1933

Production of gypsum in Canada during 1933 totalled 380,234 tons valued at $663,312 as compared with 438,629 tons worth $1,080,379 in 1932 and 863,752 tons at $2,111,517 in 1931, according to a report issued by the Mining, Metallurgical and Chemical Branch of the Dominion Bureau of Statistics at Ottawa. The quantity of the mineral mined in 1933 amounted to 370,691 tons and the tonnage calcined in plants operating in direct conjunction with quarries totalled 44,086.

"Gypsum deposits have been known in Nova Scotia since the time of the earliest settlers and shipments of the crude rock were made from the Windsor district to the United States a number of years before the Revolutionary War. After the war of 1812 these shipments assumed larger proportions and have been increasing ever since. The first recorded production in Ontario was in 1822 when a small amount was mined and crushed for fertilizer. During the first half of the nineteenth century the industry in Canada had a varied career, Nova Scotia and Ontario being the principal producers. Of the first discovery of gypsum in New Brunswick very little is known, evidence of very early work having been carried on in the district adjacent to the town of Hillsborough. The deposits in Manitoba were first operated in 1901 and have been in production on an increasing scale ever since. The first production of gypsum in British Columbia was made in 1911 but it was not until 1926 that the industry was put on a sound basis in this province. The possibilities for expansion of the gypsum industry in Canada are bright. The increasing tendency in construction to make buildings as nearly fireproof as possible has greatly increased the demand for gypsum products, special insulating plasters and other products prepared from gypsum have been developed and are finding a ready market. In the field of sound-deadening products, the market for accoustic plasters prepared from gypsum is being rapidly extended." (Report 714 - Department of Mines, Ottawa).

It is encouraging to note that during the first four months of 1934 the Canadian output totalled 36,983 tons or 172.8 per cent above the tonnage produced in the corresponding period of 1933. An important event in the Canadian gypsum mining industry in 1934 was the clearing in June of two steamers for London, England, from Cheticamp, Nova Scotia, with the first large shipments of crude gypsum for the United Kingdom. The Department of Mines, Ottawa, reports that these shipments are the forerunners of regular loadings by the Atlantic Gypsum Products Company to the British markets.

NOVA SCOTIA - During 1933 the Atlantic Gypsum Products Company operated plants at Cheticamp, Walton and Aspy Bay. Number one quarry of the company at Cheticamp was enlarged by connecting the two open-faces into one long face of gypsum. The gypsum was formerly removed from this quarry to the brow of the hill by horse and cart, where it was conveyed down a chute to the cars. Last year the quarry floor was lowered 40 feet, and the gypsum is removed in 10 ton cars equipped with

tractor treads and hauled by No. 60 gasolene caterpillar tractors. Diamond drilling was being conducted in the floor of No. 3 quarry to determine its depth of gypsum. The same company commenced operations this year at Aspy Bay where a quarry was opened up and two grades of gypsum made. No. 1 grade is worked by hand selection and the balance or No. 2 grade is handled by a one-half yard power shovel. The two quarries of the company operated at Walton are equipped with steam shovels for removal of overburden. Soft white gypsum is shipped from both quarries as well as anhydrite; the standard gypsum from Walton goes to New York where it is calcined for use as plaster and the anhydrite is shipped to Norfolk, Virginia, where it is used largely as a fertilizer and moisture retainer around peanut plants.

The Connecticut Adamant Plaster Company operates two quarries at Cheverie where a narrow gauge railway transports the gypsum from the property to the shipping pier. Two faces of white gypsum have been opened up; the company obtains hard plaster from the old quarry located close to the shipping pier.

A new quarry face 30 feet in height was opened last year at Mabou, Inverness county, by the Nova Scotia Coal and Gypsum Company and it is reported that the gypsum near the company's mill is now being removed by the tunnel system; shipments are made to Montreal by water.

The Windsor Gypsum Company operated the "Mosher" quarry located a mile from Newport station in Hants county. The overburden, 18 to 20 feet thick, is removed by steam shovel and the gypsum is transported over the company's track to Newport station. Shipment to final destination, Newburg, N.Y., is made from Windsor by sailing vessel or steamer.

