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THE SALT INDUSTRY

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NOTICE

The annual reports prepared by the Industry and Merchandising Division of the Bureau of Statistics are divided into volumes, as follows: **Volume I**—The Primary Industries including mining, forestry and fisheries; **Volume II**—Manufacturing; **Volume III**—Construction; **Volume IV**—Merchandising and Services. The volumes are made up of parts, and the parts in turn are subdivided according to the industries which they comprise.

Volume I consists of the following parts:

- Part I—Mineral Statistics
- Part II—Forestry Statistics—Operations in the Woods
- Part III—Fisheries Statistics

Part I includes the following reports which constitute the complete series on Mineral Statistics of Canada. Individual reports are issued as the information becomes available; they are arranged in a form suitable for binding.

- A—General Review of the Mining Industry, 50¢.
- B—The Gold Mining Industry, 50¢.
- C—The Silver-Lead-Zinc Mining Industry, 25¢.
- D—The Nickel-Copper Mining, Smelting and Refining Industry, 25¢.
- E—The Miscellaneous Metal Mining Industry, 25¢.
- F—The Non-ferrous Smelting and Refining Industry, 25¢.
- G—The Coal Mining Industry, \$1.00.
- H—The Crude Petroleum and Natural Gas Industry, 25¢.
- I—The Asbestos Mining Industry, 25¢.
- J—The Feldspar and Quartz Mining Industry, 25¢.
- K—The Gypsum Industry, 25¢.
- L—The Peat Industry, 25¢.
- M—The Salt Industry, 25¢.
- N—The Talc and Soapstone Industry, 25¢.
- O—The Miscellaneous Non-Metal Mining Industry, 25¢.
- P—The Cement Manufacturing Industry, 25¢.
- Q—The Clay and Clay Products Industry, 25¢.
- R—The Lime Industry, 25¢.
- S—The Sand and Gravel Industry, 25¢.
- T—The Stone Industry, 25¢.
- U—Contract Diamond Drilling in the Mining Industry, 25¢.

THE SALT INDUSTRY

1951

During 1951 the producers of common salt or natural sodium chloride shipped 964,525 tons valued at \$7,905,977, f.o.b. works (excluding cost of containers). In the preceding year the shipments amounted to 858,896 tons valued at \$7,011,306. About 80 per cent of the salt was produced in Ontario, and 13 per cent in Nova Scotia; the remainder originated in Saskatchewan, Alberta and Manitoba.

Approximately 52 per cent of the output, or 452,599 tons of salt in brine and 52,649 tons of dry salt, was used in the producers' own plants for the manufacture of caustic soda, chlorine and other chemicals. The sales included 320,438 tons of fine vacuum grade, 7,784 tons of coarse grainer grade, 74,812 tons of rock salt and 56,236 tons of salt recovered in chemical operations.

There were 12 plants operated by 7 firms in 1951. The employees numbered 689 to whom \$1,633,222 were distributed for salaries and wages. Fuel and purchased electricity cost \$973,257, including 9,008,198 k.w.h. of purchased electricity at a cost of \$66,478. Electricity generated for their own use totalled 11,278,877 k.w.h. Process supplies cost \$300,831 and the value of containers was \$1,295,288.

Exports of salt in 1951 amounted to 4,561 tons valued at \$62,847. Imports totalled 258,822 tons valued at \$1,954,426. The apparent consumption of salt in Canada for all purposes, computed from production plus imports less exports, totalled 1,218,186 tons valued at \$9,797,556.

TABLE 1. Principal Statistics for the Salt Industry, 1942-1951

Year	Establishments	Employees	Salaries and wages	Cost of fuel and electricity at works	Cost of process supplies and containers	Gross value of products shipped ¹ during year, including containers (f.o.b. works)	Net ² value of production
	No.	No.	\$	\$	\$	\$	\$
1942	9	675	1,114,574	536,649	882,599	4,593,003	3,173,755
1943	9	682	1,223,009	596,252	943,522	5,188,628	3,648,854
1944	9	710	1,302,143	652,126	846,298	4,786,084	3,287,660
1945	9	724	1,260,769	670,187	953,054	4,864,697	3,241,456
1946	9	713	918,566	597,112	993,304	4,480,839	2,890,423
1947	10	700	1,399,693	771,916	1,100,923	5,366,032	3,493,193
1948	11	673	1,367,353	822,066	1,240,616	5,828,467	3,765,785
1949	12	698	1,565,210	699,443	1,205,317	6,621,483	4,716,723
1950	13	643	1,521,593	837,453	1,343,157	8,100,113	5,919,503
1951	12	689	1,633,222	973,257	1,596,119	9,201,265	6,631,889

