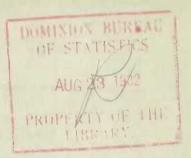
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CANADA

DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS



THE COMPRESSED GASES INDUSTRY

IN

CANADA

1931

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CHEMICALS AND ALLIED PRODUCTS

THE COMPRESSED GASES INDUSTRY IN CANADA, 1931.

Final figures compiled by the Dominion Bureau of Statistics at Ottawa show that production from the compressed gases industry in 1931 was valued at \$2,818,306 as compared with \$3,557,486 in 1930 and \$3,967,416 in 1929.

Thirty factories were included in this group in 1931 and they employed an average of 420 workers. The 13 establishments in Ontario reported a total payroll of 201 persons and the 7 works in Quebec employed 90 persons. There were also 3 plants in Manitoba, 2 in Nova Scotia, 2 in British Columbia, 2 in Alberta and 1 in Saskatchewan. In 1930, a total of 472 persons were employed in the 30 works which were in operation.

The main products were oxygen, carbon dioxide, and acetylene which are used extensively in oxy-acetylene welding, in the carbonating of soft drinks and in the hydrogenation of oils. Solid carbon dioxide, aqua and anhydrous ammonia and nitrogen were also made by these firms.

This industry includes only those firms which made industrial gases as their main product. In addition, liquid chlorine and syntehtic ammonia were manufactured in the Sandwich plant of Canadian Industries limited but data pertaining to these departments were not shown separately from the general plant operations and so have been included in the acids, alkalies and salts industry which is reviewed in a separate bulletin. Synthetic ammonia was also made at Trail, B.C., by the Consolidated Mining and Smelting Company of Canada but a separate report was not obtained as all of the product was used in making ammonia fertilizers. Similarly, acetylene was made by Shawinigan Chemicals Limited at Shawinigan Falls for use in their own works in making acetic acid, etc., and nitrogen was produced as an intermediate by the American Cyanamid Company at Niagara Falls for use in the manufacture of calcium cyanamide. Pintsch gas for lighting railway coaches was made at several divisional points but these plants always have been classified to the artificial gas industry and again have been included in that group.

Of considerable interest is the recent announcement that Canadian Industries are erecting a plant for the commercial production of sulphur dioxide gas.

Table 1 - PRINCIPAL STATISTICS OF THE COMPRESSED CASES INDUSTRY IN CANADA, 1927-1931.

			Average			Selling	Value
	No. of	Capital	number	Salaries	Cost of	value of	added
Years	plants	employed	of em	and	materials	products	by manu-
			ployees	wages	at works	at works	facturing
		\$		\$	\$	\$	\$
1927	25	4,177,794	404	604,417	550,795	2,625,698	2,074,903
1928	25	4,226,037	426	652,893	479,587	3,145,884	2,666,297
1929	28	4,995,560	542	770,424	785,377	3,967,416	3,182,039
1930	30	5.020,875	472	737,240	504,975	3,557,486	3,052,511
1931 -							
Quebec	7	900,797	90	139,014	117,131	783,728	666,507
Ontario	13	2,766,332	201	326,645	162,880	1,104,284	941,404
Manitoba	3	254,506	40	57,978	43,256	281,787	238,531
CANADA(x)	30	4,597,170	420	654,364	429,048	2,818,306	2,389,258

(x) Includes also data for 2 plants in Nova Scotia, 1 in Saskatchewan, 2 in Alberta and 2 in British Columbia.

Table 2 - CAPITAL EMPLOYED, BY PROVINCES, 1930 and 1931. Inventory value Operating Value of lands. of materials on capital (cash, Inventory TOTAL buildings, mach hand, stocks in value of bills and Provinces accounts inerv and process, fuel and finished equipment other supplies products on receivable. hand etc. 1930 Quebec 774,050 113,388 83,628 971,066 Ontario .. 1,145,298 760.369 1,204,194 3,109,861 Manitoba . 219.062 15,776 40,459 275, 297 955,628 CANADA(x). 2,612,938 ,454,309 5,020,875 1931 Quebec ... 657,631 6,926 83,380 152,860 900,797 Ontario .. 999,613 174,979 53,139 1,548,601 2,776,332 183,800 9,770 9,888 254.506 Manitoba . 51.048 CANADA(x) 2,298,435 228,426 181,954 1,888,355 4,597,170

(x) See footnote to Table 1.