Spalls from the "Mosher quarry" are purchased by the Windsor Plaster Company and hauled to the calcining plant in Windsor by motor trucks; the Windsor Plaster Company also operates the quarry at Clarkesville on the Midland Railway. No gypsum in the crude form is shipped by this company. Their hard-wall and selenite plasters are sold throughout the Maritime provinces, and some has been shipped as far west as Montreal.

At Baddeck Bay, Victoria county, the North American Gypsum Company extended the quarry face and conducted a diamond drilling programme during the summer. A narrow gauge railway about a mile long connects the deposit with the crushing and storage plant located at the shipping pier on the shore of Baddeck Bay.

The largest gypsum operation in the province is carried on by the Canadian Gypsum Company at Wentworth, Hants county, located about four miles from the town of Windsor. The company is operating two main quarries "The Cables" and "The Meadow." The Cables quarry is the chief producer and is overlaid with about 8 feet of overburden. This is stripped off by steam shovel and holes about 60 feet in depth drilled with well drills. After blasting, the displaced gypsum is loaded by power shovel into light railway cars, hauled up an incline track to the top of the quarry and then transferred to the crushing plant at the shipping wharf. At the Meadow quarry the gypsum loosened by blasting is loaded into cars by gasolene operated shovels, and is then hauled to the crushing plant at the shipping pier. (Annual Report on Mines, 1933, Nova Scotia).

NEW BRUNSWICK - The Canadian Gypsum Company has in its Hillsborough plant at Hillsborough the largest gypsum products plant in the Maritime provinces. This is the only plant in New Brunswick producing calcine gypsum products. In 1933 the demand for gypsum products was further affected by the continual falling-off in construction below that of 1932, so that the lessened production was in line with the building. Raw materials from the Hillsborough plant are exported to the United States and the

exportation of gypsum rock was curtailed to the same extent as manufactured products. Hillsborough plants manufactured during 1933 gypsum tile, hollow tile for partitions and solid tile for roofs.

The gypsum operation begun early two years ago by Mr. F. M. Thompson near Petitcodiac was successfully continued during the past year. High grade gypsum was shipped to Montreal from this property.

ONTARIO - The production of Ontario gypsum again revealed a decline due to the greatly restricted demand in the building trades. The mill and mine of Gypsum, Lime and Alabastine, Canada, Ltd., were in continuous operation at Caledonia throughout the year. The Lythmore plant of the company closed down in November, 1932, and will not be re-opened. At Hagersville the Canadian Gypsum Company, Limited, was active during the year, both their mine and mills being in operation. It is interesting to note that Gypsum, Lime and Alabastine, Canada, Ltd., has announced that a new company (subsidiary) - Gyproc Products Ltd. - has been formed with head office at London, England. The new English plant of this company is being erected at Rochester, in the county of Kent; this plant was expected to be in operation in the early spring of 1934.

MANITOBA - Gypsum mining and milling operations were conducted during 1933 in Manitoba by both Gypsum, Lime and Alabastine, Canada, Ltd., and by Western Gypsum Products Limited. The company first referred to operated a quarry at Gypsumville while gypsum mined at Amaranth by the latter company was processed in that company's mill located in Winnipeg. Production in Manitoba during 1933 was considerably less than in the preceding year, the reason apparently being the lessened activities in building construction.

BRITISH COLUMBIA - Gypsum, Lime and Alabastine, Canada, Ltd., operated its Falkland quarries in the Kamloops Mining Division during 1933. This property is situated 30 miles west of Vernon and about two miles north of the Vernon-Kamloops highway; quarrying operations are conducted at three different elevations; in 1933 work was confined to the upper or No. 3 quarry. The British Columbia Department of Mines report that the production of these quarries during the past calendar year was relatively limited and intermittent. Calcined gypsum produced by the company was utilized in the manufacture of gypsum products.

