

Department of Trade and Commerce  
Dominion Bureau of Statistics  
Census of Industry and Merchandising  
Mining, Metallurgical and Chemical Statistics  
Ottawa - Canada

DOMINION BUREAU  
OF STATISTICS

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S A L T - 1 9 4 7

Producers' sales of common salt or natural sodium chloride in Canada during 1947 totalled 728,545 short tons valued at \$4,436,930 compared with 537,985 short tons valued at \$3,626,165 in 1946. The increase in tonnage was 35.4 per cent and the total value increase was 22.3 per cent. Four provinces - Nova Scotia, Ontario, Manitoba and Alberta - contributed to this output, with Ontario accounting for 87 per cent of the total. Part of the Nova Scotia production is from mining the underground rock salt deposits but most of the salt in Canada is obtained from brine wells.

About 55 per cent of the output, or 401,491 tons was used in the producers' own plants for the manufacture of caustic soda, soda ash and other chemicals. The sales of salt included 110,384 tons of table and dairy grades: 175,097 tons of common fine and 14,224 tons of common coarse. The balance of the shipments included salt for agriculture and highway maintenance.

Ten plants were in operation in 1947. The Maritime Industries Ltd. entered the production field in the early months of the year. In these works there were 700 employees to whom \$1,399,693 were paid in salaries and wages. Process supplies cost \$171,821 and fuel and electricity cost \$771,916. The value of containers used was \$929,102.

Canadian exports of salt in 1947 totalled 11,212 tons valued at \$243,663; during the same period 219,878 tons valued at \$1,246,551 were imported; the apparent consumption was 937,211 short tons valued at \$5,439,818.

The following paragraphs have been extracted from the annual review by the Bureau of Mines, Ottawa: -

In Ontario, the production of common salt comes from two plants in Goderich and one each in Amherstburg, Sandwich, Sarnia, and Warwick. At Sandwich, Canadian Industries, Limited, produces nearly all types of commercial salt and also supplies brine for its large caustic soda-chlorine plant in that centre, and salt for its caustic soda-chlorine plants at Cornwall, Ontario, and Shawinigan Falls, Quebec. An expansion of the company's salt plant at Sandwich was commenced in 1947 and the products from this expanded plant will be used in the manufacture of D.D.T. at a large new plant being erected by the company in Hamilton. At Amherstburg, the Brunner Mond, Canada, Limited, manufactures soda ash from saturated brine and recovers calcium chloride as a by-product. A large expansion of this plant was commenced in 1947 and will be completed early in 1948. At Sarnia, the salt plant is operated by Dominion Salt Company, a subsidiary of Dominion Tar and Chemical Company. It was announced during 1947, that another subsidiary, Dominion Alkali and Chemical Company, is to erect a caustic soda-chlorine plant at Beauharnois, Quebec, which will probably require large quantities of salt from the Sarnia plant.

In Nova Scotia, the salt mine at Malagash was operated most of 1947. The rock salt is crushed, screened, and sold as fishery, refrigerator, hay, and dairy salts; for ice removal on highways and railways; and for dust laying. A process to purify the impure mined rock salt and produce a pure coarse salt which would be more suitable for the needs of the fishing industry on the Atlantic Coast, has been developed by the company's staff and the Bureau of Mines, Ottawa, and the salt so produced in a pilot plant has been under test by the Department of Fisheries, Ottawa. The mine has been in continuous operation since 1918, but mining has gone only slightly below 1000 feet vertical depth from the surface.

At Nappan, near Amherst, Cumberland county, Nova Scotia, Maritime Industries, Limited, a subsidiary of Standard Chemical Company, Limited, erected a vacuum pan evaporation plant with a capacity of 150 tons a day of high-grade salt, suitable for table, dairy, meat packing, some fish curing, and other uses. First production was obtained in February, 1947. The brine is obtained from two drill-holes near the plant which penetrated the salt beds just over 800 feet below the surface.

This report was prepared by A. R. Deir, Mining Statistician.

In Manitoba, Canadian Industries, Limited operated its plant at Neepawa, throughout 1947. This plant was erected in 1941 and utilizes vacuum pan evaporation to produce all grades of evaporated salt. Brine is obtained from wells over 1000 feet deep. It is a nearly saturated natural brine occurring in porous sedimentary rocks, and there are no proved bedded deposits of rock salt in this area.