EMPLOYEES, SALARIES AND WAGES, BY PROVINCES, 1930 and 1931. Total Total Salaries Salaries Provinces salaries wages employ Wages Male Female Male Female and Wages \$ 1930 Quebec ... 34 10 63 3 110 92,060 92,291 184,351 74 43 88 8 213 Ontario ... 208,126 131,759 339,885 19 23 47 40,619 31,192 71,811 Manitoba . 4 1 427,146 737,240 76 472 CANADA(x) 217 310,094 _1931 29 51 Quebec ... 1.0 90 75,136 63.878 139,014 . 5 5 Ontario ... 78 35 83 201 210,817 115,828 326,645 Manitoba . 15 21 40 31,700 26,278 57,978 CANADA(x). 153 195 420 397,788 256,576 654,364 (x) See Footnote to Table 1.

Table 4	WAGE EARNERS.	BY MONTHS	. 1930 and	1931.

		1 9 3	0	1	9 3	1
Months	Male	Female	Total	Male	Female	Total
January	214	12	226	210	4	214
February	212	12	224	208	4	212
March	210	11	221	210	5	215
April	229	12	241	207	5	212
May	242	15	257	204	5	209
June	221	15	236	216	4	220
July	217	14	23]	202	4	206
August	219	12	23.1	197	4	201
September	210	14	224	3.98	4	202
October	209	12	221	163	4	167
November	204	11	215	163	4	167
December	204	11	215	162	4	166
AVERAGE	21.7	13	230	195	5	200

Table 5 - NUMBER OF WAGE-EARNERS IN MONTH OF HIGHEST EMPLOYMENT, CLASSED ACCORDING TO

RECULAR HOURS	FORKED PER WEEK	(Overtime not included)	
Regular hours	Number of	Regular hours	Number of
bei, meek	wage earners	per week	wage earners
40 hours or less	16	51 - 53 hours	6
41-43 hours	6 a	54 hours	0 a e
44 hours	42	55 hours	2
45 - 47 hours) P @	56 59 hours	7
48 hours	117	60 hours	17
49 - 50 hours	. 1	Over 60 hours	18

Table 6 - FUEL AND ELECTRICITY USED, 1930 and 1931,

1851e 6 - FUEL AND ELECTRICITI USED. 1950 and 1951.						
		1 9 3	0	1 9 3	1	
Kinds	Unit of		Cost at		Cost at	
	measure	Quantity	works	Quantity	works	
			\$		\$	
Anthracite coal	short ton	508	4,379	607	5,530	
Bituminous coal - Canadian	short ton	339	2,413	204	1,635	
Imported	short ton	989	6,498	2,497	12,803	
Coke	short ton	1,562	5,924	0.00	100	
Gasoline	imp. gal	388	110	295	88	
Fuel oil	imp. gal.	9,840	433	9,345	412	
Gas, natural	M cu ft.	1.345	464	1,114	372	
Electricity purchased	K.W.H.	15,580,960	133,575	13, 278, 982	113,593	
TOTAL		900	153.796	0 0 9	141,633	

Table 7 - POWER EMPLOYED, 1930 and 1931.

18016 1 - LOMEY TWELFOLED' 1300 SHIP 1301.				
	1	9 3 0	1 9	3 1
Kinds	Number	of Total	Number of	Total
	units	H,P.	units	H.P.
Steam engines and steam turbines	1_	40	1	40
Total Primary Power	1	40	1	40
Electric motors run by purchased power	133	5,739	135	6,046
Total Power Employed	134	5,779	136	6,086
Total Electric Motors	133	5,739	135	6.046
BOILERS	6	600	6	615

Table 8 - MATERIALS USED, 1930 and 1931.

		1 9	3 0	1 9	3 1
Materials	Unit of		Cost at		Cost at
	measure	Quantity	works	Quantity	works
			\$		\$
Acetone	1	b. 162,551	30,954	149,788	24,910
Calcium carbide	1	b.9,906,669	337,543	7,956,944	282,822
Coke,	. s s s s s s s s s s to	n 2,029	28,564	1,705	19,941
Other materials			87,517	2 4 9	86,023
Cylinders purchased during th	ne year n	0. 893	20,397	849	15,352
TOTAL			504,975	0.20	429,048

Table 9 - PRODUCTS MADE, 1930 and 1931

	1 9	3 0	1 9	3 1
Products		Selling value		Selling value
	Quantity	at works *	Quantity	at works
		\$		\$
Acetylene cu ft.	44,181,816	1,094,999	37,048,521	890,330
Carbon dioxide, 1b.	6,632,544	558,716	5,437,464	407,845
Hydrogen cu ft.	41,492,850	55,194	35, 592, 311	57,035
Oxygen cu.ft.	152,419,201	1,577,922	120,326,797	1,169,526
Other products(x)	209	270,655	0000	293,570
TOTAL		3,557,486	0000	2,818,306

(x) Includes aqua and anhydrous ammonia, nitrogen and solid carbon dioxide.