1. Includes brine and dry salt used in producers' own associated plants.

2. Gross value of shipments less cost of fuel, electricity, process supplies and containers.

TABLE 2. Production and Shipments¹ of Salt, 1950 and 1951

	1950			1951		
	Production	Shipments		Production	Shipments	
		Quantity	Value, excluding containers		Quantity	Value, excluding containers
		tons	\$	tons	tons	\$
Fine vacuum salt	291,769	290,538	4,816,077	322,141	320,438	5,718,714
Coarse grainer salt	9,493	9,869	273,919	7,881	7,784	190,400
Mined rock salt	55,169	57,068	438,155	72,795	74,812	410,531
Salt recovered in chemical operations	44,379	43,387	178,441	55,492	56,236	129,141
Salt used or shipped to producers' own chemical works for the manufacture of chemicals (not elsewhere specified)	52,641	52,634	359,607	52,649	52,656	356,154
Total dry salt	453,451	453,496	6,066,199	510,958	511,926	6,804,940
Salt content of brines used and shipped	405,400	405,400	945,107	452,599	452,599	1,101,037
Total salt and salt content of brine	858,851	858,896	7,011,306	963,557	964,525	7,905,977
Value of containers	—	—	1,088,807	—	—	1,295,288
Total value including containers	—	—	8,100,113	—	—	9,201,265

1. Includes brine and dry salt used in producers' own associated plants.

TABLE 3. Shipments of Salt by Producers, 1942-1951

Year	Tons	\$	Year	Tons	\$
1942	653,672	3,844,187	1947	728,545	4,436,930
1943	687,686	4,379,378	1948	741,261	4,836,028
1944	695,217	4,074,021	1949	749,015	5,566,725
1945	673,076	4,054,720	1950	858,896	7,011,306
1946	537,985	3,626,165	1951	964,525	7,905,977

TABLE 4. Producers' Shipments of Salt, by Provinces, 1942-1951

Year	Nova Scotia		Ontario		Manitoba		Saskatchewan		Alberta	
	Tons	\$	Tons	\$	Tons	\$	Tons	\$	Tons	\$
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
1948	61,799	700,164	619,598	3,265,654	25,251	420,430	—	—	34,613	449,780
1949	86,612	1,030,126	607,206	3,477,583	18,734	367,186	8,104	144,526	28,359	547,304
1950	101,930	1,080,154	696,582	4,639,867	16,592	378,297	18,186	373,701	25,606	539,287
1951	127,252	1,631,904	772,585	4,789,990	16,778	358,391	28,192	653,130	19,718	472,562

TABLE 5. Salt used at Producing Plants for Manufacture of Chemicals, 1942-1951

Year	Quantity tons	Per cent of total salt output	Year	Quantity tons	Per cent of total salt output
1942	327,548	50	1947	401,491	55
1943	346,145	50	1948	370,701	50
1944	370,199	53	1949	379,698	51
1945	348,488	52	1950	458,034	53
1946	247,911	46	1951	505,255	52

TABLE 6. Producers' Shipments of Salt, by Months, 1949-1951

Month	1949	1950	1951	Month	1949	1950	1951
	tons	tons	tons		tons	tons	tons
January	61,041	60,405	77,583	July	65,133	66,811	88,683
February	55,640	62,959	74,397	August	64,660	67,516	83,581
March	50,794	66,815	75,140	September	72,171	81,895	80,214
April	53,398	60,488	71,579	October	68,563	82,198	87,196
May	60,430	70,528	80,247	November	70,123	84,657	91,094
June	65,983	77,387	80,693	December	61,079	77,237	74,118
				Total	749,015	858,896	964,525

