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

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PRELIMINARY REPORT  
ON THE  
MINERAL PRODUCTION OF  
CANADA  
DURING THE CALENDAR YEAR  
1939

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Published by Authority of the Hon. W. D. Euler,  
Minister of Trade and Commerce



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*Non-Metals*—Asbestos—Coal—Feldspar—Gypsum—Iron Oxides—Mica—Natural Gas—Petroleum—Quartz—Salt—Talc and Soapstone—Miscellaneous Non-Metallic Minerals, including Natural Abrasives, Barytes, Bituminous Sands, Fluorspar, Graphite, Magnesite, Dolomite, Bog Manganese, Natural Mineral Waters, Phosphate, Silica Brick, Sodium Carbonate, Sodium Sulphate, Sulphur (Pyrites).

*Structural Materials*—Cement—Clay and Clay Products—Lime—Sand and Gravel—Stone.

SEE INSIDE BACK COVER FOR PUBLICATIONS ON MATERIALS BASED CHIEFLY ON MINERALS.

## PREFACE

The present report is issued in continuance of a series of preliminary reports of Canada's mineral production which has been presented at the Annual Meeting of the Canadian Institute of Mining and Metallurgy for many years. It serves to fill the gap between the time when early figures may be published and when final data for each mineral and industry are presented, firstly, in bulletin form and later in the Annual Report of the Mineral Production of Canada.

Production figures are shown by provinces and in as much detail as time of preparation will permit. The ledgers are kept open until the last minute and any discrepancies which may appear are due to haste in completion of the totals and to the necessity for estimating data which have not been received at the time of going to press.

The Mining, Metallurgical and Chemical Branch of the Bureau co-operates with the Mines Departments of Nova Scotia, Quebec, Ontario, Manitoba, Saskatchewan and British Columbia in the collection of annual mineral statistics; with all coal producing provinces in the collection of monthly coal statistics, and with Quebec, Ontario and Manitoba in the collection of monthly mineral statistics. This system of co-operation relieves the companies of the necessity of making two separate returns on mineral statistics.

The thanks of the Bureau are tendered to the officers of the Mines Departments of the various provinces, the Federal Department of Mines and Resources, the Dominion Fuel Board, the Royal Canadian Mint, the railways and other transportation companies, the Canadian mining and smelting companies and smelting companies outside of Canada who have furnished data.

This report has been prepared under the direction of Mr. W. H. Losee, B.Sc., Chief of the Mining, Metallurgical and Chemical Branch, by Mr. R. J. McDowall, B.Sc., and Mr. B. R. Hayden of the mineral division staff.

R. H. COATS,  
Dominion Statistician.

DOMINION BUREAU OF STATISTICS,  
March 4, 1940.

**Quantities and Values of Mineral Products from Canadian Sources, 1938 and 1939**

	1938		1939*		Per cent Increase (+) or Decrease (-)	
	Quantity	Value	Quantity	Value	Quantity	Value
		\$		\$		\$
<b>METALLICS</b>						
Antimony..... lb.	24,560	2,200	1,234,385	151,359	-	-
Arsenic (As <sub>2</sub> O <sub>3</sub> )..... lb.	2,175,646	55,538	1,741,917	52,257	-19.9	-7.6
Bismuth..... lb.	9,516	9,754	409,449	466,362	-	-
Cadmium..... lb.	699,138	561,799	939,691	662,209	+34.4	+17.9
Chromite..... lb.	-	-	-	-	-	-
Cobalt..... lb.	459,220	790,913	732,561	1,137,599	+59.5	+43.8
Copper..... lb.	571,249,664	56,554,034	608,101,714	60,860,234	+6.5	+7.6
Copper..... lb.	4,725,117	67,676,834	5,095,176	105,326,032	+7.8	+7.8
Gold valued at standard rate..... fine oz.	-	-	-	-	-	-
Estimated exchange equalization on gold produced.....	-	68,529,156	-	78,818,124	-	+15.0
Iron ore..... tons	-	-	123,598	341,594	-	-
Lead..... lb.	418,927,660	14,008,941	388,378,914	12,307,727	-7.3	-12.1
Manganese ore..... tons	-	-	396	3,688	-	-
Mercury..... lb.	760	760	436	1,226	-42.6	+61.3
Molybdenite concentrates..... lb.	14,000	4,500	2,240	600	-84.0	-86.7
Nickel..... lb.	210,572,738	53,914,494	226,105,865	50,920,305	+7.4	-5.6
Palladium, rhodium, iridium, etc..... fine oz.	130,813	3,677,342	135,402	4,199,622	+3.4	+14.2
Platinum..... fine oz.	161,326	5,196,794	148,902	5,222,589	-7.7	+0.6
Radium and uranium products..... (a)	-	-	-	-	-	-
Selenium..... lb.	358,929	622,742	367,884	650,786	+2.5	+4.5
Silver..... fine oz.	22,219,195	9,660,239	23,116,861	9,359,553	+4.0	-3.1
Tellurium..... lb.	48,237	82,967	22,985	37,281	-52.3	-55.1
Titanium ore..... tons	207	1,449	3,694	21,207	-	-
Tungsten..... lb.	-	-	8,825	4,917	-	-
Zinc..... lb.	381,806,588	11,723,698	394,533,860	12,108,244	+3.4	+3.3
<b>Total.....</b>	<b>-</b>	<b>323,075,154</b>	<b>-</b>	<b>342,654,175</b>	<b>-</b>	<b>+6.1</b>
<b>NON-METALLICS</b>						
<b>Fuels</b>						
Coal..... tons	14,294,718	43,982,171	15,519,464	48,258,190	+8.6	+9.7
Natural gas..... M cu. ft.	33,444,701	11,587,450	35,394,087	12,538,954	+5.8	+8.2
Peat..... tons	620	3,500	520	3,095	-16.1	-11.6
Petroleum, crude..... brls.	6,966,054	9,230,173	7,838,310	10,353,351	+12.5	+12.2
<b>Total.....</b>	<b>-</b>	<b>64,803,234</b>	<b>-</b>	<b>71,153,599</b>	<b>-</b>	<b>+9.8</b>
<b>OTHER NON-METALLICS</b>						
Asbestos..... tons	269,793	12,890,105	364,472	15,850,212	+25.8	+23.0
Barytes..... tons	-	-	(a)	-	-	-
Diatomite..... tons	398	13,842	301	10,397	-24.4	-24.9
Feldspar..... tons	14,058	129,293	12,403	112,084	-11.3	-11.4
Fluorspar..... tons	217	3,906	240	4,995	+10.6	+27.9
Grapulite..... tons	-	41,590	-	61,684	-	+48.3
Grindstones..... tons	306	16,198	152	5,618	-50.5	-65.3
Gypsum..... tons	1,008,799	1,502,285	1,408,188	1,922,957	+39.6	+28.0
Iron oxides (ochre)..... tons	5,821	71,769	5,822	87,463	-	+21.0
Lithium minerals..... \$	-	-	-	-	-	-
Magnesitic dolomite..... \$	-	420,261	-	474,418	-	+12.9
Magnesium sulphate..... tons	470	9,400	550	9,900	+17.0	+5.3
Mica..... lb.	1,037,026	80,089	1,601,085	144,514	+54.5	+78.4
Mineral waters..... Imp. gals.	188,309	21,619	122,909	19,062	-34.7	-11.8
Napheline syenite..... \$	-	142,737	-	140,148	-	-1.8
Phosphate..... tons	208	1,886	157	1,712	-24.5	-9.2
Quartz..... tons	1,380,011	961,617	1,555,589	1,090,671	+12.7	+13.4
Salt..... tons	440,045	1,042,913	424,500	2,486,632	-3.5	+30.0
Silica brick..... M	1,788	100,403	2,493	124,807	+39.4	+24.3
Soapstone (c)..... \$	-	35,038	-	41,471	-	+18.4
Sodium carbonate..... tons	252	2,268	300	2,400	+19.0	+5.8
Sodium sulphate..... tons	63,009	553,307	71,453	627,941	+13.4	+13.5
Sulphur**..... tons	112,395	1,044,817	210,704	1,668,025	+87.5	+59.6
Talc..... tons	10,853	109,810	13,144	128,595	+21.2	+17.1
<b>Total.....</b>	<b>-</b>	<b>29,066,123</b>	<b>-</b>	<b>25,624,764</b>	<b>-</b>	<b>+24.7</b>
<b>CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS</b>						
Clay Products.....	-	4,536,084	-	4,984,491	-	+9.9
<b>Total.....</b>	<b>-</b>	<b>4,536,084</b>	<b>-</b>	<b>4,984,491</b>	<b>-</b>	<b>+9.9</b>
<b>Other Structural Materials</b>						
Cement..... brls.	5,519,102	8,241,350	5,731,264	8,511,211	+3.8	+3.3
Line (d)..... tons	486,922	3,542,652	550,342	4,005,968	+13.0	+13.1
Sand and gravel..... tons	32,223,882	12,002,554	28,172,384	10,820,631	-12.6	-9.8
Stone (d)..... tons	5,116,022	5,556,026	5,468,174	5,952,242	+6.9	+7.1
<b>Total.....</b>	<b>-</b>	<b>29,342,582</b>	<b>-</b>	<b>28,290,652</b>	<b>-</b>	<b>-0.2</b>
<b>Grand Total in Canadian Funds.....</b>	<b>-</b>	<b>441,923,237</b>	<b>-</b>	<b>473,167,021</b>	<b>-</b>	<b>+7.1</b>

\* Subject to revision.

(a) Data not available for publication.

\*\* Sulphur content of pyrites shipped and estimated sulphur contained in sulphuric acid and other products made from waste smelter gases.

(c) Includes some talc.

(d) Includes relatively large quantities used as a chemical.

# DOMINION BUREAU OF STATISTICS

R. H. COATS, LL.D., F.R.S.C., F.S.S., (Hon.), Dominion Statistician  
 W. H. LOSEE, B.Sc., Chief of the Mining, Metallurgical and Chemical Branch

## PRELIMINARY REPORT ON THE MINERAL PRODUCTION OF CANADA DURING THE CALENDAR YEAR 1939

Canada's Mineral Production at \$473,107,021 reached a new high point in 1939. This is an increase of 7.1 per cent over 1938 and 3.5 per cent greater than in 1937, the previous record year. New output records were established for gold, copper, nickel, zinc, antimony, bismuth, cadmium, crude petroleum, natural gas, gypsum, sulphur and quartz.

Gains were general to all groups. Metal production aggregated \$342,654,175, an increase of 6.1 per cent over 1938; fuels, including coal, natural gas, crude petroleum and peat totalled \$71,153,599, 9.8 per cent higher than last year; non-metallic minerals other than fuels reached \$25,024,704 against \$20,066,123; and the products included in the structural materials group totalled \$34,274,543, an increase of 1 per cent.

Among the outstanding features in Canada's Mining Industry was an agreement made by the large base metal producers and the Imperial Government by which the producers were to supply the Imperial Government with copper, lead and zinc at prices which prevailed shortly before the outbreak of the war. Canada can now furnish large quantities of these metals in the refined form, whereas in 1914 no refined copper, nickel or zinc and only a comparatively small amount of refined lead were produced in this country. Another important highlight is the fact that this country is again shipping iron ore, the first since 1924, and operations were rapidly under way to bring to production the high grade iron ore deposit at Steep Rock Lake, Ontario.

**Values of Mineral Production of Canada by Classes, 1929-1939**

Year	Metallics*	Coal, natural gas, peat and crude petroleum	Other non- metallics	Clay products and other structural materials	Total
	\$	\$	\$	\$	\$
1929.....	154,454,056	76,787,397	21,073,959	58,534,834	310,850,246
1930.....	142,743,764	68,184,485	15,217,864	53,727,465	279,873,578
1931.....	120,930,147	54,453,143	10,893,141	44,158,295	230,434,726
1932.....	112,041,763	49,047,342	7,740,837	22,398,283	191,228,225
1933.....	147,015,593	47,778,436	10,004,537	16,696,687	221,495,253
1934.....	194,110,968	54,262,099	18,501,792	19,286,761	276,161,590
1935.....	221,800,849	54,824,200	12,504,008	23,215,400	312,344,457
1936.....	250,425,194	59,983,320	16,740,117	25,770,741	361,919,372
1937.....	334,165,243	65,828,879	22,405,271	34,869,000	457,268,392
1938.....	323,075,154	64,803,294	20,066,123	33,878,666	441,823,237
1939.....	342,654,175	71,153,599	25,024,704	34,274,543	473,107,021

\* Beginning with 1931 the estimated exchange equalisation on gold produced is included.  
 Note: Data for 1939 subject to revision.

Gold Mining continued to be the most important branch of the industry, when considered from the point of view of value of production and number of men employed. Output totalled 5,095,176 fine ounces, which, when valued at the average price of \$36.141 per fine ounce for the year, was worth \$184,144,756. The value of gold production represents 53.7 per cent of the total value of all metal production and 38.9 per cent of the aggregate value of the whole mineral output of the country. Gold is produced in every province of the Dominion with the exception of Prince Edward Island and New Brunswick; production of the metal even extends to the Northwest Territories. In addition to the output from the so-called gold mines and placer operations, substantial quantities are recovered in the treatment of base metal ores; in fact, the Noranda Mine is Canada's third largest producer of gold. Production by provinces in fine

ounces was as follows: Nova Scotia, 29,943; Quebec, 953,478; Ontario, 3,086,224; Manitoba, 180,867; Saskatchewan, 77,120; Alberta, 359; British Columbia, 629,037; Yukon, 87,745; Northwest Territories, 50,403.

The average price of gold during the first eight months of the year was slightly more than \$35.00 per fine ounce. After war was declared, and as a result of the adverse exchange, the price rose to \$38.50.