In Alberta, Industrial Minerals, Limited, Waterways, obtains brine from a bed of very pure rock salt 200 feet thick about 700 feet below the surface. All grades of evaporated salt are produced for household and dairy uses.

Many of the holes drilled for oil and gas over large parts of Alberta and Saskatchewan in the past five years intersected salt beds at depths varying from 2700 feet in east central Alberta to about 7,600 feet in southern Saskatchewan. The thickness of the beds varies from a few feet to over 600 feet. Natural gas is available cheaply over most of this area. During 1947, Prairie Salt Company, a subsidiary of Dominion Tar and Chemical Company, drilled production wells near Unity and commenced preliminary construction work on a salt plant. Its contract with the Saskatchewan Government calls for a minimum capacity of 25 tons of salt a day by the summer of 1948. In Alberta, Alberta Salt Company was formed by the oil companies responsible for drilling the wells that encountered rock salt at Elk Point, namely, Anglo Canadian Oil Company Limited, Home Oil Company Limited, and Calgary and Edmonton Corporation. The newly formed company commenced the construction of a salt plant at Lindbergh, on the North Saskatchewan River, 150 miles east of Edmonton, and it is expected that this plant will be in operation early in 1948.

According to Canadian Chemistry and Process Industries, the price of salt increased gradually from the quotations in the latter part of 1946 as shown in the table given below: -

	P r i c e	
	Nov. 1946	Nov. 1947
Specially purified salt per 100 lb. 99.9 per cent f.o.b. plant .....	.94	1.10
Fine Industrial Salt per ton bulk carlots f.o.b. plant .....	6.20 - 6.53	6.00 - 7.80
Coarse Industrial Salt per ton bulk carlots f.o.b. plant .....	10.12 - 10.63	13.00 - 14.80

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Table 1 - PRINCIPAL STATISTICS FOR THE SALT INDUSTRY IN CANADA, 1938 - 1947

Year	Establish- ments	Employees	Salaries and wages	Cost of fuel and electricity	Cost of process supplies and containers	Gross value of products sold during year, including containers (f.o.b. works)
	No.	No.	\$	\$	\$	\$
1938 .....	9	562	786,720	278,711	607,175	2,489,719
1939 .....	9	547	741,736	276,267	508,511	2,957,982
1940 .....	9	586	836,506	321,589	539,179	3,322,250
1941 .....	9	668	1,018,652	450,291	725,675	3,852,499
1942 .....	9	675	1,114,574	536,649	882,599	4,593,003
1943 .....	9	682	1,223,009	596,252	943,522	5,188,628
1944 .....	9	710	1,302,143	652,126	846,298	4,786,084
1945 .....	9	724	1,260,769	670,187	953,054	4,864,697
1946 .....	9	713	918,566	597,112	993,304	4,480,839
1947 .....	10	700	1,399,693	771,916	1,100,923	5,366,032

**NOTE:** Six plants in Ontario and 1 in each of Nova Scotia, Manitoba and Alberta.



## Salt

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Table 2 - PRODUCTION OF SALT IN CANADA, BY GRADES, 1946 and 1947

	1 9 4 6			1 9 4 7		
	Manu- factured	Sold	Value of salt sold (not including containers)	Manu- factured	Sold	Value of salt sold (not including containers)
	Tons	Tons	\$	Tons	Tons	\$
Table, dairy and pressed blocks.	91,877	92,638	1,729,810	113,831	110,384	2,053,120
Common, fine .....	144,315	145,268	1,001,401	180,930	175,097	1,262,569
Common, coarse .....	50,061	49,305	461,443	14,298	14,224	202,202
Other grades .....	2,546	2,863	39,474	31,184	27,349	272,192
Brine for chemical works (salt equivalent sold or used) .....	247,788	247,911	394,037	401,282	401,491	645,847
Total of Above .....	536,587	537,985	3,626,165	741,525	728,545	4,436,930
Value of containers .....	...	...	854,674	...	...	929,102
TOTAL VALUE including containers	...	...	4,480,839	...	...	5,366,032