TABLE 7. Production, Imports, Exports and Consumption of Salt, 1949-1951

	1949		1950		1951	
	tons	\$	tons	\$	tons	\$
Production	749,015	5,566,725	858,896	7,011,306	964,525	7,905,977
Imports:						
Table salt	—	—	—	104	19	1,148
Salt, for the use of fisheries	83,254	548,032	57,580	395,787	59,080	434,381
Salt, in bulk, n.o.p.	137,185	779,034	157,753	961,034	181,067	1,155,964
Salt, n.o.p., in bags, barrels, etc., n.o.p.	16,244	240,806	22,906	377,438	18,656	362,933
Total imports	236,683	1,567,872	238,239	1,734,363	258,822	1,954,426
Exports	3,472	63,015	4,100	52,974	4,561	62,847
Apparent consumption	982,226	7,197,612	1,093,035	8,692,695	1,218,186	9,797,556

TABLE 8. Consumption of Salt in Specified Canadian Industries, 1949 and 1950

Industry	1949		1950	
	Quantity used	Cost at works	Quantity used	Cost at works
	lb.	\$	lb.	\$
Acids, alkalies and salts:				
Brine (salt content)	615,726,000	307,863	807,798,000	944,607
Dry salt	246,535,251	1,154,085	354,248,019	1,779,633
Artificial abrasives	836,640	5,849	418,000	3,467
Slaughtering and meat packing	95,451,519	728,349	87,867,908	719,524
Sausage and sausage casings	1,073,419	14,225	999,693	10,849
Animal oils and fats	210,000	1,897	145,000	1,442
Fish canning and curing (factories only)	60,231,800	632,488	47,439,600	533,097
Foods, breakfast	1,559,967	15,351	1,647,736	16,871
Biscuits	2,229,457	31,260	2,188,467	33,905
Bread and bakery products	20,449,963	263,292	(Not yet available)	
Macaroni, vermicelli, etc.	57,966	697	68,787	831
Ice cream cones				
Foods, miscellaneous, including coffee, tea, etc.	6,501,409	83,618	7,527,049	109,050
Butter and cheese	—	224,077	—	228,007
Cheese, processed	32,957	556	533,908	6,523
Condensed milk	—	2,883	—	1,194
Starch and glucose	748,361	4,217	951,651	6,348
Fruit and vegetable products	18,342,628	179,093	16,220,658	183,460
Breweries	1,925,418	29,080	1,639,091	23,901
Malt and malt products	305,100	3,059	341,900	3,379
Stock and poultry foods	30,798,000	303,186	32,694,000	342,075
Leather tanneries	15,739,638	114,782	15,319,326	114,643
Soaps and cleaning preparations	6,241,248	42,549	6,494,078	42,008
Dyeing, cleaning and laundry work	4,719,267	44,497	4,913,405	42,585
Dyeing and finishing of textiles	995,187	8,544	810,159	8,461
Artificial ice	48,728,000	258,915	53,320,000	310,972
Pulp and paper mills	10,370	170	72,250	1,586
Vegetable oil mills	468,752	6,338	506,898	7,139
Confectionery, cocoa, etc.	9,819,467	14,779	12,382,323	29,175

TABLE 9. World Production of Salt, by Countries, 1947-1950

(Taken from the Yearbook, United States Bureau of Mines)