Copper production at 608,101,714 pounds, the greatest ever recorded, marked an increase of 6.5 per cent over 1938. Two nickel-copper mining companies in Ontario contributed 54 per cent of the total for Canada. The major part of the copper produced by the International Nickel Company is refined in the company's refinery at Copper Cliff, the remainder being exported in the form of matte. Copper in matte exported by the Falconbridge Nickel Mines Limited is refined in Norway. The Noranda Mines Limited, with a smelter at Noranda, Quebec, and with a large interest in a copper refinery at Montreal East, is the largest producer in Quebec. All copper ores produced by the Waite-Amulet Mines Limited, in which company Noranda has a controlling interest, are also treated by the Noranda smelter. Concentrates produced by the Aldermac Mines Limited were shipped to the United States. The Normetal Mining Corporation Limited operated continuously throughout the year and sent their concentrates to Noranda. The Flin Flon and Sherritt-Gordon Mines were responsible for the output in Manitoba and Saskatchewan. All Sherritt-Gordon ores are smelted by the Hudson Bay Mining and Smelting Company Limited, at Flin Flon, Manitoba. Production from British Columbia is principally from the Britannia Mine on Howe Sound and from the Copper Mountain Mine of the Granby Consolidated Mining Smelting and Power Company. Concentrates from these two properties are exported, as is also a copper matte made by the Consolidated Mining and Smelting Company Limited at Trail. Copper was also contained in concentrates shipped from the radium property of the Eldorado Gold Mines Limited at Great Bear Lake and from the Stirling Mine, Nova Scotia. The average price of copper during the year was 10.092 cents per pound. (London market prices converted to Canadian funds.)

Nickel output, consisting of nickel in matte exported, nickel in nickel oxide sold, and refined nickel made, totalled 226,105,865 pounds valued at \$50,920,305 as compared with 210,572,738 pounds worth \$53,914,494 in 1938. The International Nickel Company of Canada Limited operates a nickel refinery at Port Colborne, Ontario, to which the greater part of the matte made at Copper Cliff is shipped; the remainder is sent to England and to the United States. Matte made at the smelter of Falconbridge Mines Limited is shipped to the Company's refinery at Kristiansand, Norway.

Silver production totalled 23,116,861 fine ounces valued at \$9,359,553 compared with 22,219,195 worth \$9,660,239 in 1938. British Columbia mines produced 10,622,867 fine ounces; Ontario, 4,668,099; Quebec, 1,167,522; Yukon, 3,830,864, Northwest Territories, 483,515; Manitoba, 1,028,485; Saskatchewan, 1,141,600 fine ounces; and the remainder came from Nova Scotia and Alberta.

The mines of British Columbia, principally the Sullivan Mine at Kimberley, owned and operated by the Consolidated Mining and Smelting Co. Limited accounted for 98 per cent of the total Canadian output of lead. Concentrates from the Sullivan Mine are shipped to the company's smelter at Trail. The Mayo Camp in the Yukon Territory is the next largest producer. Concentrates from this camp are shipped to United States smelters. The Canadian production of lead was valued at 3.169 cents per pound, London prices converted to Canadian funds, as compared with 3.344 cents per pound in 1938. Production totalled 388,378,914 pounds valued at \$12,307,727 as compared with 418,927,660 pounds worth \$14,008,941 in the preceding year.

Zinc production consists of the refined zinc made by the Consolidated Mining and Smelting Company Limited, Trail, B.C., and the Hudson Bay Mining and Smelting Company, Flin Flon, Manitoba, along with the zinc in concentrates exported during the year. In addition to shipments from British Columbia mines, exports of concentrates were also made by Waite Amulet Mines Limited and the Normetal Mining Corporation Limited, Quebec, and from the Stirling Mine in Nova Scotia. Production in 1939 totalled 394,533,860 pounds valued at \$12,108,244, an increase of 3.4 per cent over 1938.

A small amount of platinum is taken annually from the streams of British Columbia, but the principal Canadian source is the nickel-copper ores of Sudbury district with which the platinum group metals are associated. Residues recovered at the nickel and copper refineries of

the International Nickel Company are shipped to Acton, near London, England, for treatment. Platinum metals associated with the Falconbridge ores are recovered in the Company's refinery at Kristiansand, Norway. Production of platinum, palladium and other metals of this group was valued at \$9,422,211 as against \$8,874,136 in 1938.

Cobalt production totalled 732,561 pounds compared with 459,226 pounds in 1938, and consisted of the cobalt in ores exported plus the cobalt in oxide and cobalt metal made at Deloro, Ontario, by the Deloro Smelting and Refining Company Limited.

Selenium was produced at the Copper Cliff and Montreal East refineries and tellurium at the Montreal East refinery. Cadmium, which occurs generally with zinc ores, was recovered at the Trail and Flin Flon smelters. Metallic antimony and metallic bismuth were made at Trail. Tungsten concentrates were shipped by the Columbia Tungsten Company Limited from a property at Hardscrabble Creek, British Columbia. Operations by the Eldorado Gold Mines Limited at its radium property in Great Bear Lake were carried on without interruption, pitch-blende shipments being made to the company's refinery at Port Hope, Ontario. Activity was accelerated in the search for molybdenum and several properties were investigated. Mercury was produced in British Columbia by the Empire Mercury Company Ltd. Relatively small quantities of crude manganese ore were shipped from properties in Nova Scotia and New Brunswick.

Coal production totalled 15,519,464 tons, an increase of 8.6 per cent from the 1938 output. During the year under review, 3,364,882 net tons of Canadian coal were moved under Dominion Government assistance, compared with 2,030,536 tons in 1938. Imports of coal into Canada totalled 13,884,816 tons, of which 3,977,805 tons were anthracite, 9,903,613 tons bituminous, and 3,398 tons lignite coal. Of the total anthracite imports, the United States supplied 2,605,765 tons compared with 1,973,610 tons in 1938, and Great Britain 1,034,901 tons as compared with 1,199,131 tons in the preceding year. Anthracite was also imported from Germany and French Indo-China. Of the total bituminous coal brought into Canada in 1939, the United States supplied 9,836,110 tons, Great Britain 67,483 tons and Norway 20 tons.

Natural gas production at 35,394,087 thousand cubic feet was 5.8 per cent above the 1938 total. Alberta wells supplied 22,703,964 thousand cubic feet, Ontario 11,985,851 thousand cubic feet, and the remainder was produced in New Brunswick, Saskatchewan, Manitoba and the Northwest Territories.

Crude petroleum reached a new high with 7,838,310 barrels valued at \$10,353,351, as compared with 6,966,084 barrels worth \$9,230,173 in 1938. The Turner Valley in Alberta is now Canada's chief source of crude oil, and a system of pro-rating keeps production in line with current demand. During 1939, thirty-four new producing wells were drilled.

The production of industrial minerals in Canada, though not as important as the metals from point of view of value, hold an important place in the total. Their aggregate value amounted to \$25,024,704 compared with \$20,066,123 in the preceding year. The outstanding item in this group is asbestos, which has been mined in the Eastern Townships of Quebec for many years. Canada is the world's largest producer of asbestos and exports of this valuable mineral are made to many parts of the world. Salt is the second most important mineral in this group and in addition to its common or ordinary use it is the basis for the production of many heavy chemicals. Salt output, including common salt and salt in brine used for the manufacture of chemicals, totalled 424,500 tons as compared with 440,045 tons in 1938. Gypsum production, of which a large quantity is exported in the raw state, totalled 1,408,188 tons, an increase of 39.6 per cent over 1938. Sulphur production of Canada is growing annually; the total Canadian production is computed by adding together the elemental sulphur made at Trail, B.C., the estimated sulphur contained in sulphuric acid and other products made from waste smelter gases, and the sulphur in pyrites shipped from Canadian mines. Thus computed, the 1939 output was recorded at 210,704 tons as against 112,395 tons in 1938. Other important minerals include barytes, feldspar, quartz, nepheline-syenite, mica, sodium sulphate, graphite, iron oxide, diatomite, silica brick, fluorspar, magnesitic-dolomite, sodium carbonate, talc and soapstone.

Structural materials, including clay products, lime, stone and sand and gravel were valued at \$34,274,543 as against \$33,878,666 in 1938. According to McLean's Building Reports, contracts awarded in Canada in 1939 amounted to \$183,235,600 compared with \$187,277,900 in 1938.

## Mineral Production in Canada, by Provinces, 1938-1939

Province	1938		1939*	
	Value of production	Per cent of total	Value of production	Per cent of total
	\$	%	\$	%
Nova Scotia.....	26,253,645	5.94	30,712,802	6.49
New Brunswick.....	3,802,565	0.88	3,680,947	0.78
Quebec.....	68,965,594	15.61	77,112,479	16.30
Ontario.....	219,801,894	49.75	231,696,959	48.97
Manitoba.....	17,173,002	3.89	17,430,083	3.68
Saskatchewan.....	7,782,847	1.76	9,106,826	1.93
Alberta.....	28,966,272	6.56	31,275,947	6.61
British Columbia.....	64,549,130	14.61	65,056,737	13.75
Northwest Territories†.....	568,618	0.12	2,072,920	0.44
Yukon.....	3,959,570	0.90	4,961,321	1.05
<b>Total.....</b>	<b>441,823,237</b>	<b>100.00</b>	<b>473,107,021</b>	<b>100.00</b>

\* Subject to revision.

† Does not include value of radium and uranium.

## Mineral Production in Canada, by Provinces, 1939†

	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Northwest Territories	Yukon
<b>METALLICS</b>										
Antimony.....lb.	(a)	-	-	-	-	-	-	1,224,385	-	-
\$	-	-	-	-	-	-	-	151,359	-	-
Arsenic (As <sub>2</sub> O <sub>3</sub> ).....lb.	-	-	-	1,741,917	-	-	-	-	-	-
\$	-	-	-	52,257	-	-	-	-	-	-
Bismuth.....lb.	-	-	-	-	-	-	-	409,449	-	-
\$	-	-	-	-	-	-	-	466,362	-	-
Cadmium.....lb.	-	-	-	-	73,830	66,608	-	799,253	-	-
\$	-	-	-	-	52,029	46,939	-	563,241	-	-
Cobalt.....lb.	-	-	-	732,561	-	-	-	-	-	-
\$	-	-	-	1,137,599	-	-	-	-	-	-
Copper.....lb.	1,269,179	-	117,238,897	328,428,665	70,458,890	18,133,149	-	72,530,552	42,382	-
\$	128,086	-	11,831,749	32,635,631	7,110,711	1,829,997	-	7,319,783	4,277	-
Gold.....fine oz.	29,943	-	953,478	3,086,224	180,867	77,120	359	629,037	50,403	87,745
\$	618,977	-	19,710,139	63,797,910	3,738,853	1,594,212	7,421	13,003,348	1,041,922	1,813,850
Estimated exchange equalization on gold produced.....\$	463,193	-	14,749,509	47,741,312	2,797,861	1,192,982	5,554	9,730,078	779,693	1,357,342
Iron ore.....tons	-	-	-	123,598	-	-	-	-	-	-
\$	-	-	-	341,594	-	-	-	-	-	-
Lead.....lb.	2,545,122	-	-	39,130	-	-	-	378,250,030	-	7,544,632
\$	80,655	-	-	1,240	-	-	-	11,986,743	-	239,089
Manganese Ore tons	4	392	-	-	-	-	-	-	-	-
\$	88	3,600	-	-	-	-	-	-	-	-
Mercury.....lb.	-	-	-	-	-	-	-	436	-	-
\$	-	-	-	-	-	-	-	1,226	-	-
Molybdenite concentrates.....lb.	-	-	2,240	(a)	-	-	-	-	-	-
\$	-	-	600	-	-	-	-	-	-	-
Nickel.....lb.	-	-	-	226,105,865	-	-	-	-	-	-
\$	-	-	-	50,920,305	-	-	-	-	-	-
Palladium, Rhodium, Iridium, etc.....fine oz.	-	-	-	135,402	-	-	-	-	-	-
\$	-	-	-	4,109,622	-	-	-	-	-	-
Platinum.....fine oz.	-	-	-	148,877	-	-	-	26	-	-
\$	-	-	-	5,221,712	-	-	-	877	-	-
Radium uranium (products).....\$	-	-	-	-	-	-	-	-	†	-
Selenium.....lb.	-	-	127,125	126,930	77,666	36,163	-	-	-	-
\$	-	-	224,884	224,539	137,391	63,972	-	-	-	-
Silver.....fine oz.	173,877	-	1,167,522	4,668,099	1,028,485	1,141,600	32	10,622,897	483,515	3,830,864
\$	70,399	-	472,706	1,890,020	416,413	462,211	13	4,300,996	195,765	1,551,040
Tellurium.....lb.	-	-	5,906	-	11,653	5,426	-	-	-	-
\$	-	-	9,579	-	18,901	8,801	-	-	-	-
Titanium ore.....tons	-	-	3,694	-	-	-	-	-	-	-
\$	-	-	21,267	-	-	-	-	-	-	-
Tungsten concentrates.....lb.	-	-	-	-	-	-	-	8,825	-	-
\$	-	-	-	-	-	-	-	4,917	-	-
Zinc.....lb.	9,152,856	-	28,758,759	-	40,302,747	37,278,001	-	279,041,497	-	-
\$	280,901	-	882,606	-	1,236,891	1,144,062	-	8,563,784	-	-
<b>Total.....\$</b>	<b>1,642,299</b>	<b>3,600</b>	<b>47,993,839</b>	<b>208,163,741</b>	<b>15,589,650</b>	<b>6,343,176</b>	<b>12,988</b>	<b>56,093,304</b>	<b>2,021,657</b>	<b>4,961,321</b>

(a) Small quantity of ore was produced but data not yet available.

† Data not published.