Table 3 - PRODUCTION OF SALT IN CANADA, BY PROVINCES, 1938-1947

Year	Nova Scotia		Ontario		Manitoba		Alberta	
	Tons	\$	Tons	\$	Tons	\$	Tons	\$
1938 .....	44,950	194,759	388,130	1,657,140	2,920	34,979	4,045	46,035
1939 .....	47,885	213,029	370,843	2,200,189	2,453	35,888	3,319	37,526
1940 .....	42,495	220,328	412,401	2,371,780	3,076	45,731	6,742	185,430
1941 .....	54,007	307,637	477,170	2,512,166	13,051	115,367	16,617	260,995
1942 .....	50,199	317,798	558,407	2,793,328	22,706	397,101	22,360	335,960
1943 .....	47,775	245,157	594,889	3,356,870	27,523	497,227	17,499	280,124
1944 .....	38,809	281,482	603,806	2,906,117	27,267	488,776	25,335	397,646
1945 .....	37,825	254,138	578,697	2,920,973	27,133	449,561	29,421	430,048
1946 .....	38,371	329,579	441,679	2,408,279	26,166	446,472	31,769	441,835
1947 .....	40,107	416,332	633,766	3,132,165	24,974	449,608	29,698	438,825

Note: Production = producers' sales.

Table 4 - TOTAL PRODUCTION OF SALT IN CANADA, 1933-1947

Year	Tons	\$	Year	Tons	\$
1933 .....	280,115	1,939,874	1941 .....	560,845	3,196,165
1934 .....	321,753	1,954,953	1942 .....	653,672	3,844,187
1935 .....	360,343	1,880,978	1943 .....	687,686	4,379,378
1936 .....	391,316	1,773,144	1944 .....	695,217	4,074,021
1937 .....	458,957	1,799,465	1945 .....	673,076	4,054,720
1938 .....	440,045	1,912,913	1946 .....	537,985	3,626,165
1939 .....	424,500	2,486,632	1947 .....	728,545	4,436,930
1940 .....	464,714	2,823,269			

Table 5 - SALT PRODUCED FOR CHEMICAL PURPOSES (x) 1933-1947

Year	Quantity tons (2000 pounds)	Per cent of total salt output	Year	Quantity tons (2000 pounds)	Per cent of total salt output
1933 .....	104,740	37	1941 .....	258,711	46
1934 .....	124,132	39	1942 .....	327,548	50
1935 .....	145,433	40	1943 .....	346,145	50
1936 .....	165,882	42	1944 .....	370,199	53
1937 .....	205,149	45	1945 .....	348,488	52
1938 .....	170,938	39	1946 .....	247,911	46
1939 .....	187,958	44	1947 .....	401,491	55
1940 .....	224,009	48			

(x) Used in the manufacture of chemicals by producers of salt.

## Salt

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Table 6 - PRODUCTION IN CANADA, IMPORTS, EXPORTS AND CONSUMPTION OF SALT, 1946 and 1947

	1 9 4 6		1 9 4 7	
	Tons	Value \$	Tons	Value \$
Production .....	537,985	3,626,165	728,545	4,436,930
Imports -				
Table salt .....	1,528	61,570	40	643
Salt, for the use of the sea or gulf fisheries	49,857	316,648	51,142	348,294
Salt, in bulk, n.o.p. ....	136,092	627,932	147,393	709,847
Salt, n.o.p., in bags, barrels, etc. ....	40,821	361,295	21,303	187,767
Total .....	228,298	1,367,445	219,878	1,246,551
Exports .....	5,864	116,483	11,212	243,663
APPARENT CONSUMPTION .....	760,419	4,877,127	937,211	5,439,818

Table 7 - FUEL AND ELECTRICITY USED IN THE SALT INDUSTRY IN CANADA, 1946 and 1947

Kind	Unit of measure	1 9 4 6		1 9 4 7	
		Quantity	Cost at works \$	Quantity	Cost at works \$
Bituminous coal - Canadian .....	short ton	13,467	101,160	16,544	128,975
Imported .....	short ton	50,789	363,806	66,199	506,640
Lignite coal .....	short ton	23,400	91,557	23,387	94,785
Coke (for fuel only) .....	short ton	1,449	7,608	...	...
Gasoline .....	Imp.gal.	7,290	1,872	9,529	2,164
Kerosene .....	Imp.gal.	42	12	28	8
Fuel oil .....	Imp.gal.	37,160	3,727	22,071	2,469
Gas, natural .....	M cu.ft.	87	63	53	33
Electricity purchased .....	K.W.H.	3,791,722	27,307	5,290,826	36,842
TOTAL .....	...	...	597,112	...	771,916
Electricity generated for own use	K.W.H.	6,318,388	...	10,136,427	...