Country ¹	1947	1948	1949	1950
	(Metric tons)			
North America:				
Canada.....	672,697	672,457	680,137	725,655
Costa Rica.....	6,252	6,500	8,200	8,400
Guatemala.....	2	11,474	11,962	11,340
Honduras.....	726	1,089	2	2
Mexico.....	122,235	156,685 ³	2	2
Nicaragua.....	7,503	9,475	10,230 ³	11,172
Panama.....	4,412	3,374	3,408	5,650 ³
Salvador.....	16,483	21,213	25,000 ³	2
United States:				
Rock salt.....	3,405,874	3,489,782	3,124,637	3,562,738
Other salt.....	11,157,887	11,390,967	11,002,165	11,523,492
West Indies:				
Bahamas.....	60,960	63,000	60,960	60,960
Turks and Caicos Islands.....	—	38,610	61,765	2
Cuba.....	51,225	55,339	59,874	59,266
Dominican Republic:				
Rock salt.....	2,084	2,365	2,412	2,304
Other salt.....	14,918	15,079	8,140	13,740
Haiti ³	8,000	8,000	8,000	2
Netherlands Antilles.....	237	482	370	3,000
South America:				
Argentina:				
Rock salt.....	2	2	2	2
Other salt.....	384,000	2	2	2
Brazil.....	562,570	781,378	800,872	2
Chile:				
Rock salt.....	54,289	47,164	35,079	46,709
Other salt.....	28,001	30,804	4,450	942
Colombia.....	121,247	124,081	125,920	141,019
Ecuador.....	29,400	25,110	16,833	34,902
Peru.....	60,108	63,049	55,980	2
Venezuela.....	35,794	35,533	71,926	2
Europe:				
Austria:				
Rock salt.....	4,348	1,752	719	1,085
Other salt.....	183,764	197,615	229,423	236,532
Bulgaria:				
Rock salt.....	2	} 120,000	2	2
Other salt.....	2		—	—
Czechoslovakia ⁴	2	—	—	—
France:				
Rock and salt springs.....	2,148,140	2,489,036	2	2
Other salt.....	467,410	446,539	676,000 ³	2
Germany - Federal Republic.....	1,825,062	2,035,694	1,800,000	2,470,000
Greece.....	51,000	52,208	2	2
Italy:				
Rock salt.....	720,790	712,000	814,420	2
Other salt.....	668,900	2	2	2
Malta.....	1,631	1,869	1,807	1,827
Netherlands.....	240,579	250,417	331,000	412,570
Poland.....	619,770	725,774	800,000	2
Portugal:				
Rock salt.....	69	49	2	2
Other salt ⁵	25,071	10,660	2	30,765
Romania:				
Rock salt.....	314,485	2	2	2
Spain:				
Rock salt.....	265,248	292,881	288,896	313,676
Other salt.....	569,343	696,000	546,886	2
Switzerland.....	107,757	112,218	100,000 ³	94,000
United Kingdom:				
Great Britain:				
Rock salt.....	40,639	41,000	41,400 ³	2
Other salt.....	3,148,639	3,794,000	3,740,000 ³	2
Northern Ireland.....	12,603	13,245	12,973	2
Yugoslavia.....	111,200	102,300	108,900 ³	2

See footnotes at end of table.

TABLE 9. World Production of Salt by Countries, 1947-1950 — Concluded

Country ¹	1947	1948	1949	1950
(Metric tons)				
Asia —Concluded.				
China ³	2,007,000	2,480,000	2,000,000	2,500,000
Formosa	250,000	360,000 ³	250,000	160,000 ³
Cyprus	15,622	—	—	2
India:				
Rock salt	4,605	4,123	4,229	2
Other salt	1,560,471	2,300,882	2,022,000	2,657,929
Indochina	41,556	64,000	112,000	89,600 ³
Indonesia	12,000	360,000	320,000	2
Iran	6,000 ⁶	2	2	2
Iraq	12,365	14,000	8,989	12,000
Israel-Jordan	15,021	8,302 ³	6,500 ³	2
Japan	247,466	339,668	395,676	418,144
Korea	131,000 ³	89,979 ⁷	188,812 ⁷	2
Lebanon	2	5,080 ³	2	2
Pakistan:				
Rock salt	201,290	154,060	175,162	2
Other salt	217,755	184,625	205,318	2
Philippine Islands	2	2	20,000	56,283
Portuguese India	20,321	10,719 ⁵	18,132	17,608
Syria	20,728	30,000 ³	26,000 ³	20,240 ³
Thailand	2	2	2	2
Turkey:				
Rock salt	26,978	28,187	}	316,344
Other salt	249,865	238,755		
Africa:				
Algeria	75,680	73,038	101,676	2
Anglo-Egyptian Sudan	36,992	36,238	43,700 ³	2
Angola	38,783	53,423	41,286	40,473
Belgian Congo	900 ³	1,000 ³	1,000	2
Canary Islands	6,956	13,209	2	2
Cape Verde Islands	6,246	13,632	2	2
Egypt	622,629 ⁵	359,823 ⁵	349,878	567,448
Eritrea	45,722	60,963	85,760	2
Ethiopia:				
Rock Salt	10,000 ³	10,000	2	2
French Morocco:				
Rock salt	10,480	15,566	34,100	60,000
Other salt	34,095	2	2	2
French Somaliland	48,000	60,000	60,000	55,000
French West Africa	50,000	50,000	50,000	66,000
Italian Somaliland	715	2	3,000	1,500
Kenya	14,058	16,813	18,820	18,722
Lybia:				
Cyrenaica	200	140	500 ³	2
Tripolitania	3,000	6,000	6,000 ³	9,000 ³
Mauritius	3,991	3,404	2	2
Mozambique	8,663	10,100	11,004	2
South West Africa:				
Rock salt	2,788	4,436	2,408	3,471
Other salt	9,861	10,414	13,730	14,303
Spanish Morocco ³	254	254	10	2
Tanganyika	10,837	12,073	15,200 ³	14,152
Tunisia	114,790	98,029	98,085	2
Uganda	7,003	7,011	2	7,413
Union of South Africa	2	172,000	2	116,236
Australia:				
South Australia	157,563	175,865	171,154	2
Australia, other	2	88,308	77,778	2
Total (estimated)	40,500,000	44,400,000	43,600,000	48,000,000