The following brief excerpts are from the Gypsum Association's publication, Chicago, "Gypsum, a Non-Metallic Mineral." --

"Gypsum is one of the most ancient of building materials. The Greeks were users of gypsum during the time of Pliny - going further back the Temple of Apollo at Bassae, built 400 B.C., affords an excellent example of the use and permanent structural qualities of gypsum. The great pyramids of Egypt (1580-1350 B.C.) contain plaster work of gypsum executed nearly four thousand years ago. Gypsum is abundant in Europe, Asia, Australia, Canada, Alaska, some of the South American Republics and the United States. In its native state this mineral varies considerably in appearance and physical characteristics and has been given the following names:- rock gypsum, gypsite or earth gypsum, selenite or transparent gypsum, fibrous and satin spar gypsum, and alabaster gypsum, also anhydrous gypsum ... Gypsum rock, when quarried or mined, is crushed, dried, and ground to fine powder. This finely ground product is transferred to storage bins from whence it is conveyed to kettles or rotary kiln calciners where it is subjected to heat and during the process of calcination, is kept in constant agitation. The partial dehydration of ground gypsum rock by properly controlled physical processes yields calcined gypsum, sometimes termed plaster

of Paris or stucco ... It is the method of calcination employed, and the degree to which calcination is carried forward, that determines the possibilities and uses that the calcined product may be applied to in the field of building construction.. from the finely ground or disintegrated gypsum which has been calcined to the proper degree, the following are some of the more important products manufactured - gypsum plasters, gypsum finishing plasters, gypsum boards and gypsum tile or block and in addition the following include some of the more important uses of uncalcined (raw) or calcined gypsum for industrial purposes - manufacture of Portland cement, plate glass bedding plaster, agricultural gypsum (land plaster), dental plaster, orthopedic plaster, pottery plaster, terra cotta moulding plaster, pipe covering stucco, foundry core stucco, paper filler, wood filler, paint and cloth filler, manufacture of crayons, matches, etc., and for statuary and other works of art."

PRODUCTION IN CANADA, IMPORTS AND EXPORTS OF GYPSUM, 1932 and 1933.

	1932		1933	
	Quantity	Value	Quantity	Value
	Tons	$	Tons	$
SHIPMENTS BY GRADES -				
Crude (1) - Lump or mine run	98,672	114,504	36,439	43,002
Crushed	268,645	314,336	298,579	329,419
Fine ground	1,826	10,459	1,030	6,067
Calcined gypsum (2)	69,486	641,080	44,186	284,824
TOTAL	438,629	1,080,379	380,234	663,312
SHIPMENTS BY PROVINCES -				
Nova Scotia	341,508	398,861	315,948	363,528
New Brunswick	38,019	297,520	27,889	75,990
Ontario	35,655	186,175	24,460	112,319
Manitoba	12,719	113,739	6,830	65,471
British Columbia	10,728	84,084	5,107	46,004
TOTAL	438,629	1,080,379	380,234	663,312
Total gypsum mined and quarried	439,695	...	370,691	...
Total gypsum calcined (2)	80,755	...	44,086	...
IMPORTS -				
Gypsum, crude (sulphate of lime)	55	1,381	18	524
Plaster of Paris, or gypsum ground, not calcined	171	3,434	136	4,251
Plaster of Paris or gypsum calcined and prepared wall plaster	1,384	31,165	615	16,745
TOTAL	1,610	35,980	769	21,520
EXPORTS -				
Gypsum or plaster, crude	372,314	470,247	287,305	344,085
Plaster of Paris, ground, and prepared wall plaster	799	13,979	634	13,999
TOTAL	373,113	484,226	287,939	358,084

(1) Includes some anhydrite quarried in Nova Scotia.
(2) Does not include gypsum calcined in manufacturers plants at Montreal and Calgary.

The consumption of crude gypsum in the gypsum products group of the miscellaneous non-metallic mineral industries in Canada during 1932 totalled 19,805 tons valued at $69,422 as compared with 31,170 tons at $136,333 in 1931; calcined gypsum figures for the same industries were - 25,456 tons at $140,036 (1932) and 16,483 tons worth $97,410 (1931). The Canadian cement industry consumed 13,319 tons of gypsum in 1933 as compared with 27,537 tons in 1932.

PRINCIPAL STATISTICS OF THE GYPSUM MINING INDUSTRY IN CANADA, 1931, 1932 and 1933.