## Mineral Production in Canada, by Provinces, 1939†—Continued

	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	North-west Territories	Yukon
<b>NON-METALLICS</b>										
<b>Fuels</b>										
Coal.....	7,051,276	451,205	-	-	1,276	959,463	5,518,339	1,537,905	-	-
\$	25,011,271	1,514,598	-	-	3,629	1,251,647	14,413,030	5,464,018	-	-
Natural gas	-	606,249	-	11,985,851	600	96,423	22,703,964	-	1,000	-
M cu. ft.	-	292,400	-	7,191,510	180	36,640	5,018,000	-	224	-
\$	-	-	-	520	-	-	-	-	-	-
Peat.....	-	-	-	3,095	-	-	-	-	-	-
\$	-	-	-	-	-	-	-	-	-	-
Petroleum	-	20,101	-	206,196	-	-	7,595,000	-	17,013	-
crude.....	-	28,000	-	401,312	-	-	9,873,000	-	51,030	-
\$	-	-	-	-	-	-	-	-	-	-
<b>Total.....</b>	<b>25,611,271</b>	<b>1,834,998</b>	<b>-</b>	<b>7,595,917</b>	<b>3,809</b>	<b>1,288,287</b>	<b>29,304,036</b>	<b>5,464,018</b>	<b>51,263</b>	<b>-</b>
<b>Other</b>										
<b>Non-Metals (d)</b>										
Asbestos.....	-	-	364,454	18	-	-	-	-	-	-
\$	-	-	15,858,492	720	-	-	-	-	-	-
Barytes.....	-	-	-	(f)	-	-	-	-	-	-
\$	-	-	-	(f)	-	-	-	-	-	-
Diatomite.....	279	-	-	5	-	-	-	17	-	-
\$	9,670	-	-	280	-	-	-	447	-	-
Feldspar.....	-	-	5,402	7,061	-	-	-	-	-	-
\$	-	-	61,028	51,056	-	-	-	-	-	-
Fluorspar.....	-	-	-	240	-	-	-	-	-	-
\$	-	-	-	4,965	-	-	-	-	-	-
Graphite.....	-	-	-	61,684	-	-	-	-	-	-
\$	-	-	-	-	-	-	-	-	-	-
Gindstones.....	152	(f)	-	-	-	-	-	-	-	-
\$	5,616	(f)	-	-	-	-	-	-	-	-
Gypsum.....	1,285,022	29,765	-	59,440	15,961	-	-	18,000	-	-
\$	1,329,598	134,286	-	260,792	98,578	-	-	99,703	-	-
Iron oxides	-	-	-	-	-	-	-	-	-	-
(ochre).....	-	-	5,272	-	-	-	-	550	-	-
\$	-	-	81,546	-	-	-	-	5,917	-	-
Magnesitic dolomite.....	-	-	474,418	-	-	-	-	-	-	-
\$	-	-	-	-	-	-	-	-	-	-
Magnesium sulphate.....	-	-	-	-	-	-	-	550	-	-
\$	-	-	-	-	-	-	-	9,900	-	-
Mica (b).....	-	-	684,882	916,203	-	-	-	(f)	-	-
\$	-	-	119,834	22,580	-	-	-	2,100	-	-
Mineral waters	-	-	-	-	-	-	-	-	-	-
Imp. gal.	-	-	103,769	19,140	-	-	-	-	-	-
\$	-	-	17,460	1,602	-	-	-	-	-	-
Nepheline-syenite.....	-	-	-	140,148	-	-	-	-	-	-
\$	-	-	-	-	-	-	-	-	-	-
Phosphate.....	-	-	157	-	-	-	-	-	-	-
\$	-	-	1,712	-	-	-	-	-	-	-
Quartz (a).....	10,574	-	104,807	1,306,010	-	134,192	-	-	-	-
\$	18,027	-	369,193	655,584	-	46,967	-	-	-	-
Salt.....	47,885	-	-	370,843	2,453	-	3,319	-	-	-
\$	213,029	-	-	2,200,189	35,888	-	37,526	-	-	-
Silica brick...M	1,890	-	-	603	-	-	-	-	-	-
\$	75,212	-	-	49,595	-	-	-	-	-	-
Soapstone (c).....	-	-	41,471	-	-	-	-	-	-	-
\$	-	-	-	-	-	-	-	-	-	-
Sodium carbonate.....	-	-	-	-	-	-	-	300	-	-
\$	-	-	-	-	-	-	-	2,400	-	-
Sodium sulphate.....	-	-	-	-	-	71,453	-	-	-	-
\$	-	-	-	-	-	627,941	-	-	-	-
Sulphur*.....	-	-	60,902	16,126	-	-	-	133,676	-	-
\$	-	-	275,951	161,260	-	-	-	1,230,814	-	-
Talc.....	-	-	-	13,144	-	-	-	-	-	-
\$	-	-	-	128,595	-	-	-	-	-	-
<b>Total... \$</b>	<b>1,652,652</b>	<b>134,286</b>	<b>17,301,105</b>	<b>3,739,086</b>	<b>134,466</b>	<b>674,908</b>	<b>37,526</b>	<b>1,351,291</b>	<b>-</b>	<b>-</b>

\*Sulphur content of pyrites shipped and estimated sulphur contained in sulphuric acid and other products made from waste smelter gases.

†Subject to revision.

(a) Includes low grade silica sand for fluxing purposes.

(b) Includes scrap and all other grades.

(c) Usually includes some talc.

(d) Includes sales of both crude and refined products.

(f) Production reported but complete data not yet available for publications.

## Mineral Production in Canada, by Provinces, 1939—Concluded

	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	North-west Territories	Yukon
<b>CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS</b>										
<b>Clay Products</b>										
Brick—Soft mud process—										
Face..... M	2	-	-	7,054	-	-	-	1,069	-	-
\$	35	-	-	137,237	-	-	-	14,106	-	-
Common... M	233	170	3,145	12,066	3,716	50	1,058	3,071	-	-
\$	2,412	2,500	28,633	172,976	57,152	600	13,692	42,514	-	-
Stiff mud process (wirecut)										
Face..... M	540	2,334	17,580	17,588	329	288	226	820	-	-
\$	13,461	37,752	351,446	335,140	11,941	7,854	3,010	20,365	-	-
Common... M	4,202	3,086	27,902	19,379	400	255	1,431	1,075	-	-
\$	58,551	40,922	363,852	318,819	4,800	2,574	12,344	16,993	-	-
Dry press—										
Face..... M	-	-	1,897	6,332	-	74	2,155	212	-	-
\$	-	-	48,277	100,132	-	2,690	25,988	8,745	-	-
Common... M	-	-	8,928	6,314	-	-	6,024	-	-	-
\$	-	-	142,844	114,162	-	-	55,597	-	-	-
Fancy or ornamental brick										
M	-	-	-	61	-	-	-	-	-	-
\$	-	-	-	3,935	-	-	-	-	-	-
Sewer brick... M	-	-	-	313	-	-	-	-	-	-
\$	-	-	-	4,879	-	-	-	-	-	-
Paving brick... M	-	-	-	-	-	-	-	157	-	-
\$	-	-	-	-	-	-	-	6,089	-	-
Firebrick..... M	3	-	-	-	-	474	14	1,824	-	-
\$	123	-	-	-	-	26,300	682	91,626	-	-
Fireclay..... tons	2,122	40	-	-	-	6,931	-	592	-	-
\$	6,520	1,596	-	-	-	15,020	-	8,084	-	-
Bentonite..... tons	-	-	-	-	99	-	899	-	-	-
\$	-	-	-	-	591	-	2,850	-	-	-
Fireclay blocks and shapes... \$	813	-	-	-	-	73,990	-	20,453	-	-
Structural tile—										
Hollow blocks... tons	5,385	2,377	27,232	33,507	551	995	4,886	2,942	-	-
\$	50,713	19,341	235,581	271,465	5,258	8,119	36,589	27,660	-	-
Roofing tile... No.	-	-	-	110,869	-	-	-	37,422	-	-
\$	-	-	-	3,599	-	-	-	1,365	-	-
Floor tile (quarries)										
Sq. ft.	-	-	-	90,292	-	-	-	520	-	-
\$	-	-	-	15,163	-	-	-	70	-	-
Drain tile.... M	233	143	949	11,237	76	-	76	1,104	-	-
\$	7,512	7,088	24,876	258,534	3,690	-	2,919	38,582	-	-
Sewer pipe, copings, flue linings, etc... \$	195,218	-	78,447	377,330	-	-	111,476	50,517	-	-
Pottery, glazed or unglazed... \$	-	30,872	-	56,263	-	-	180,017	11,360	-	-
Other clay products..... \$	4,564	389	-	23,154	-	4,977	-	8,086	-	-
<b>Total... \$</b>	<b>339,352</b>	<b>140,460</b>	<b>1,273,956</b>	<b>2,192,788</b>	<b>83,432</b>	<b>142,124</b>	<b>445,164</b>	<b>366,615</b>	-	-
<b>Other Structural Materials</b>										
Cement..... brls.	-	-	3,027,759	1,709,263	343,717	-	377,846	272,679	-	-
\$	-	-	4,035,294	2,437,777	773,363	-	744,357	520,420	-	-
Lime..... tons	14,894	17,355	161,112	302,212	20,032	-	11,907	22,830	-	-
\$	129,415	140,975	983,072	2,252,864	196,190	-	105,155	198,287	-	-
Sands and gravel..... tons	2,072,405	3,131,844	10,114,941	7,884,925	1,163,508	1,038,231	853,650	1,912,850	-	-
\$	1,213,918	1,277,438	2,628,397	3,048,973	642,835	658,331	611,656	739,073	-	-
Stone..... tons	46,712	31,854	2,360,946	2,673,134	39,773	-	3,201	312,454	-	-
\$	123,895	149,190	2,987,616	2,265,819	86,938	-	15,945	323,739	-	-
<b>Total... \$</b>	<b>1,467,328</b>	<b>1,567,693</b>	<b>10,634,379</b>	<b>10,605,433</b>	<b>1,699,326</b>	<b>658,331</b>	<b>1,476,233</b>	<b>1,781,519</b>	-	-
<b>Grand Total in Canadian Funds..... \$</b>	<b>30,712,802</b>	<b>3,690,947</b>	<b>77,112,479</b>	<b>231,696,859</b>	<b>17,430,083</b>	<b>9,106,826</b>	<b>31,375,947</b>	<b>65,656,737</b>	<b>207,990</b>	<b>4,961,321</b>

## Monthly Production of Principal Minerals in Canada, 1939\*

—	Asbestos	Cement	Clay Products	Coal	Copper	Feldspar	Gold	Gypsum
	tons	barrels	¢	tons	pounds	tons	fine oz.	tons
January .....	18,780	115,533	158,028	1,199,951	47,305,038	762	411,328	18,463
February .....	21,224	118,605	125,624	1,299,078	40,267,537	905	390,903	5,331
March .....	22,680	208,779	190,296	1,177,818	51,019,039	650	414,217	12,987
April .....	23,921	273,969	235,520	912,327	48,881,357	609	406,795	67,617
May .....	29,414	550,890	396,422	1,136,381	54,413,759	803	432,359	116,696
June .....	28,188	727,842	483,535	1,090,726	54,581,889	968	436,783	138,076
July .....	28,671	735,984	479,817	1,091,019	50,203,445	921	440,065	160,002
August .....	35,886	841,736	521,341	1,270,599	54,039,671	614	449,207	191,637
September .....	38,124	852,197	533,956	1,372,567	50,698,464	1,221	421,485	196,321
October .....	44,622	681,218	529,843	1,782,455	‡	1,535	432,678	197,302
November .....	40,568	421,569	468,040	1,721,251	‡	1,926	423,358	185,995
December .....	31,946	205,603	307,206	1,465,292	‡	2,017	432,896	139,363
<b>Calendar Year .....</b>	<b>364,624</b>	<b>5,733,925</b>	<b>4,429,628</b>	<b>15,519,464</b>	<b>-</b>	<b>12,931</b>	<b>5,692,134</b>	<b>1,429,796</b>
	Lead	Lime	Natural Gas	Nickel	Petroleum	Salt†	Silver	Zinc
	pounds	tons	M cu. ft.	pounds	barrels	tons	fine oz.	pounds
January .....	32,106,252	36,242	4,118,179	14,774,985	533,166	10,535	1,532,922	30,039,464
February .....	26,301,416	32,892	4,114,943	17,495,366	358,176	10,982	1,281,624	25,372,817
March .....	32,377,979	37,282	3,722,181	17,901,536	385,273	13,882	1,620,396	26,720,791
April .....	30,048,178	38,597	3,147,608	18,443,625	559,368	18,818	1,465,525	29,418,764
May .....	31,815,181	43,549	2,120,534	21,595,362	713,947	25,732	1,809,789	29,702,668
June .....	32,751,469	44,441	2,106,482	20,103,880	821,308	26,288	2,876,694	36,807,673
July .....	31,746,812	42,249	1,755,544	19,648,013	899,169	22,925	2,736,180	53,307,875
August .....	33,857,503	45,894	1,889,918	20,123,078	795,844	21,073	2,334,628	39,870,863
September .....	32,376,771	47,696	2,099,093	20,275,866	720,866	26,322	1,979,640	30,000,004
October .....	‡	56,045	2,822,445	‡	816,257	33,276	1,683,164	‡
November .....	‡	59,637	3,482,027	‡	731,200	30,612	1,696,215	‡
December .....	‡	54,780	4,015,133	‡	502,920	13,035	1,785,081	‡
<b>Calendar Year .....</b>	<b>-</b>	<b>539,964</b>	<b>35,394,697</b>	<b>-</b>	<b>7,837,663</b>	<b>253,492</b>	<b>23,961,856</b>	<b>-</b>

\* This information was compiled from monthly reports received from the principal operators. The totals for the calendar year do not, therefore, necessarily agree with those shown in the first table of this report.

† Commercial salt only.

‡ The publication of monthly data on the production of copper, nickel, lead and zinc has been suspended for the duration of the war.

## World Gold Production

(From Engineering and Mining Journal, February, 1940)

(In Fine Ounces)

	1938	1939*		1938	1939*
<b>NORTH AMERICA—</b>			<b>AFRICA—</b>		
United States (includes Philip- pines).....	5,090,000	5,592,000	Union South Africa.....	12,161,000	12,361,000
Canada.....	4,725,000	5,324,000	Rhodesia.....	815,000	772,000
Mexico.....	923,000	1,045,000	West Africa.....	705,000	837,000
<b>SOUTH AMERICA—</b>			Belgian Congo.....	473,000	494,000
Colombia.....	521,000	558,000	<b>ASIA AND OCEANIA—</b>		
Chile.....	294,000	330,000	Australia.....	1,692,000	1,771,000
<b>EUROPE—</b>			British India.....	321,000	306,000
Russia.....	5,255,000	5,250,000	Other Countries.....	4,237,000	5,140,000
			<b>World Total.....</b>	<b>37,212,000</b>	<b>39,780,000</b>

\* Preliminary.

† Philippines production for 1939 reported as 900,000 ounces by U. S. Bureau of Mines.