1. In addition to the countries listed, salt is produced in Afghanistan, Albania, Bolivia, British Somaliland, French Equatorial Africa, Gold Coast, Hungary, Leeward Islands, Madagascar, Nigeria, Southern Rhodesia, Sweden and U.S.S.R., but figures are not available. Russian production is known to exceed 4,000,000 metric tons annually. Estimates included in the total.

2. Data not available; estimates included in total.

3. Estimate.

4. Excludes Sub-Carpathia, ceded to Hungary and U.S.S.R.

5. Exports.

6. Fiscal year ended Mar 20 of year following that stated.

7. South Korea only.

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TABLE 10. Employees and Their Earnings in the Salt Industry, 1947-1951

Year	Number of employees						Earnings		
	Administration		Workmen		Total employees	Administration	Workmen	Total	
	Male	Female	Male	Female					
1947	44	18	582	56	700	239,576	1,160,117	1,399,693	
1948	63	19	546	45	673	198,349	1,169,004	1,367,353	
1949	101	29	522	46	698	373,376	1,191,834	1,565,210	
1950	89	24	487	43	643	328,189	1,193,404	1,521,593	
1951	134	36	470	49	689	367,019	1,266,203	1,633,222	

Note. Administration employees include executives, superintendents, other working officials, and professional and clerical employees.

TABLE 11. Number of Workmen in the Salt Industry, by Months, 1950 and 1951

Month	1950			1951		
	Male	Female	Total	Male	Female	Total
January	468	42	510	464	42	506
February	478	42	520	508	45	553
March	487	44	531	464	48	512
April	481	39	520	455	49	504
May	489	43	532	428	48	476
June	483	43	526	443	52	495
July	511	44	555	477	56	533
August	494	42	536	491	59	550
September	507	47	554	480	54	534
October	493	47	540	484	50	534
November	507	46	553	488	52	540
December	470	39	509	471	50	521
Average	487	43	530	470	49	519
Total man-hours worked, 1951:						
Administrative and office						236,943
Workmen						1,155,491

Directory of Firms in the Salt Industry, 1951

Name of firm	Head or executive office	Location of plant
Nova Scotia:		
Malagash Salt Co. Limited	196 Provost St., New Glasgow P.O. Box 250, Amherst, N.S.	Cumberland Co. Nappan
Ontario:		
Brunner, Mond Canada, Ltd.	Amherstburg, Ontario	Amherstburg
Canadian Salt Co. Ltd.	625 Dorchester St. W., Montreal, Quebec	Windsor
Dominion Salt Co. Ltd.	2240 Sun Life Bldg., Montreal, Quebec	Sarnia and Goderich
Dow Chemical of Canada Ltd.	204 Richmond St. W., Toronto	Sarnia
Purity Flour Mills Ltd.	287 MacPherson Ave., Toronto	Goderich
Warwick Pure Salt Co. Ltd.	R.R. No. 5, Watford	Lambton Co.
Manitoba:		
Canadian Salt Co. Ltd.	625 Dorchester St. W., Montreal, Quebec	Neepawa
Saskatchewan:		
Dominion Salt Co. Ltd.	2240 Sun Life Bldg., Montreal, Quebec	Unity
Alberta:		
Canadian Salt Co. Ltd.	625 Dorchester St. W., Montreal, Quebec	Lindbergh