		1931	1932	1933
Number of firms		15	15	14
Capital employed	$	7,941,082	8,054,148	8,769,564
Number of employees - On salary		64	46	25
On wages		612	432	390
Total		676	478	415
Salaries and wages - Salaries	$	131,887	90,418	48,942
Wages	$	524,703	278,066	214,337
Total	$	656,590	368,484	263,279
Cost of fuel and electricity	$	188,524	122,926	91,518
Selling value of products	$	2,111,517	1,080,379	663,312

FUEL AND ELECTRICITY USED IN THE GYPSUM MINING INDUSTRY, 1932 and 1933.

	Unit of measure	1932 Quantity	1932 Cost at works	1933 Quantity	1933 Cost at works
			$		$
Coal, bituminous - Imported	short tons	1,080	6,225	...	...
Canadian	short tons	4,341	22,115	4,062	20,727
Coal, lignite - Canadian	short tons	357	2,678	...	...
Coke	short tons	287	2,600	148	1,212
Gasoline	Imp. gal.	58,152	13,931	44,697	11,243
Kerosene	Imp. gal.	542	121	224	49
Fuel oil and diesel oil	Imp. gal.	189,405	10,110	79,716	3,983
Wood	cords	27	162	918	2,891
Gas, natural	M cu.ft.	4,084	1,674	10,763	4,305
Electricity purchased	K.W.H.	4,012,565	63,310	2,725,415	47,108
TOTAL	xxx	...	122,926	...	91,518

NUMBER OF WAGE-EARNERS ON PAYROLL OR TIME RECORD ON THE 15th OF EACH MONTH OR NEAREST REPRESENTATIVE DATE, 1932 and 1933.

Month	1932 MINE	1932 MILL	1933 MINE	1933 MILL
January	264	150	89	101
February	300	134	86	92
March	226	145	81	86
April	221	146	164	116
May	294	145	224	120
June	329	168	279	171
July	380	179	393	204
August	373	145	495	180
September	359	160	345	150
October	345	120	367	173
November	276	109	333	119
December	116	102	209	112

The statistics as thus given for Canada cover the primary production of gypsum; these include data for gypsum quarries and for calcining and plaster works when operated in connection with the quarries. In addition there are the secondary or manufacturing plants which include the works making wallboard, blocks, tile, etc.; some of these works purchase crude gypsum from the primary producers and calcine it before using it to manufacture the gypsum products.

In 1933 there were eight manufacturing plants in Canada operating as follows:- A plant at Montreal, P.Q., brought crude gypsum from Nova Scotia, calcined it, and produced gypsum wallboard and wall plasters. At Caledonia, Ontario, another manufacturing works brought calcined gypsum from its own quarries and made gypsum blocks, wallboard, accoustical plasters, etc. Gypsum wallboard was also produced at Hagersville, Ontario, the company operating here, also produced wallboard and tile at Hillsborough, New Brunswick. At Winnipeg 2 plants utilized calcined gypsum, obtained from primary plants in that province, in the manufacture of wallboard and tile. At Calgary, Alberta, gypsum wall plasters were manufactured from crude rock obtained from quarries situated in British Columbia while at Port Mann, B.C., a plant utilized calcined gypsum obtained from the Falkland quarries in the production of gypsum blocks, wallboard, tile and dry insulex.

These 8 establishments employed capital amounting to $2,146,863 and provided employment for an average of 152 employees; salaries and wages totalled $97,651 and the value of products made during the year was reported at $980,589 as compared with $1,222,004 in 1932.

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WORLD PRODUCTION OF GYPSUM, 1930-1932.