## World Production of Silver, Copper, Lead and Zinc, 1939

(From Engineering and Mining Journal, February, 1940)

Countries	Silver	Copper	Lead	Zinc
	fine oz.	(short tons)	(short tons)	(short tons)
United States.....	57,500,000	745,000	462,200	538,198
Canada.....	23,500,000	303,000	196,000	178,000
Mexico.....	76,500,000	47,500	230,000	43,000
Peru.....	18,750,000	40,000	-	-
Chile.....	-	350,000	-	-
Other America.....	19,000,000	-	-	-
Europe.....	22,000,000	-	-	-
Germany.....	-	37,000	262,000	225,000
Russia.....	-	110,000	77,000	88,500
Spain and Portugal.....	-	38,500	50,000	-
Belgium.....	-	-	92,000	210,000
Italy.....	-	-	47,000	-
France.....	-	-	-	68,000
Great Britain.....	-	-	-	68,000
Poland.....	-	-	-	100,000
Other Europe.....	-	-	-	-
Japan.....	11,000,000	86,000	-	-
India.....	6,500,000	-	-	-
Burma.....	-	-	87,000	-
Other Asia.....	4,500,000	-	-	-
Australasia.....	15,100,000	-	-	-
Australia.....	-	-	266,000	78,000
Africa.....	5,350,000	375,000	-	-
Elsewhere.....	-	212,000	265,000	226,000
<b>Total.....</b>	<b>259,700,000</b>	<b>2,344,000</b>	<b>1,914,200</b>	<b>1,822,698</b>

Reference Silver: Statistics based on refinery output.

Reference Copper: So far as possible, these statistics are based on blister copper, and referred to countries wherein ore originated.

Reference Lead: Production in terms of bullion allocated according to origin of ore.

Reference Zinc: Production of primary metallurgical works.

## Average Yearly Prices for Metals 1935-1939

Metal	Market	Unit	1935	1936	1937	1938	1939
			\$	\$	\$	\$	\$
Antimony (ordinaries)	New York	Pound	0-13616	0-12240	0-15355	0-12349	0-12359
Arsenic, white (nominal)	New York	Pound	0-035	0-035	0-03	0-03000	0-03
Copper	New York	Pound	0-08649	0-09474	0-13167	0-1000	0-10965
	Montreal	Pound	0-08488	0-10070	0-13886	0-1055	0-1077
Gold (in Canadian funds)	London	Long ton	35-430	42-650	59-339	45-411	49-199
		Fine oz.	35-19	35-03	34-99	35-175	36-141
Lead	New York	Pound	0-04065	0-04710	0-08009	0-0474	0-0505
	Montreal	Pound	0-03925	0-04642	0-05799	0-04176	0-04235
Nickel	London	Long ton	14-238	17-599	23-326	15-266	15-437
	New York	Pound	0-35	0-35	0-35	0-35	0-35
Platinum	London	Fine oz.	*7-325	*8-138	*9-811	*6-55	*7-631
Silver	New York	Fine oz.	0-64273	0-45087	0-44881	0-43225	0-39082
	New York	Pound	0-50420	0-46441	0-54317	0-43701	0-50323
Tin	(St. Louis)	Pound	0-04328	0-04901	0-06519	0-0461	0-0511
	Montreal	Pound	0-03992	0-04153	0-05593	0-039	0-0468
Zinc	London	Long ton	14-082	14-920	22-258	13-990	14-950

Note.—All prices in dollars per unit excepting London copper, lead and zinc prices which are quoted in pounds sterling per long ton.

\*Prices for platinum are quoted in pounds sterling per fine ounce.

## Metal Prices by Months, 1938 and 1939

Month	Copper (Electrolytic)				Pig Lead					
	New York (In cents per pound)		London (In £ sterling per long ton)		Montreal (In cents per pound)		New York (In cents per pound)		London (In £ sterling per long ton)	
	1939	1938	1939	1938	1939	1938	1939	1938	1939	1938
January	11-025	10-198	48-440	45-387	3-981	4-352	4-826	4-870	14-534	16-135
February	11-025	9-775	47-375	43-563	3-952	4-220	4-805	4-632	14-283	15-402
March	11-025	9-775	48-120	43-582	4-013	4-354	4-824	4-500	14-060	15-992
April	10-265	9-775	47-833	43-408	3-950	4-292	4-782	4-500	14-337	15-579
May	9-833	9-475	47-528	40-852	3-973	4-010	4-750	4-400	14-483	14-210
June	9-775	8-775	47-528	39-417	3-998	3-933	4-800	4-148	14-564	13-969
July	9-976	9-585	48-863	44-405	4-000	4-136	4-854	4-882	14-763	14-921
August	10-261	9-900	50-409	45-909	4-332	3-975	5-043	4-900	16-040	14-371
September	11-635	10-028	51-000	47-148	4-600	4-150	5-449	4-998	17-000	15-249
October	12-215	10-760	51-000	51-190	4-600	4-303	5-500	5-100	17-000	16-173
November	12-275	11-025	51-000	51-080	4-600	4-261	5-500	5-091	17-000	16-088
December	12-275	11-025	51-000	48-988	4-760	4-130	5-500	4-842	17-000	15-106
<b>Average</b>	<b>10-965</b>	<b>10-000</b>	<b>49-169</b>	<b>45-411</b>	<b>4-235</b>	<b>4-176</b>	<b>5-033</b>	<b>4-739</b>	<b>15-437</b>	<b>15-266</b>

Transposed into Canadian funds the average price of copper, based on the London market, was 9-972 cents per pound in 1938 and 10-092 cents in 1939; the average price of lead, based on the same market, was 3-344 cents per pound in 1938 and 3-169 cents in 1939.

## Metal Prices by Months, 1938 and 1939

Month	Silver				Zinc					
	New York (In cents per oz. ·999 fine)		London (In pence per oz. ·925 fine)		Montreal (In cents per pound)		St. Louis (In cents per pound)		London (In £ sterling per long ton)	
	1939	1938	1939	1938	1939	1938	1939	1938	1939	1938
January	42-750	44-750	20-305	19-895	3-769	4-102	4-500	5-000	13-682	14-994
February	42-750	44-750	20-370	20-150	3-800	3-987	4-500	4-813	13-522	14-408
March	42-750	44-446	20-280	20-088	3-828	3-987	4-500	4-417	13-728	14-364
April	42-750	42-750	20-031	18-880	3-755	3-863	4-500	4-141	13-443	13-729
May	42-750	42-750	20-123	18-731	3-790	3-679	4-500	4-042	13-717	12-682
June	41-955	42-750	19-505	18-945	3-854	3-712	4-500	4-131	14-023	12-890
July	34-944	42-750	16-952	19-356	3-921	3-988	4-516	4-745	14-235	14-144
August	35-951	42-750	17-719	19-389	4-041	3-834	4-719	4-750	14-628	13-467
September	36-956	42-750	22-178	19-300	4-300	3-888	6-104	4-846	17-250	14-040
October	35-726	42-750	22-730	19-613	4-500	4-073	6-500	5-012	17-250	15-083
November	34-750	42-750	23-378	19-834	4-500	3-907	6-500	4-824	17-250	14-366
December	34-956	42-750	23-203	20-083	4-760	3-780	5-980	4-500	17-250	13-709
<b>Average</b>	<b>39-082</b>	<b>43-225</b>	<b>20-570</b>	<b>19-523</b>	<b>4-068</b>	<b>3-809</b>	<b>5-110</b>	<b>4-610</b>	<b>14-950</b>	<b>13-990</b>

The average price of silver in Canadian funds based on the New York market in 1938 was 43-477 cents per fine ounce and in 1939 it was 40-488 cents.

The average price of zinc in Canadian funds based on the London market in 1938 was 3-073 cents per pound and in 1939 it was 3-009 cents.

Table showing the amount paid in Canadian dollars for one £ Sterling and one United States dollar, by months, 1939-1938

	London		New York	
	1939	1938	1939	1938
January.....	4-7060	5-000	1-0079	1-000
February.....	4-7086	5-017	1-0049	1-000
March.....	4-7044	4-998	1-0041	1-003
April.....	4-7038	5-006	1-0050	1-005
May.....	4-6981	5-008	1-0036	1-008
June.....	4-6923	5-012	1-0021	1-011
July.....	4-6885	4-956	1-0015	1-005
August.....	4-6327	4-897	1-0047	1-003
September.....	4-4090	4-834	1-0948	1-006
October.....	4-4500	4-812	1-1050	1-009
November.....	4-4500	4-741	1-1050	1-007
December.....	4-4500	4-713	1-1050	1-009
<b>Average.....</b>	<b>4-6984</b>	<b>4-915</b>	<b>1-0365</b>	<b>1-006</b>

General Statistics of the Mineral Industry in Canada, 1938, with Comparative Totals for 1937

	Number of plants	Capital employed	Number of employees	Salaries and wages	Net income from sales (a)
		\$		\$	\$
<b>(a) BY INDUSTRIES</b>					
<b>METAL MINING</b>					
Alluvial gold.....	113	12,846,973	1,071	2,056,936	3,753,052
Auriferous quartz.....	550	251,203,802	29,647	50,462,092	114,472,106
Copper-gold-silver.....	39	65,416,729	5,577	8,921,465	28,765,492
Silver-cobalt.....	30	2,696,217	297	386,851	288,293
Silver-lead-zinc.....	108	30,386,714	1,640	3,027,915	18,483,945
Nickel-copper.....	11	35,363,940	5,342	9,916,179	25,491,028
Miscellaneous.....	19	1,380,035	129	145,551	7,997
Smelting and refining.....	13	184,337,126	12,788	19,540,963	87,091,374*
<b>Total..... 1938</b>	<b>833</b>	<b>583,631,536</b>	<b>56,491</b>	<b>94,166,952</b>	<b>278,367,293</b>
<b>Total..... 1937</b>	<b>1,000</b>	<b>584,692,790</b>	<b>55,646</b>	<b>90,798,501</b>	<b>276,885,288</b>
<b>NON-METAL MINING, INCLUDING FUELS—</b>					
Coal.....	498	111,495,137	27,074	28,699,781	34,207,513
Natural gas.....	3,325	79,143,830	1,966	2,506,121	9,748,677
Crude petroleum.....	2,400	51,085,038	1,894	2,656,112	8,080,071
Asbestos.....	9	22,068,771	3,711	4,024,363	9,702,470
Feldspar and quartz.....	32	1,605,136	375	342,248	1,065,138
Gypsum.....	15	7,325,412	623	528,027	1,262,959
Iron oxides (ochre).....	6	200,057	37	31,557	63,645
Mica.....	40	159,758	156	74,424	61,742
Salt.....	9	4,270,799	562	786,720	1,603,833
Talc and soapstone.....	6	212,491	75	59,426	120,941
Miscellaneous.....	50	2,787,671	394	475,567	770,093
<b>Total..... 1938</b>	<b>6,390</b>	<b>280,894,100</b>	<b>36,867</b>	<b>49,184,346</b>	<b>67,692,682</b>
<b>Total..... 1937</b>	<b>6,271</b>	<b>273,578,621</b>	<b>37,144</b>	<b>43,199,558</b>	<b>67,042,550</b>
<b>CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS—</b>					
Clay products.....	152	18,068,542	2,242	2,110,233	3,482,235
Cement.....	8	52,299,046	1,034	1,306,331	5,947,706
Lime.....	53	4,881,214	867	795,068	2,602,663
Sand and gravel.....	6,094	3,286,340	6,959	4,482,916	11,747,959
Stone.....	550	11,157,274	2,815	2,298,154	4,665,676
<b>Total..... 1938</b>	<b>6,857</b>	<b>89,722,416</b>	<b>13,917</b>	<b>10,992,702</b>	<b>28,446,299</b>
<b>Total..... 1937</b>	<b>8,137</b>	<b>99,073,560</b>	<b>13,224</b>	<b>10,294,325</b>	<b>28,868,189</b>
<b>Grand Total..... 1938</b>	<b>14,136</b>	<b>954,248,652</b>	<b>107,275</b>	<b>145,611,000</b>	<b>374,115,674</b>
<b>Grand Total..... 1937</b>	<b>15,408</b>	<b>957,344,971</b>	<b>105,414</b>	<b>144,292,384</b>	<b>372,796,027</b>
<b>(b) BY PROVINCES</b>					
Nova Scotia and Prince Edward Island.....	810	52,594,162	15,591	15,859,095	20,224,347
New Brunswick.....	409	4,310,273	3,042	2,074,273	3,500,250
Quebec.....	4,161	179,013,810	20,829	24,485,254	69,593,807
Ontario.....	6,342	389,031,046	35,791	58,926,900	181,897,886
Manitoba.....	276	44,564,907	2,840	4,393,270	15,144,672
Saskatchewan.....	268	18,695,606	2,287	2,470,530	7,029,842
Alberta.....	678	120,140,472	10,612	12,811,975	24,931,056
British Columbia.....	1,158	129,667,103	15,179	21,975,143	49,519,855
Yukon and Northwest Territories.....	28	16,230,613	1,104	2,547,500	2,567,959
<b>Canada..... 1938</b>	<b>14,136</b>	<b>954,248,652</b>	<b>107,275</b>	<b>145,611,000</b>	<b>374,115,674</b>
<b>Canada..... 1937</b>	<b>15,408</b>	<b>957,344,974</b>	<b>105,414</b>	<b>144,292,384</b>	<b>372,796,027</b>

(a) Income from sales less cost of process supplies, fuel and electric power used and freight and treatment charges.

\* Value added by smelting.

### Antimony

Antimony production consisted of antimony metal produced by the Consolidated Mining and Smelting Company, Limited, Trail, B.C., and antimony in ores exported from a property located near Fort St. James, B.C.; total output aggregated 1,224,385 pounds valued at \$151,359. Ores of antimony are to be found also in Nova Scotia, New Brunswick, Quebec, Ontario and Manitoba, but no shipments from these provinces were officially reported during the year under review. Imports of antimony or regulus of, not ground, into Canada, totalled 238,909 pounds valued at \$27,092 in 1939, compared with 856,986 pounds valued at \$85,461 in 1938. Antimony and titanium oxide imports in 1939 totalled 9,003,693 pounds worth \$803,198, and antimony salts, namely tartar emetic, chloride, and tartrate (antimonine) totalled 27,755 pounds valued at \$7,283. Imports of antimony salts for dyeing amounted to 537 pounds worth \$97 in 1939.

### Arsenic

White arsenic is produced in Canada by the Deloro Smelting and Refining Co. Limited, Deloro, Ontario, in the treatment of the silver-cobalt ores of Northern Ontario. Several gold mines in Western Quebec and Ontario operate roasting plants for the purpose of removing the arsenic prior to cyaniding but this arsenic is not refined for the market. The principal use of arsenic is as an insecticide; the glass and tanning industries also consume considerable quantities.