Table 10 - PRODUCTION OF ACETYLENE, CARBON DIOXIDE, AND OXYGEN IN CANADA, 1918 to

	10010		
Years	Acetylene	Carbon dioxide	Oxygen
	Cubic feet	Pounds	Cubic feet
1918	5,484,755	2,742,632	33,880,000
1919	11,684,646	3,571,681	34,768,587
1920	16,121,701	5,582,149	54,618,400
1921	15,663,702	3,567,431	\$3,612,271
1922	17,631,590	3,263,908	52,448,907
1923	21,729,109	3,355,628	72,637,943
1924	19,229,042	3,428,953	68,331,575
1925	24, 384, 431	3,650,547	68,685,153
1926	27,814,736	3,896,524	86,989,015
1927	31,195,053	4,706,519	112,757,727
1928	37,342,101	5,533,275	133,688,619
1929	46,009,766	6,818,800	160,066,394
1930	44,181,816	6,632,544	152,419,201
1931	37,048,521	5,437,464	120,326,737

Table 11 - PRODUCTION OF ACETYLENE, CARBON DIOXIDE, AND OXYGEN IN CANADA, BY

	PROVINUES	* T352-T32T		
	Ontario	Quebec	Other Provinces	CANADA
ACETYLENE 1928 cu ft	14.032.110	11,203,260	12,106,731	37,342,101
1929 1930 1931 cu ft	18,463,129 18,569,197 14,680,022	12,854,099 11,463,532 9,483,373	14,692,538 14,149,087 12,885,126	46,009,766 44,181,816 37,048,521
1928 1b 1b 1930 1b 1b 1931	1,277,440 1,453,180 1,385,398 1,538,928	2,677,526 3,687,948 3,588,703 2,668,100	1,578,300 1,677,672 1,658,443 1,230,436	5,533,275 6,818,800 6,632,544 5,437,464

- 5

Table 11 - PRODUCTION OF ACETYLENE, CARBON DIOXIDE, AND OXYGEN IN CANADA, BY

	NCES, 1928-1931, conclud		
On	tario Quebec	Other provinces	CANADA
1929 cu.ft. 66,	430,578 41,371,320 116,620 50,714,300 045,143 45,737,255 420,908 38,162,619	42,286,721 49,235,474 47,636,803 37,743,270	166,066,394 152,419,201
DIRECTORY(x) OF FIRMS INCLUD	ED IN THE COMPRESSED GAS	ES INDUSTRY	IN CANADA, 1931.
Name	Location of plants		Products made
L'Air Liquide Society	H.O. Illl Beaver Hal Montreal, P.Q. Plants at Halifax, Mon Toronto, London, Winni Regina, Calgary, and V	treal,	Acetylene and oxygen.
Liquid Carbonic Canadian Corp. Ltd.	H.O. 640 Dominion Square Montreal, P.Q. Plants at Dartmouth, M. Toronto, St.Boniface, and Vancouver.	uare Bldg.	Carbon dioxide.
Dominion Oxygen Company, Ltd.	H.O. Canada Life Bld 40 University Ave., Tor Plants at Montreal and	onto,Ont.	Oxygen and nitrogen.
Dominion Carbonic Co. Ltd.	Cor, Mill and Trinity	ot.,	Carbon dioxide.
Canadian Dry Ice Company, Ltd.	H.O. 734 St. Maurice Montreal, F.Q. Plants at Montreal and		Solid carbon dioxide,
Prest-O Lite Co.of Canada, Ltd.	H.O Canada Life Bldg Toronto, Ont. Plants at Shawinigan Fa Meritton and St. Bonife	alls,	Acetylene.
Canadian Gas & Equipment Ltd.	H.O. 2240 St.Clair A. Toronto, Ont. Plants at Montreal and	ve. W.,	Acetylene, hydrogen, oxygen, and nitrogen.
Canadian Industries Limited	H.O. P.O. Box 1260, Mor Plant at Toronto	ntreal, P.Q.	
Lever Bros. Limited The People's Gas Supply Co.Ltd. The Proctor & Gamble Co. of Canada, Limited.	Eastern Ave., Toronto, 2 Mill St., Ottawa, On- Burlington St., Hamilton	Unt.	nydrogen and oxygen. Acetylene. Hydrogen and oxygen.
oanada, Tini bed.			

⁽x) The above plants are included under the Compressed Gases Industry. In addition to these, the Canadian Industries Ltd. at Sandwich produced and sold synthetic ammonia and liquid chlorine but when classified according to the main products this plant comes under the Acids, Alkalies and Salts Industry which is reviewed in a separate bulletin. Synthetic ammonia is also made at Trail. B.C., by the Consolidated mining and Smelting Company but is used by that company in the manufacture of ammonia fertilizers; acetylene is made by the Shawinigan Chemicals and used in making acetic acid, etc.; and nitrogen is produced as an intermediate in the manufacture of cyanamide by the American Cyanamid Company at Niagara Falls.