(Statement taken from the Imperial Institute's publication "The Mineral Industry of the British Empire and Foreign Countries")

(Long tons)

Producing Country	1930	1931	1932
BRITISH EMPIRE			
United Kingdom	838,208	754,895	995,462
Union of South Africa	16,828	14,613	7,001
Canada	991,114	788,286	392,585
Cyprus (estimated)	12,000	15,300	12,000
Palestine	1,635	483	1,458
India	56,316	53,632	54,741
Australia	51,085	27,732	(c) 51,050
Total	1,970,000	1,650,000	1,510,000
FOREIGN COUNTRIES			
Austria (d)	36,760	47,000	(a)
Estonia	1,932	7,727	8,168
France	3,007,115	(a)	(a)
Germany	694,000	482,000	392,200
Greece	2,730	6,400	(a)
Italy (including alabaster)	674,703	578,561	521,453
Latvia (exports)	36,077	32,014	37,759
Luxemburg	10,451	9,117	9,254
Poland	40,000	24,000	(a)
Roumania (b)	50,442	52,166	39,386
Spain	(b) 1,557,380	(g) 1,295,576	(g) 1,133,282
Sweden	133	49	113
Yugoslavia (Serbia only)	1,440	759	(a)
Algeria	93,283	74,416	37,374

WORLD PRODUCTION OF GYPSUM, 1930-1932 (concluded)

(Long tons)

Producing Country	1930	1931	1932
FOREIGN COUNTRIES - concluded			
Belgian Congo	...	1,000	...
Egypt (estimated)	130,000	130,000	130,000
Tunis	25,000	(a)	(a)
United States	3,099,458	2,284,837	1,210,017
Cuba	26,800	(a)	(a)
Argentina	48,667	38,849	33,013
Chile	16,907	12,965	11,800
Peru	14,000	8,000	(a)
China	61,100	70,400	(a)
New Caledonia	3,082	11,365	11,719
Total	(f) 9,500,000	(a)	(a)
WORLD'S TOTAL	(f)11,500,000	(a)	(a)

(a) Information not available.
(b) Converted from cubic metres at the rate of 1 cubic metre = 2 long tons.
(c) Excluding production of Victoria, which is not available, but amounted to 1,565 long tons during 1931.
(d) Estimated by Bundesministerium fur Handel und Verkehr.
(f) Excluding the production of U.S.S.R. (Russia), which was recorded as 404,068 long tons during the year ended September, 1928, the latest year for which information is available.
(g) Including 407,047 cu. metres and 343,028 cu. metres of gypsum also 60 cu. metres and 80 cu. metres of alabaster during 1931 and 1932, respectively, converted as per (b).

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LIST OF OPERATORS IN CANADIAN GYPSUM MINING INDUSTRY, 1933.

Name of Firm	Head Office Address	Plant Location
NOVA SCOTIA -		
Atlantic Gypsum Products Company	40 Central St., Boston, Mass., U.S.A.	Aspy Bay, Cheticamp and Walton.
Canadian Gypsum Co. Ltd.	1221 Bay St., Toronto, Ont.	Wentworth
The Connecticut Adamant Plaster Co.	10 River St., New Haven, Conn., U.S.A.	Cheverie
The Nova Scotia Coal & Gypsum Co. Ltd.	Box 13, Mabou	Mabou Harbour
North American Gypsum Co. Inc.	96 Curtis Ave., Rutland, Vt., U.S.A.	Baddeck Bay
Windsor Gypsum Co.	Box 727, Newburgh, N.Y., U.S.A.	Newport Station
Windsor Plaster Co. Ltd.	Windsor	Brooklyn, Hants Co.
NEW BRUNSWICK -		
Canadian Gypsum Co. Ltd.	1221 Bay St., Toronto, Ont.	Hillsborough
Thompson, F. M.	Hillsborough	Hillgrove

LIST OF OPERATORS IN CANADIAN GYPSUM MINING INDUSTRY, 1933. (concluded)

Name of Firm	Head Office Address	Plant Location
ONTARIO -		
Canadian Gypsum Co. Ltd.	1221 Bay St., Toronto.	Hagersville
Gypsum, Lime and Alabastine, Canada, Ltd.	Paris	Caledonia
MANITOBA -		
Gypsum, Lime and Alabastine, Canada, Ltd.	Paris, Ontario	Gypsumville
Western Gypsum Products Ltd.	503 McArthur Bldg., Winnipeg	Amaranth
BRITISH COLUMBIA -		
Gypsum, Lime and Alabastine, Canada, Ltd.	Paris, Ontario	Falkland.