#### Production in Canada, Imports and Exports of Arsenic, 1938 and 1939

	1938		1939	
	Quantity lb.	Value \$	Quantity lb.	Value \$
<b>PRODUCTION—</b>				
White arsenic and arsenic in other forms.... <b>Total</b> .....	<b>2,175,646</b>	<b>56,538</b>	<b>1,741,917</b>	<b>52,257</b>
<b>IMPORTS—</b>				
White arsenic (arsenious oxide).....	201,009	3,854	516,236	7,976
Sulphide of arsenic.....	6,094	408	125	54
Soda, arseniate, biarseniate and stannate of.....	11,200	2,843	32,054	6,739
Arsenate of lead.....	496,387	41,620	568,344	49,238
Arsenate of lime.....	39,273	3,593	389,557	23,643
<b>Total</b> .....	-	<b>52,318</b>	-	<b>87,650</b>
<b>EXPORTS—</b>				
Arsenic, n.o.p..... <b>Total</b> .....	<b>1,378,300</b>	<b>32,590</b>	<b>906,300</b>	<b>26,389</b>

### Bismuth

Bismuth was recovered in the metallic state in 1939 by the Consolidated Mining & Smelting Co. at Trail, B.C. and amounted to 409,449 pounds which, when valued at the average market price for the year, was worth \$466,362. The chief bismuth-producing countries include Germany, Peru, the United States, Japan, Mexico, Canada and Spain. The greater part of the world's production is recovered as a by-product in the treatment of lead, copper, silver, gold and tin ores.

Bismuth is consumed chiefly in the manufacture of pharmaceuticals and alloys. The metal is employed in almost all low-melting metallic alloys used for fusible plugs, safety devices, soft solders and tempering baths for small tools. Imports into Canada of bismuth metal in 1939 totalled 207 pounds valued at \$303 and of bismuth salts, \$16,756.

### Cadmium

Cadmium is produced at Trail, British Columbia, and at Flin Flon, Manitoba, as a by-product in zinc refining. Output totalled 939,691 pounds valued at \$662,209 compared with 699,138 pounds worth \$561,799 in 1938. Cadmium is used chiefly in automotive bearing metals;

also in the making of such pigments as cadmium lithopone, cadmium yellows, etc. The average price of cadmium in 1939 was 70 cents per pound (London prices converted to Canadian funds) compared with 84 cents per pound in the previous year.

### Chromite

Chromite production in Canada is small and is confined to the Eastern Townships of Quebec. No commercial production was reported in 1939. Ferro-chrome is made in Canada by the Electro-Metallurgical Company at Welland, Ontario, and Chrom X a chromium compound which may be used by steel companies to introduce chromium into the melt is made by the Chromium Mining & Smelting Corporation Limited at Sault Ste. Marie, Ontario. Imported ore is used by these companies.

Imports of chrome ore into Canada in 1939 were reported at 16,584 tons valued at \$232,851 and those of chrome-tungsten metal at 55,428 pounds worth \$50,769 as compared with 43,527 pounds at \$30,328 in 1938.

### Cobalt

The Canadian production figures for cobalt include cobalt in ores exported plus the cobalt in oxides sold and cobalt metal made at Deloro, Ontario. In the Cobalt Camp in Ontario silver has been mined in close association with cobalt for many years, and the drop in the price of silver which occurred about midsummer 1939, adversely affected the output of cobalt. The O'Brien Mine, the last major producer in the camp ceased operations early in 1940. Recent press reports state that the Department of Mines of Ontario contemplates sending a geologist to that area to re-study the geological conditions with particular emphasis on the production of cobalt. The chief cobalt producing countries are the Belgian Congo, Northern Rhodesia and French Morocco. Cobaltiferous speiss is produced in British India.

### Production in Canada and Exports of Cobalt, 1938 and 1939

	1938		1939	
	Pounds	\$	Pounds	\$
<b>PRODUCTION—</b> Cobalt, computed as cobalt in metal, in oxides sold and in ore and residues exported..... <b>Total</b>	<b>459,226</b>	<b>790,913</b>	<b>732,561</b>	<b>1,137,599</b>
<b>IMPORTS—</b> Cobalt oxide.....	736	1,094	525	301
<b>EXPORTS—</b> Cobalt alloys, cobalt metallic, cobalt oxides and cobalt ores.. <b>Total</b>	-	<b>765,580</b>	-	<b>1,260,961</b>

### Copper

Canadian copper production reached an all-time high in 1939. The nickel-copper mines of Ontario produced 54 per cent of the total output. The International Nickel Company of Canada Limited produces refined copper at their refinery at Copper Cliff. Nickel-copper matte is also exported by this company to the United States and to England. Matte made by the Falconbridge Nickel Mines Limited is exported to the company's refinery at Kristiansund, Norway. Noranda Mines Limited is the chief producer in Quebec. The Noranda Smelter treats ore from the Horne and Waite-Amulet mines, the latter being controlled by Noranda Mines Ltd. Concentrates from the Normetal Mining Corporation are also shipped to the Noranda smelter. Concentrates produced by the Aldermac Mines Limited were exported to United States smelters. The Eustis in Quebec, Canada's oldest producing copper mine, which was operated by the Consolidated Copper and Sulphur Company Limited for many years, was obliged to close down in 1939 owing to lack of ore. Production in Manitoba and Saskatchewan is from the properties of the Hudson Bay Mining and Smelting Company Limited, and the Sherritt-Gordon Mines Co. Limited. Sherritt-Gordon ores are shipped to the Hudson Bay Company's smelter at Flin Flon. The two principal copper-producing mines in British Columbia are the Britannia Mine at Howe Sound and the Granby at Copper Mountain. Concentrates from these mines are exported. A small production originated in the silver-radium ores of the Northwest Territories and concentrates shipped from the Stirling Mine in Nova Scotia contained considerable copper.



## Production in Canada, Imports and Exports of Copper, 1938 and 1939

	1938		1939	
	Pounds	Value \$	Pounds	Value \$
<b>PRODUCTION—</b>				
<b>By Provinces—</b>				
Nova Scotia.....	-	-	1,269,179	128,086
Quebec.....	112,645,797	11,233,039	117,238,897	11,831,749
Ontario.....	309,030,106	30,405,500	328,428,665	32,635,631
Manitoba.....	65,582,772	6,539,914	70,458,890	7,110,711
Saskatchewan.....	18,156,157	1,810,532	18,133,149	1,829,997
British Columbia.....	65,759,265	6,557,514	72,530,552	7,319,783
Northwest Territories.....	75,567	7,535	42,382	4,277
<b>Total.....</b>	<b>571,249,664</b>	<b>56,554,034</b>	<b>608,101,714</b>	<b>60,860,234</b>
<b>By Sources—</b>				
In blister and anode copper produced.....	475,611,107	47,427,940	505,676,474	51,032,870
In ores, concentrates and copper matte exported (a)....	81,810,070	8,158,100	86,001,681	8,679,290
In nickel-copper matte exported.....	13,828,487	967,994	16,423,559	1,148,074
<b>Total.....</b>	<b>571,249,664</b>	<b>56,554,034</b>	<b>608,101,714</b>	<b>60,860,234</b>
<b>IMPORTS—</b>				
Copper in bars or rods, when imported by manufacturers of trolley, telegraph and telephone wires and electric cables for use only in the manufacture of such articles in their own factories.....	1,111,000	146,771	1,225,400	178,492
Copper bars for use only in the manufacture of electrical conductors, and copper rods for such manufacture, individual units of conductors not to exceed area of No. 7-0 gauge conductor.....	5,500	667	5,200	655
Copper in bars or rods, in lengths of not less than 6 feet, unmanufactured.....	200,600	31,666	223,700	37,165
Copper in blocks, pigs or ingots.....	12,200	1,441	6,000	1,325
Copper, scrap, cathode plates, etc.....	87,800	8,434	35,200	3,807
Copper in strips, sheets or plates not polished or coated....	160,200	30,813	226,500	56,531
Copper tubings in lengths of not less than 6 feet, and not polished, bent or otherwise manufactured.....	343,071	63,255	377,514	108,955
Copper wire.....	16,352	3,361	34,305	6,681
Copper wire cloth, or woven wire of copper.....	-	3,284	-	5,076
Copper, manufactures of, n.o.p.....	-	402,293	-	448,147
Copper, precipitate of, crude.....	2,075	193	91	17
Anodes of nickel, zinc, copper, silver or gold.....	-	8,432	-	6,063
Copper, sub-acetate of, or verdigris, dry.....	3,505	771	-	-
Copper, sulphate of (blue vitriol).....	4,454,073	160,032	6,285,768	234,259
Copper rollers adapted for use in calico printing.....	-	65,525	-	84,302
<b>Total.....</b>	<b>-</b>	<b>962,928</b>	<b>-</b>	<b>1,171,475</b>
<b>EXPORTS—</b>				
Copper, fine, contained in ore, matte, regulus, etc.....	109,806,100	7,637,581	121,500,900	8,505,064
Copper, blister.....	30,527,300	3,050,241	31,111,800	3,113,742
Copper, old and scrap.....	3,437,400	205,059	6,930,000	544,901
Copper in ingots, bars, cakes, slabs and billets.....	363,528,700	35,858,006	331,637,700	33,730,487
Copper in rods, strips, sheets, plates, and tubing.....	53,512,900	5,767,622	58,739,300	6,501,892
Copper wire and cable.....	-	435,784	-	522,255
Copper wire, bare.....	-	-	-	237,861
Copper wire, screen.....	-	-	-	16,772
Copper manufactures, n.o.p.....	-	354,509	-	54,945
<b>Total.....</b>	<b>-</b>	<b>53,314,802</b>	<b>-</b>	<b>53,227,919</b>
Copper coin, foreign.....	-	6,693	-	15,015
Copper coin, Canadian.....	-	347	-	239

(a) Contains a relatively small quantity of copper contained in gold and silver ores shipped to Canadian smelters.

## Gold

Production of gold in 1939 totalled 5,095,176 fine ounces which, when valued at \$36.14, the average price for the year, was worth \$184,144,756 as compared with 4,725,117 fine ounces worth \$166,205,990 in 1938. Several properties which were under development during the past two or three years came into production in 1939 and twenty new mills began operations. Nova Scotia production totalled 29,943 fine ounces as compared with 26,560 fine ounces in 1938. Output from Quebec mines reached 953,478 fine ounces as compared with 881,263 fine ounces in 1938. Producing gold mines now extend from the Ontario-Quebec boundary easterly across several townships, and as a result many thriving towns have come into existence. Ontario is by far Canada's major

gold producing province and the famous Porcupine Camp retains its pre-eminence as a gold-producing area. Several properties were brought to the production stage within this old established camp during the year and in December, 1939, 15 companies were producing. Production from this field totalled 1,313,501 fine ounces during the year. Thirteen companies were in production during December in the Kirkland Lake and Larder Lake areas and production in 1939 totalled 1,034,435 fine ounces. Gold mines in Ontario now cover a very wide field and in addition to the old established camps, mines are operating in the Michipicoten, the Little Long Lac, Rainy River and Patricia districts. Cordova Mines Limited in Peterborough County, after a long shut-down, and now owned by the Consolidated Mining and Smelting Company Ltd., was brought into production again.

Production in Manitoba totalled 180,867 fine ounces compared with 185,706 fine ounces. The Hudson Bay Mining and Smelting Company Limited is the largest single producer. Producing gold mines included the San Antonio, Gunnar, God's Lake, Laguna, Beresford Lake and Gurney. The Gurney Gold Mines ceased production in mid-November and the Laguna mill was closed down on December twenty second.

Since 1933 gold production in Saskatchewan has been principally from the Hudson Bay Mining and Smelting Company's Flin Flon Mine which lies across the inter-provincial boundary. In June, 1939, the Consolidated Mining & Smelting Company started the operation of its new 1,000 ton mill on the Box property at Goldfields. Athona Mines Limited continued development throughout the year and Sulphide Lake north of Lac la Ronge was the scene of a gold discovery.

British Columbia production totalled 629,037 fine ounces as compared with 605,617 ounces in the previous year. The main contributing areas were the Bridge River, Cariboo, Portland Canal, Sheep Creek, Similkameen and the new Zebalos field on Vancouver Island. Placer gold output was less than in 1938. In addition to the above sources a certain amount of gold is produced annually in association with base metal ores.

Production of gold in the Yukon Territory showed a marked increase over 1938. Production in the Northwest Territories totalled 50,403 ounces as a result of the continuous operation of the Con property owned by the Consolidated Mining and Smelting Co., Ltd., which also operates the Ryon Mine, the ore being put through the Con mill; and the bringing into production of the Negus Mine with a 60-ton mill in February.