Table 8 - POWER EQUIPMENT (including stand-by or emergency equipment) 1946 and 1947

	Ordinarily in Use		In Reserve or Idle	
	Number of units	Total horse power (x)	Number of units	Total horse power (x)
<u>1 9 4 6</u>				
Steam engines .....	14	1,375	...	...
Steam turbines .....	15	1,945	...	...
Gasoline, gas and oil engines (except Diesels)	...	...	...	...
Electric motors run by purchased power .....	172	1,042	6	58
TOTAL .....	201	4,362	6	58
Electric motors run by power generated by above primary units .....	282	2,659	18	236
Stationary boilers .....	8	3,920	5	785
Motor-generator sets .....	3	1,343	...	...
<u>1 9 4 7</u>				
Steam engines .....	13	1,315	...	...
Steam turbines .....	16	2,745	...	...
Gasoline, gas and oil engines (except Diesels)	...	...	1	15
Electric motors run by purchased power .....	207	1,039	5	65
TOTAL .....	236	5,099	6	80
Electric motors run by power generated by above primary units .....	347	3,461	21	388
Stationary boilers .....	10	3,973	5	785
Motor-generator sets .....	2	18	...	...

Table 9 - EMPLOYEES, SALARIES AND WAGES IN THE SALT INDUSTRY IN CANADA, 1941-1947

Table 7 - Employees, Salaries and Wages in the Lumber Industry in Canada, 1941-1947								
Year	Number of Employees				Total employees	Salaries	Wages	Total salaries and wages
	On Salaries		On Wages					
	Male	Female	Male	Female				
						\$	\$	\$
1941 .....	106	42	490	30	668	361,661	656,991	1,018,652
1942 .....	86	48	509	32	675	337,050	777,524	1,114,574
1943 .....	82	53	495	52	682	366,555	856,454	1,223,009
1944 .....	87	59	504	60	710	397,113	905,030	1,302,143
1945 .....	93	54	517	60	724	367,132	893,637	1,260,769
	<u>Administration</u>		<u>Workmen</u>			<u>Earnings</u>		
						<u>Administration</u>	<u>Workmen</u>	
1946 .....	43	26	577	67	726	207,532	711,034	918,566
1947 .....	44	18	582	56	700	239,576	1,160,117	1,399,693

Table 10 - NUMBER OF WORKMEN IN THE SALT INDUSTRY IN CANADA, BY MONTHS, 1946 and 1947

Month	1946				Total	1947			
	Surface		Under-ground	Number		Total			
	Male	Female		Male			Female		
January .....	522	62	32	616	574	67	641		
February .....	509	65	34	608	570	62	632		
March .....	520	63	36	619	596	57	653		
April .....	532	58	38	628	624	57	681		
May .....	541	59	35	635	622	52	674		
June .....	544	61	37	642	626	45	671		
July .....	559	66	36	661	610	53	663		
August .....	565	71	35	671	557	54	611		
September .....	565	72	37	674	538	66	604		
October .....	563	72	37	672	569	71	640		
November .....	540	77	38	655	586	57	643		
December .....	533	76	38	647	521	38	559		
AVERAGE .....	541	67	36	644	582	56	582		

DIRECTORY OF FIRMS IN THE SALT INDUSTRY IN CANADA - 1947

Name of Firm	Head or Executive Office	Location of Plant
<u>Nova Scotia -</u>		
Malagash Salt Co. Limited	196 Provost St., New Glasgow	Cumberland Co.
Maritime Industries Ltd.	Amherst	Nappan
<u>Ontario -</u>		
Brunner, Mond Canada, Ltd.	Canadian Bank of Commerce Bldg., Toronto	Essex Co.
Canadian Industries Limited	Box 10, Montreal, Que.	Essex Co.
Goderich Salt Co. Ltd.	Box 577, Goderich	Goderich
Sifto Salt Co. Ltd.	2240 Sun Life Bldg., Montreal, Que.	Sarnia
Warwick Pure Salt Co. Ltd.	R. R. # 5, Watford	Lambton Co.
Purity Flour Mills Ltd.	287 MacPherson Ave., Toronto	Goderich
<u>Manitoba -</u>		
Canadian Industries Ltd.	Box 10, Montreal, Que.	Neepawa
<u>Alberta -</u>		
Industrial Minerals Ltd.	2240 Sun Life Bldg., Montreal, Que.	Waterways



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