## Production of New Gold in Canada, by Provinces and Sources, 1938 and 1939

(Gold at \$20-671834 per fine ounce)

	1938		1939	
	Fine troy ounces	\$	Fine troy ounces	\$
<b>NOVA SCOTIA—</b>				
In gold bullion and ores exported.....	26,560	549,044	29,943	618,977
Estimated exchange equalization on gold produced.....	-	385,204	-	463,103
Total Value—Canadian Funds.....	-	934,248	-	1,082,170
<b>QUEBEC—</b>				
In anode copper, in ores shipped and in gold bullion.....	881,283	18,217,322	953,478	19,710,139
Estimated exchange equalization on gold produced.....	-	12,781,104	-	14,749,509
Total Value—Canadian Funds.....	-	30,998,426	-	34,459,648
<b>ONTARIO—</b>				
†Porcupine Area—In gold bullion.....	1,258,671	26,019,038	1,313,501	27,152,475
†Kirkland Lake—In gold bullion (a).....	1,030,820	21,309,126	1,034,435	21,383,669
†Other gold mines—In gold bullion.....	526,750	10,888,989	601,189	13,607,989
Copper-Nickel and other ores.....	80,227	1,658,439	77,099	1,593,777
<b>Total</b> .....	<b>2,896,477</b>	<b>59,875,492</b>	<b>3,026,224</b>	<b>63,737,910</b>
Estimated exchange equalization on gold produced.....	-	42,008,086	-	47,741,312
Total Value—Canadian Funds.....	-	101,883,578	-	111,539,222
<b>MANITOBA—</b>				
In gold bullion, ores shipped and in blister copper.....	185,706	3,838,884	180,867	3,738,853
Estimated exchange equalization on gold produced.....	-	2,693,325	-	2,797,861
Total Value—Canadian Funds.....	-	6,532,209	-	6,536,714
<b>SASKATCHEWAN—</b>				
In ores shipped to Canadian smelters, crude placer gold and gold bullion.....	50,021	1,034,026	77,120	1,594,212
Estimated exchange equalization on gold produced.....	-	725,493	-	1,192,982
Total Value—Canadian Funds.....	-	1,759,489	-	2,787,194
<b>ALBERTA—</b>				
In alluvial gold.....	305	6,305	359	7,421
Estimated exchange equalization on gold produced.....	-	4,423	-	5,554
Total Value—Canadian Funds.....	-	10,728	-	12,975
<b>BRITISH COLUMBIA—</b>				
In alluvial gold.....	46,207	955,183	40,000	826,873
In gold bullion.....	324,031	6,698,315	340,753	7,043,989
In base bullion and in matte, precipitate and ores exported.....	235,370	4,865,716	248,284	5,132,496
<b>Total</b> .....	<b>605,617</b>	<b>12,519,214</b>	<b>629,037</b>	<b>13,003,348</b>
Estimated exchange equalization on gold produced.....	-	8,783,304	-	9,730,678
Total Value—Canadian Funds.....	-	21,302,578	-	22,734,026
<b>YUKON—</b>				
In alluvial gold.....	71,303	1,473,964	85,572	1,768,930
In ores shipped.....	1,065	22,015	2,173	44,920
<b>Total</b> .....	<b>72,368</b>	<b>1,495,979</b>	<b>87,745</b>	<b>1,813,850</b>
Estimated exchange equalization on gold produced.....	-	1,049,505	-	1,357,342
Total Value—Canadian Funds.....	-	2,545,544	-	3,171,192
<b>NORTHWEST TERRITORIES—</b>				
In ores shipped and placer gold.....	6	124	775	16,021
In gold bullion produced.....	6,794	140,444	49,628	1,026,901
<b>Total</b> .....	<b>6,800</b>	<b>140,568</b>	<b>50,403</b>	<b>1,042,922</b>
Estimated exchange equalization on gold produced.....	-	98,622	-	779,693
Total Value—Canadian funds.....	-	239,190	-	1,821,615
<b>Total for Canada</b> .....	<b>4,725,117</b>	<b>97,676,834</b>	<b>5,095,176</b>	<b>105,326,632</b>
<b>Total estimated exchange equalization on gold produced</b> .....	-	<b>68,529,156</b>	-	<b>78,818,124</b>
<b>Grand Total Value, including exchange</b> .....	-	<b>166,205,990</b>	-	<b>184,144,756</b>

NOTE.—In 1938 the estimated average price of a troy ounce of fine gold in Canadian funds was \$35.17; in 1939 the corresponding price was \$36.14.

† Includes relatively small amounts of gold contained in slags, and ore shipped.

(a) Includes production in Larder Lake area.

**Fine Gold and Fine Silver Content of Shipments to the Royal Canadian Mint,  
Ottawa, Canada, by Sources, 1939**

	Gold	Silver
	Fine ounces	Fine ounces
Northwest Territories.....	46,987.62	11,033.26
British Columbia.....	348,936.03	89,004.42
Alberta sundries.....	19.46	2.02
Saskatchewan sundries.....	6,264.04	1,699.34
Manitoba.....	108,443.32	48,061.85
Ontario.....	3,070,726.04	426,822.50
Quebec.....	1,060,663.56	130,365.09
Nova Scotia.....	28,071.40	961.06
Jewellery and scrap.....	12,251.21	3,083.92
Vancouver Assay Office.....	182,603.52	30,871.64
Yukon sundries.....	-	-
Other—		
Foreign Gold Coin.....	3,868.08	-
<b>Total</b> .....	<b>4,868,834.28</b>	<b>741,765.10</b>

**PRODUCTION OF IRON AND STEEL IN CANADA**

This is the first year since 1923 that Canada is able to report a production of iron ore. The sintering plant of the Algoma Ore Properties began operations during the past summer and ore was shipped to the smelter of the Algoma Steel Corporation Limited, Sault Ste. Marie, Ontario and to the United States; 123, 598 tons in all were shipped.

One of the most important developments in Canadian mining was the success attained in locating a high grade iron ore deposit at Steep Rock Lake near Atikokan, 135 miles west of Port Arthur. By means of magnetic and electrical surveys and diamond drilling through the ice, the existence of a large ore body was determined. A shaft is now being sunk on the property.

Production of pig iron in Canada during 1939 totalled 756,182 long tons compared with 705,427 tons in 1938. During the year, 1,319,243 long tons of iron ore, 779,069 short tons of coke and 366,731 short tons of limestone were charged to the iron blast furnaces in Canada. Ferro-alloys production amounted to 75,234 long tons as against 55,926 long tons in 1938. During the calendar year 1939 the output of steel ingots and castings totalled 1,384,827 long tons, an increase of 19 per cent over 1,155,190 long tons in 1938.

**Production of Pig Iron and Ferro-alloys in Canada, 1938 and 1939**

(tons of 2,240 pounds)

	1938			1939		
	For own use	For sale	Total	For own use	For sale	Total
<b>PIG IRON—</b>						
Basic.....	531,077	26,501	557,578	634,761	21,250	656,011
Foundry.....	18,596	62,492	81,088	-	71,709	71,709
Malleable.....	20,189	40,572	60,761	-	28,462	28,462
<b>Total</b> .....	<b>575,862</b>	<b>129,565</b>	<b>705,427</b>	<b>634,761</b>	<b>121,421</b>	<b>756,182</b>
Ferro-alloys.....	-	55,926	55,926	-	75,234	75,234

**Production of Steel Ingots and Castings in Canada, 1938 and 1939**

(tons of 2,240 pounds)

	1938			1939		
	For own use	For sale	Total	For own use	For sale	Total
<b>STEEL INGOTS—</b>						
Open hearth—Basic.....	1,046,902	301	1,047,203	1,253,176	6,025	1,259,201
Electric.....	55,891	-	55,891	71,198	8	71,206
Other.....	-	-	-	-	-	-
<b>Total Steel Ingots</b> .....	<b>1,102,793</b>	<b>301</b>	<b>1,103,094</b>	<b>1,324,374</b>	<b>6,033</b>	<b>1,330,407</b>
<b>STEEL CASTINGS—</b>						
Open hearth—Basic.....	1,018	14,507	15,525	2,036	13,976	16,012
Converter.....	-	759	759	-	805	805
Electric.....	8,314	27,498	35,812	7,041	30,562	37,603
<b>Total Direct Steel Castings</b> .....	<b>9,332</b>	<b>42,764</b>	<b>52,096</b>	<b>9,077</b>	<b>45,343</b>	<b>54,420</b>
<b>Grand Total</b> .....	<b>1,112,125</b>	<b>43,065</b>	<b>1,155,190</b>	<b>1,333,451</b>	<b>51,376</b>	<b>1,384,827</b>

## Lead

Lead production totalled 388,378,914 pounds which, when valued at 3.169 cents per pound (London prices converted to Canadian funds), was worth \$12,307,727 as against 418,927,660 pounds valued at \$14,008,941 in 1938 when the average price was 3.344 cents per pound. Over 97 per cent of the total Canadian lead production comes from the mines of British Columbia of which the Sullivan silver-lead-zinc mine is by far the largest single producer. The Mayo district in the Yukon Territory is the next largest producing area and accounted for 7,544,632 pounds during 1939. Stocks of lead concentrates accumulated when the Stirling Mine in Nova Scotia was in production were shipped during 1939. A relatively small tonnage of lead-bearing ore was shipped from a property in the Algoma district of Ontario in 1939 and considerable development work was conducted on a lead-bearing deposit located on Calumet Island in the Ottawa River.

## Production in Canada, Imports and Exports of Lead, 1938 and 1939

	1938		1939	
	Pounds	Value \$	Pounds	Value \$
<b>PRODUCTION—</b>				
Nova Scotia.....	-	-	2,545,122	80,055
Quebec.....	-	-	-	-
Ontario.....	22,363	748	39,130	1,240
Manitoba.....	-	-	-	-
British Columbia.....	413,706,307	13,834,339	378,250,030	11,986,743
Northwest Territories.....	-	-	-	-
Yukon.....	5,198,990	173,854	7,544,632	239,089
<b>Total.....</b>	<b>418,927,660</b>	<b>14,008,941</b>	<b>388,378,914</b>	<b>12,307,727</b>
<b>IMPORTS—</b>				
Old and scrap, pig and block.....	56,416	3,235	16,846	1,822
Bars and sheets.....	51,507	2,918	88,092	5,442
Litharge.....	2,125,900	143,597	2,253,300	154,898
Acetate of lead.....	245,949	14,483	164,717	10,469
Nitrate of lead.....	285,303	16,250	286,801	20,800
Other manufactures.....	-	67,228	-	80,338
Pipe lead.....	28,333	1,671	60,525	3,798
Shots and bullets.....	9,023	634	11,726	974
Tea lead.....	-	-	-	-
Lead arsenate.....	496,387	41,620	568,344	49,238
Lead tetraethyl, compounds of.....	5,486,418	2,485,032	6,373,494	2,927,449
Lead capsules for bottles.....	-	65,029	-	78,652
Lead pigments—				
Dry white lead.....	91,025	5,502	8,324	701
White lead, ground in oil.....	9,928	916	14,769	1,562
Dry red lead and orange mineral.....	453,721	31,593	450,885	31,619
<b>Total.....</b>	<b>-</b>	<b>2,679,838</b>	<b>-</b>	<b>3,367,822</b>
<b>EXPORTS—</b>				
Lead, contained in ore.....	7,162,300	345,394	8,204,200	399,811
Pig lead.....	309,864,100	8,637,797	361,471,700	9,450,265
White lead.....	70,400	5,712	256,700	20,931
<b>Total.....</b>	<b>317,096,800</b>	<b>8,988,903</b>	<b>369,932,600</b>	<b>9,871,007</b>

## Manganese Ore

Commercial mine shipments of Canadian manganese ores in 1939 were confined to the provinces of Nova Scotia and New Brunswick. Production totalled 396 short tons valued at \$3,688. The output credited to Nova Scotia originated at East Mountain, Colchester County, while production in New Brunswick came from the Turtle Creek deposits in Albert County. Prospecting for new manganese deposits was also conducted in New Brunswick during 1939. Manganese ores are utilized chiefly in the manufacture of steel.

Imports of manganese oxide into Canada totalled 29,787 short tons valued at \$621,931 in 1939 compared with 21,050 short tons at \$463,673 in the preceding year.

## Mercury

Production of mercury in Canada during 1939 came entirely from the deposits worked at Mud Creek, British Columbia by the Empire Mercury Mines Ltd. The output during the year was valued at \$1,226 and the Company reported considerable underground development and some

diamond drilling. At Pinchi Lake in the Omineca district of the same province exploration of mercury deposits was also conducted in 1939 by the Consolidated Mining and Smelting Company of Canada Limited.

Spain, Italy and the United States are the principal mercury producing countries and total world production of the metal in 1938 was reported at 10,600,000 pounds. Imports of mercury into Canada in 1939 totalled 109,232 pounds valued at \$165,489 as compared with 49,584 pounds at \$49,564 in 1938. Mercury prices increased very rapidly during the latter part of 1939.

### Molybdenite

Prospecting and development of molybdenite-bearing deposits were more widespread and intensive in 1939 than for many years. The only commercial shipment of molybdenite to be reported during the year comprised 2,240 pounds of molybdenite concentrates valued at \$600; this ore was mined in Abitibi County, Quebec, by the Molybdenite Corporation of Canada. Molybdenite concentrates were also produced in the Michipicoten district of Ontario by Regnery Metals but statistics relating to this output are not yet available. Other properties under exploration in Eastern Canada included the Moss Mine in Onslow Tp., Pontiac County, Quebec; Kindale Mine, Masham Tp. Gatineau County, Quebec and the Puritan, North American (Old Spain) and Zenith mines in Renfrew County, Ontario. In British Columbia some development work was conducted on molybdenite deposits located at Powell River, Nanaimo Division and Endako in the Omineca Division.

Possible imports of molybdenite into Canada are not shown separately in Canadian trade reports. Imports of calcium molybdate in 1939 totalled 222,990 pounds valued at \$136,321 compared with 181,377 pounds worth \$63,131 in 1938.

### Nickel

Canadian nickel production is recorded as the nickel in matte exported, nickel in nickel oxide and salts sold and refined nickel made at the Port Colborne refinery. As thus defined, the output in 1939 totalled 226,105,865 pounds as compared with 210,572,738 pounds in 1938. Nickel-copper matte is exported by the International Nickel Co. of Canada Limited to Huntington, West Virginia, for the manufacture of monel metal. Nickel metal is also made at Clydach, Wales, from a nickel sulphide which has been partly processed at Port Colborne. The nickel-copper matte made at the smelter of the Falconbridge Nickel Mines, Falconbridge, Ontario is shipped to the Company's refinery at Kristiansand, Norway.

### Production in Canada, Imports and Exports of Nickel, 1938 and 1939

	1938		1939	
	Quantity	Value	Quantity	Value
	Lb.	\$	Lb.	\$
<b>PRODUCTION—</b>				
Nickel in matte exported.....				
Refined and electrolytic nickel produced.....	210,572,738	53,914,494	226,105,865	50,920,305
Nickel in oxides and salts sold.....				
<b>IMPORTS—</b>				
Nickel, nickel silver and German silver in ingots or blocks, n.o.p.....	24,226	6,603	246,078	62,534
Nickel in bars and rods, strips, sheets and plates.....	830,904	330,131	992,282	388,751
Nickel silver and German silver in bars, rods, strips, sheets, plates or anodes.....	82,569	22,107	107,144	28,984
Nickel chromium in bars or rods, etc.....	43,472	41,805	48,597	48,616
German, Nevada and nickel silver, manufactures of, not plated....	-	134,791	-	161,403
Nickel-plated household hollow-ware.....	-	403	-	680
Nickel kitchenware.....	-	1,105	-	400
Nickel-plated ware, n.o.p.....	-	864,393	-	890,602
<b>Total nickel and its products.....</b>	<b>-</b>	<b>1,401,338</b>	<b>-</b>	<b>1,581,970</b>
<b>EXPORTS—</b>				
<b>Total (metal in all forms).....</b>	<b>197,704,000</b>	<b>52,496,417</b>	<b>234,781,390</b>	<b>57,933,511</b>

## Output from Canadian Nickel-Copper Mines and Smelters, 1936-1939

(Short tons)

	1936	1937	1938	1939
Ore shipped from mines.....	4,634,434	6,318,907	6,276,232	7,850,636
Ore and concentrates treated (*).....	4,629,183	6,304,517	6,280,283	7,839,187
Blister copper produced in Ontario (a).....	137,369	154,415	147,439	155,860
Nickel produced in Ontario (b).....	51,952	73,050	62,141	65,893
Matte exported (c).....	50,644	58,673	63,423	71,315
Nickel content of matte exported.....	32,766	38,663	43,075	47,057
Copper content of matte exported.....	6,496	6,497	6,914	8,212

(\*) Represents the tonnage of crude ore smelted together with the tonnage of ore milled; also in addition to the totals recorded for 1936 and 1937 a relatively small tonnage of nickel-bearing ore was exported from a property located in British Columbia.

(a) Copper content.

(b) Includes nickel content of salts and oxides produced.

(c) Less a relatively small tonnage of matte returned annually to Canada for retreatment since 1934.

## Platinum Metals

Platinum, palladium and other metals of this group are contained in the nickel-copper ores of the Sudbury District of Ontario and because of the rapid expansion during recent years in the mining and treatment of these ores this country is now the world's largest producer of these metals. Residues from the Port Colborne and Copper Cliff refineries are shipped to the International Nickel Company's precious metals refinery at Acton near London, England for the recovery of these metals. Platinum group metals contained in the Falconbridge ores are recovered at the Kristiansand, Norway, refinery. It is announced by Falconbridge Nickel Mines that their precious metals separating plant, which for some time has produced pure gold, silver, platinum and palladium, is now about ready for separation of iridium, rhodium and ruthenium. A small amount of stream platinum is recovered annually in British Columbia. Russia, Colombia, and the Union of South Africa are also important producers.

## Production of Platinum Group Metals, Canada, 1938 and 1939

	1938		1939	
	Platinum	Palladium, Rhodium, etc.	Platinum	Palladium, Rhodium, etc.
Produced from Canadian ores.....	Oz. 161,310	130,893	148,877	135,402
	\$ 5,196,279	3,677,342	5,221,712	4,199,622
Recovered from alluvial sands.....	Oz. 16	-	25	-
	\$ 515	-	877	-
<b>Total.....</b>	<b>Oz. 161,326</b>	<b>130,893</b>	<b>148,902</b>	<b>135,402</b>
	<b>\$ 5,196,794</b>	<b>3,677,342</b>	<b>5,222,589</b>	<b>4,199,622</b>

## Imports into Canada and Exports of Platinum, 1938 and 1939

	1938		1939	
	Oz.	Value	Oz.	Value
<b>IMPORTS—</b>		\$		\$
Platinum retorts, pans, condensers, tubing and pipe.....	-	52,229	-	10,925
Platinum wire and bars, strips, sheets or plates, also platinum, palladium, iridium, osmium, ruthenium and rhodium in lumps, ingots, powder, sponge or scrap.....	-	238,369	-	221,298
Platinum crucibles.....	-	2,093	-	1,916
<b>Total.....</b>		<b>292,711</b>		<b>234,139</b>
<b>EXPORTS—</b>				
Platinum, and metals of the platinum group contained in concentrates.....	-	9,320,325	-	6,136,752
Platinum, old and scrap.....	1,106	44,490	1,214	41,475
<b>Total.....</b>		<b>9,364,815</b>		<b>6,178,227</b>

### Radium-Uranium

Canada is one of the chief sources of the world's radium. Pitchblende ores were discovered in 1930 on the shore of Great Bear Lake in the Northwest Territories and the Eldorado mine was brought to successful production under tremendous handicaps, including severe climate conditions and a long transportation route to civilization. Concentrates from the mine are shipped to the Company's refinery at Port Hope, Ontario, where radium salts, yellow and orange sodium uranate, uranium oxide and uranium nitrate, silver sulphide and lead sulphate are made.

### Selenium

Selenium is recovered as a by-product at the plants of the Canadian Copper Refiners, Limited, Montreal East, and the International Nickel Company of Canada, Limited at Copper Cliff, Ontario. Production totalled 367,884 pounds valued at \$650,786 in 1939 compared with 358,929 pounds valued at \$622,742 in 1938. Production is credited to the provinces from whose ores the blister copper, electrolytically refined, was obtained. The principal use of selenium is in the manufacture of alloys, glass and rubber goods. The average price of selenium in 1939, on the London market and transposed to Canadian funds, was \$1.769 per pound.

### Silver

Silver production in 1939 totalled 23,116,861 fine ounces which, when valued at 40.488 cents per fine ounce (New York prices in Canadian funds), was worth \$9,359,553, compared with 22,219,195 fine ounces worth \$9,660,239 in 1938 when the average price was 43.477 cents per ounce. Silver is found in association with almost every major non-ferrous metal and the large output of the Sullivan silver-lead-zinc mine in British Columbia is largely responsible for that province contributing over half the total Canadian output. The other important silver producer in British Columbia is the Silbak-Premier at Stewart. Ontario silver-cobalt mines were for long the principal source of silver in that province but the output has been growing less annually. As a result of the recent drop in price the last principal producer in this once famous camp, the O'Brien Mine, ceased operations early in 1940. Nickel-copper ores are now the principal source of silver in Ontario. The Flin Flon and Sherritt Gordon ores are mainly responsible for the silver output in Manitoba and Saskatchewan; Noranda is the major contributor in Quebec and the Mayo Camp in the Yukon.



## Production of Silver in Canada, by Provinces and by Sources, 1938 and 1939

	1938		1939	
	Quantity	Value	Quantity	Value
	fine oz.	\$	fine oz.	\$
<b>NOVA SCOTIA—</b>				
In gold bullion and in silver-lead zinc ores exported†..... <b>Total</b>	<b>988</b>	<b>430</b>	<b>173,877</b>	<b>70,399</b>
<b>QUEBEC—</b>				
In anode copper.....	971,417	422,343	943,403	381,965
In gold ores and, in copper and other ores exported.....	218,078	94,814	224,119	90,741
<b>Total</b> .....	<b>1,189,495</b>	<b>517,157</b>	<b>1,167,522</b>	<b>472,706</b>
<b>ONTARIO—</b>				
In silver bullion made from cobalt ores.....	1,087,703	472,901	1,379,426	558,502
In gold bullion.....	521,459	226,715	509,058	206,107
In blister copper.....	2,437,596	1,059,793	2,413,730	977,271
In ores, concentrates, residues and matte exported or treated in smelters outside the province.....	272,079	118,292	365,885	148,140
<b>Total</b> .....	<b>4,318,837</b>	<b>1,877,701</b>	<b>4,668,099</b>	<b>1,890,020</b>
<b>MANITOBA—</b>				
In blister copper.....	1,147,216	498,775	984,992	398,804
In gold bullion and in ores, slag, etc., exported.....	51,009	22,216	43,493	17,009
<b>Total</b> .....	<b>1,198,315</b>	<b>520,991</b>	<b>1,028,485</b>	<b>416,413</b>
<b>SASKATCHEWAN—</b>				
In blister copper (a).....	898,405	390,600	1,139,348	461,290
In gold bullion and placer gold.....	8	3	2,252	912
<b>Total</b> .....	<b>898,413</b>	<b>390,603</b>	<b>1,141,600</b>	<b>462,211</b>
<b>ALBERTA—</b>				
In alluvial gold..... <b>Total</b>	<b>23</b>	<b>10</b>	<b>32</b>	<b>13</b>
<b>BRITISH COLUMBIA—</b>				
In alluvial gold.....	10,397	4,520	9,000	3,044
In gold bullion.....	110,011	48,221	79,180	32,058
In base bullion and in ores, matte, etc. exported.....	11,065,255	4,810,841	10,534,687	4,265,284
<b>Total</b> .....	<b>11,185,563</b>	<b>4,863,582</b>	<b>10,622,867</b>	<b>4,300,986</b>
<b>YUKON—</b>				
In alluvial gold.....	16,043	6,975	19,254	7,795
In silver-lead-ores shipped to smelter.....	2,828,616	1,229,797	3,811,610	1,543,245
<b>Total</b> .....	<b>2,844,659</b>	<b>1,236,772</b>	<b>3,830,864</b>	<b>1,551,040</b>
<b>NORTHWEST TERRITORIES—</b>				
In pitchblende-silver and gold ores*..... <b>Total</b>	<b>581,902</b>	<b>252,993</b>	<b>483,515</b>	<b>195,765</b>
<b>Canada—Total</b> .....	<b>22,219,195</b>	<b>9,660,239</b>	<b>21,116,861</b>	<b>9,359,553</b>
<b>IMPORTS—</b>				
Silver in bars, etc., unmanufactured.....	2,011,048	850,488	3,850,851	1,532,891
Silver, manufactures of, n.o.p., and articles consisting wholly or in part of sterling, and other silverware.....	-	293,193	-	278,521
Toilet articles of which the most important component, in value, is sterling silver.....	-	33,216	-	25,907
<b>Total</b> .....	<b>-</b>	<b>1,176,897</b>	<b>-</b>	<b>1,837,319</b>
<b>EXPORTS—</b>				
Silver contained in ore, concentrates, etc. (c).....	5,868,827	2,540,860	6,828,031	2,801,206
Silver bullion (Canadian) (b).....	22,682,687	9,838,462	14,202,549	5,723,967
<b>Total</b> .....	<b>28,551,514</b>	<b>12,379,322</b>	<b>21,030,580</b>	<b>8,525,173</b>
Silver bullion—Foreign (d).....	1,244,096	550,893	1,008,612	427,046
Silver coin—Foreign (subsidiary).....	-	1,500,837	-	1,200,392
Canadian.....	-	32,326	-	6,340

\*Comprises silver in silver sulphide, etc., made at the Eldorado refinery, Port Hope, Ont., plus silver in ores shipped to other metallurgical plants.

†Silver-lead ores exported in 1939 only.

(a) Represents silver contained in blister copper made at the Flin Flon smelter from Saskatchewan ores.

(b) Of these exports 21,713,359 ounces in 1938 and 13,862,258 ounces in 1939 went to the United States.

(c) In 1938, 5,573,016 ounces went to the United States and in 1939, 6,555,500 ounces.

(d) Of the quantity exported 1,062,078 ounces in 1938 and 1,008,612 ounces in 1939 went to the United States.

NOTE.—For 1939 silver was valued at 40.488 cents per fine ounce, the average price of the metal on the New York market expressed in Canadian funds; for 1938 the corresponding price was 43.477 cents.

### Tellurium

Tellurium was recovered as a by-product in the treatment of blister copper at the plant of the Canadian Copper Refiners Limited at Montreal East, Quebec. Tellurium is used as a hardening and strengthening agent in lead and its alloys. It is also employed in the manufacture of rubber products, its function being to increase tensile strength and resistance to abrasion. Production totalled 22,985 pounds in 1939 valued at \$37,281 compared with 48,237 pounds worth \$82,967 in 1938. The average price of tellurium in 1939, on the London market and transposed to Canadian funds, was \$1.622 per pound.

### Titanium Ore

Shipments of titanium ore (ilmenite) in 1939 were entirely from deposits located near Baie St-Paul, Quebec. The utilization of titanium white and titanium pigments is increasing annually; consumption by the Canadian paint industry in 1938 amounted to 3,903,337 pounds worth \$378,548.

### Tungsten

Tungsten bearing minerals are known to occur in Canada in Nova Scotia, New Brunswick, Manitoba, British Columbia, Northwest Territories and Yukon.

In 1939, commercial shipments of tungsten concentrates were made from a property located at Hardscrabble Creek, British Columbia, these were reported to total 8,825 pounds valued at \$4,917 and represented the first output of tungsten minerals in Canada since 1918, when a production of 13 tons valued at \$11,700 was recorded. In Nova Scotia, during 1939, considerable development and exploration work was conducted by Guysborough Mines Limited at a property located at Lake Charlotte, Halifax County, and in the same county, shipments of tungsten concentrates were made early in 1940 by the Kirkpatrick Tungsten Syndicate from a deposit situated near Goff P.O., near Lunenburg, Nova Scotia. The tungsten bearing veins of the Indian Path Mine were diamond drilled during 1939 by the Siscoe Gold Mines Limited.

It is also interesting to note that tungsten is reported to occur with gold in the veins of the Slave Lake Gold Mines Limited property, Outpost Island, Slave Lake, Northwest Territories; it is stated that recent sampling of the mine revealed encouraging tungsten values.

### Zinc

Refined zinc is made at Trail, British Columbia, by the Consolidated Mining and Smelting Co., Ltd., principally from the ores of the Sullivan silver-lead-zinc mine, and by the Hudson Bay Mining and Smelting Company Ltd., at Flin Flon, Manitoba. Zinc concentrates were exported by the Normetal Mining Corporation, Limited, Waite Amulet Mines Ltd., Quebec, and from stocks accumulated at the Stirling Mine in Nova Scotia when that company was in production. Concentrates were also exported by the Consolidated Mining and Smelting Co., Ltd. The average price of zinc for 1939 was 3.069 cents per pound, in Canadian funds based on London market quotations as compared with 3.073 cents per pound in 1938.

## Production in Canada, Imports and Exports of Zinc, 1938 and 1939

	1938		1939	
	Pounds	Value	Pounds	Value
<b>PRODUCTION—</b>		\$		\$
Nova Scotia .....	—	—	9,152,856	280,901
Quebec .....	5,315,852	163,356	28,758,759	882,606
Ontario .....	—	—	—	—
Manitoba .....	46,864,575	1,440,148	40,302,747	1,236,891
Saskatchewan .....	29,962,507	929,751	37,278,001	1,144,002
British Columbia .....	299,303,564	9,199,443	279,041,497	8,503,784
<b>Total.....</b>	<b>351,506,588</b>	<b>11,723,698</b>	<b>394,533,860</b>	<b>12,108,244</b>
<b>IMPORTS—</b>				
Zinc dust .....	1,373,900	70,294	1,301,900	80,571
Zinc in blocks, pigs, bars and rods, and zinc plates, n.o.p. ....	5,900	643	38,500	3,347
Zinc in sheets and strips, and zinc plates for marine boilers .....	6,771,600	467,114	7,004,300	547,514
Zinc spelter .....	2,700	201	1,200	96
Zinc white (zinc oxide) .....	12,492,235	489,850	10,539,650	450,954
Zinc sulphate .....	585,362	8,977	596,118	14,037
Zinc, chloride of .....	1,252,081	48,720	2,128,454	84,290
Zinc, manufactures of n.o.p. ....	—	206,048	—	283,127
Lithopone .....	17,731,708	632,273	21,252,814	765,522
<b>Total—Imports.....</b>	<b>—</b>	<b>1,925,020</b>	<b>—</b>	<b>2,229,458</b>
<b>EXPORTS—</b>				
Zinc, contained in ore .....	45,841,000	1,154,812	41,260,600	526,905
Zinc, scrap, dross and ashes .....	2,364,100	34,235	3,918,500	51,741
Zinc, spelter .....	264,424,100	8,626,061	311,989,100	9,343,586
<b>Total—Exports.....</b>	<b>312,629,200</b>	<b>9,816,008</b>	<b>357,168,200</b>	<b>9,922,232</b>

## FUELS

## Coal

Coal production in Canada rose 8.6 per cent in 1939 to 15,519,464 tons from the preceding year's total of 14,294,718 tons. Operators in Nova Scotia, New Brunswick, Alberta and British Columbia reported increased outputs in 1939.

Canada imported 13,884,816 tons of coal during the year; this represented a 4.5 per cent increase over the 1938 imports. Anthracite receipts were 263,804 tons greater at 3,977,805 tons; bituminous imports were up 336,279 tons at 9,903,613 tons. Lignite importations from the United States and Alaska amounted to 3,398 tons.

A 6.5 per cent advance was recorded in the exports of Canadian coal; the 1939 total was 376,203 tons and the previous year's total, 353,181 tons.

## Output and Value of Coal in Canada, by Kinds and by Provinces, 1938 and 1939

(Short tons)

Province	1938		1939	
	Quantity	Value	Quantity	Value
		\$		\$
NOVA SCOTIA (Bituminous).....	6,236,417	22,523,802	7,051,276	25,611,271
NEW BRUNSWICK (Bituminous).....	342,238	1,133,340	451,205	1,514,598
MANITOBA (Lignite).....	2,016	5,660	1,276	3,629
SASKATCHEWAN (Lignite).....	1,022,166	1,360,416	959,463	1,251,647
ALBERTA—				
Bituminous.....	2,310,479	6,506,156	2,556,944	7,118,174
Sub-bituminous.....	488,915	1,269,131	512,101	1,323,357
Lignite.....	2,451,639	5,923,183	2,449,294	5,971,505
<b>Total.....</b>	<b>5,261,233</b>	<b>13,698,470</b>	<b>5,518,339</b>	<b>14,413,036</b>
BRITISH COLUMBIA (Bituminous).....	1,440,267	5,237,077	1,537,905	5,464,018
YUKON (Bituminous).....	361	3,400	—	—
<b>Canada—</b>				
Bituminous.....	10,329,782	35,403,781	11,597,330	39,709,061
Sub-bituminous.....	488,915	1,269,131	512,101	1,323,357
Lignite.....	3,476,021	7,309,259	3,410,633	7,226,781
<b>Total.....</b>	<b>14,294,718</b>	<b>43,982,171</b>	<b>15,519,464</b>	<b>48,259,199</b>

## Shipments of Coal from Canadian Mines, by Grades and Destinations, 1938 and 1939

(Short tons)

Destination	1938				Total
	Run-of-mine	Cobble and Lump	Nut and other grades	Slack	
Prince Edward Island.....	7,854	43,110	4,019	13,651	68,634
Nova Scotia.....	151,072	347,777	30,803	800,803	1,330,455
New Brunswick.....	148,860	114,312	23,022	282,038	568,832
Quebec.....	60,379	965,392	118,288	1,606,375	2,750,434
Ontario.....	1,703	47,481	25,810	54,578	129,522
Manitoba.....	32,065	299,941	291,630	303,787	927,433
Saskatchewan.....	188,288	676,655	412,682	228,547	1,506,172
Alberta.....	274,351	427,505	287,003	254,970	1,243,829
British Columbia.....	35,523	219,255	274,177	205,223	734,178
Yukon.....	107	254	-	-	361
Northwest Territories.....	-	128	-	-	128
<b>Total domestic shipments.....</b>	<b>900,232</b>	<b>3,141,760</b>	<b>1,468,034</b>	<b>3,749,972</b>	<b>9,259,998</b>
Railroads—					
In Canada.....	2,485,207	539,461	101,285	74,093	3,200,046
In United States.....	11,507	-	-	-	11,507
In Newfoundland.....	-	5,560	-	-	5,560
Ships' bunkers.....	240,154	102,521	52,141	2,664	397,480
<b>Total railroads and ships' bunkers.....</b>	<b>2,736,868</b>	<b>647,542</b>	<b>153,426</b>	<b>76,757</b>	<b>3,614,593</b>
United States.....	5,381	20,831	35,999	71,314	133,525
Alaska.....	-	12,391	452	-	12,843
Newfoundland.....	28,198	81,626	115	-	109,939
Other Countries.....	1,602	3,608	-	-	5,210
<b>Total external shipments.....</b>	<b>35,181</b>	<b>118,456</b>	<b>36,506</b>	<b>71,314</b>	<b>261,517</b>
<b>Total.....</b>	<b>3,672,281</b>	<b>3,907,758</b>	<b>1,658,026</b>	<b>3,898,043</b>	<b>13,136,108</b>
			1939		
Prince Edward Island.....	6,670	49,543	4,102	16,889	77,004
Nova Scotia.....	145,753	386,787	34,508	843,387	1,410,435
New Brunswick.....	181,766	136,528	26,593	334,241	679,128
Quebec.....	147,960	1,167,607	140,201	1,681,387	3,137,155
Ontario.....	9,601	57,441	29,607	43,120	139,769
Manitoba.....	36,109	268,980	285,073	334,141	924,303
Saskatchewan.....	179,901	665,339	407,637	233,312	1,486,189
Alberta.....	246,475	399,026	300,736	266,723	1,212,960
British Columbia.....	31,663	180,695	229,915	243,346	685,619
Yukon.....	-	-	-	-	-
<b>Total domestic shipments.....</b>	<b>985,898</b>	<b>3,311,946</b>	<b>1,458,372</b>	<b>3,996,346</b>	<b>9,752,562</b>
Railroads—					
In Canada.....	2,735,187	629,631	74,296	116,375	3,555,489
In United States.....	11,307	-	-	-	11,307
In Newfoundland.....	-	31,678	-	-	31,678
Ships' bunkers.....	307,900	161,359	89,364	2,601	561,224
<b>Total railroads and ships' bunkers.....</b>	<b>3,054,394</b>	<b>822,668</b>	<b>163,660</b>	<b>118,976</b>	<b>4,159,698</b>
United States.....	2,631	19,769	29,046	98,244	149,690
Alaska.....	-	9,251	338	-	9,589
Newfoundland.....	29,126	72,210	448	-	101,793
Other Countries.....	181	2,244	-	-	2,425
Lost at sea.....	-	989	-	-	989
<b>Total external shipments.....</b>	<b>31,938</b>	<b>104,472</b>	<b>29,832</b>	<b>98,244</b>	<b>264,486</b>
<b>Total.....</b>	<b>4,072,230</b>	<b>4,239,086</b>	<b>1,651,864</b>	<b>4,213,566</b>	<b>14,176,716</b>

**Output, Exports, Interprovincial Shipments, Imports and Coal made Available for Consumption in Canada, by Provinces, 1939**

(Short tons)

Province	Canadian coal				Imported from U.S.A.	Imported from Great Britain	Imported from Germany	Imported from other countries	Coal available for consumption
	Output	Received direct from mines in other provinces	Shipped direct to other provinces	Exported					
<b>PRINCE EDWARD ISLAND—</b>									
Anthracite.....	-	-	-	-	4,753	-	1,562	-	6,315
Bituminous.....	-	89,941	-	-	96	4,523	-	-	94,560
<b>Total.....</b>	-	89,941	-	-	4,849	4,523	1,562	-	100,875
<b>NOVA SCOTIA—</b>									
Anthracite.....	-	-	-	-	21,099	45,846	4,115	-	71,060
Bituminous.....	7,051,276	97	4,182,409	104,938	2,855	29,223	-	-	2,796,104
<b>Total.....</b>	7,051,276	97	4,182,409	104,938	23,954	75,069	4,115	-	2,867,164
<b>NEW BRUNSWICK—</b>									
Anthracite.....	-	-	-	-	25,547	50,262	-	-	75,809
Bituminous.....	451,205	582,907	37,643	110,581	13,957	14,987	-	-	914,832
<b>Total.....</b>	451,205	582,907	37,643	110,581	39,504	65,249	-	-	990,641
<b>QUEBEC—</b>									
Anthracite.....	-	-	-	-	596,623	843,580	274,254	43,537	1,757,994
Bituminous.....	-	3,533,513	-	10,404	1,105,590	18,302	-	20	4,647,021
<b>Total.....</b>	-	3,533,513	-	10,404	1,702,213	861,882	274,254	43,557	6,405,015
<b>CENTRAL ONTARIO—</b>									
Anthracite.....	-	-	-	-	1,934,258	95,213	13,671	-	2,043,142
Bituminous.....	-	13,594	-	142	8,035,174	-	-	-	8,048,626
<b>Total.....</b>	-	13,594	-	142	9,969,432	95,213	13,671	-	10,091,768
<b>MANITOWA AND HEAD OF LAKES—</b>									
Anthracite.....	-	-	-	-	23,452	-	-	-	23,452
Bituminous.....	-	271,365	-	479	674,778	448	-	-	946,112
Sub-bituminous.....	-	90,501	-	-	-	-	-	-	90,501
Lignite.....	1,276	687,464	-	208	14	-	-	-	688,540
<b>Total.....</b>	1,276	1,049,330	-	687	698,244	448	-	-	1,748,611
<b>SASKATCHEWAN—</b>									
Anthracite.....	-	-	-	-	-	-	-	-	-
Bituminous.....	-	58,313	-	423	862	-	-	-	58,752
Sub-bituminous.....	-	27,279	-	-	-	-	-	-	27,279
Lignite.....	959,463	967,847	468,467	2,744	863	-	-	-	1,456,962
<b>Total.....</b>	959,463	1,053,439	468,467	3,167	1,725	-	-	-	1,542,993
<b>ALBERTA—</b>									
Anthracite.....	-	-	-	-	33	-	-	-	33
Bituminous.....	2,556,944	8,202	383,994	1,791	990	-	-	-	2,180,351
Sub-bituminous.....	512,101	-	154,521	-	-	-	-	-	357,580
Lignite.....	2,449,294	-	1,246,050	1,650	0	-	-	-	1,200,991
<b>Total.....</b>	5,518,339	8,202	1,785,165	3,450	1,029	-	-	-	3,738,955
<b>BRITISH COLUMBIA—</b>									
Anthracite.....	-	-	-	-	-	-	-	-	-
Bituminous.....	1,537,905	143,893	97,779	139,446	1,785	-	-	-	1,446,358
Sub-bituminous.....	-	36,741	-	-	-	-	-	-	36,741
Lignite.....	-	59,806	-	3,388	2,441	-	-	-	58,959
<b>Total.....</b>	1,537,905	240,440	97,779	142,834	4,226	-	-	-	1,541,958
<b>YUKON—</b>									
Bituminous.....	-	-	-	-	23	-	-	-	23
Lignite.....	-	-	-	-	22	-	-	52	74
<b>Total.....</b>	-	-	-	-	45	-	-	52	97
<b>CANADA—</b>									
Anthracite.....	-	-	-	-	2,665,765	1,034,001	293,602	43,537	3,977,865
Bituminous.....	11,597,330	4,701,925	4,701,825	368,204	9,536,110	67,483	-	20	21,132,739
Sub-bituminous.....	512,101	151,321	154,521	-	-	-	-	-	512,101
Lignite.....	3,416,633	1,215,117	1,215,117	7,999	3,346	-	-	52	3,465,432
<b>Total.....</b>	15,519,464	6,571,463	6,571,463	376,203	12,445,221	1,102,344	293,602	43,609	29,028,027

(a) Includes 43,537 tons from French Indo-China, 20 tons from Norway and 52 tons from Alaska.

### Imports of Anthracite, Bituminous and Lignite Coal into Canada, by Months, 1938 and 1939

(short tons)

Month	1938				1939			
	United States	Great Britain	Other countries	Total	United States	Great Britain	Other countries	Total
<b>ANTHRACITE—</b>								
January	179,952	7,527	5,721	193,200	176,325	18,609	755	195,689
February	161,173	11,438	-	172,611	175,549	15,594	-	191,143
March	164,100	21,171	4,149	189,420	201,455	10,432	2,240	214,127
April	110,502	35,316	-	145,818	122,317	167	-	122,484
May	181,754	166,802	63,418	411,974	321,608	231,785	28,199	581,592
June	267,821	144,464	48,654	460,939	264,591	129,084	68,564	462,239
July	161,541	157,094	98,814	417,449	184,416	192,774	77,795	454,985
August	118,584	142,369	72,491	333,444	144,173	134,191	64,476	342,840
September	143,456	184,299	83,169	410,924	361,917	76,161	61,728	499,806
October	177,352	126,414	72,654	376,420	351,133	94,836	29,906	475,875
November	152,740	163,855	76,494	393,089	186,421	97,993	-	283,914
December	154,635	38,382	15,696	208,713	115,860	33,775	3,476	153,111
<b>Total</b>	<b>1,973,610</b>	<b>1,199,131</b>	<b>541,260</b>	<b>3,714,001</b>	<b>2,665,765</b>	<b>1,034,901</b>	<b>337,139</b>	<b>3,977,805</b>
<b>BITUMINOUS—</b>								
January	312,676	5,668	417	318,761	263,353	8,107	20	271,480
February	246,660	6,920	-	253,580	228,973	9,954	-	238,927
March	282,771	6,855	-	289,626	314,934	9,063	-	323,997
April	375,618	5,327	-	380,945	138,710	3,256	-	141,966
May	902,502	7,239	-	909,741	202,950	8,492	-	211,448
June	1,129,182	2,889	8,114	1,140,185	907,309	2,103	-	909,412
July	1,031,336	8,312	8,112	1,047,760	1,128,733	7,150	-	1,135,883
August	1,099,905	12,318	2,022	1,114,245	1,276,820	8,556	-	1,285,376
September	1,121,110	2,310	8,115	1,131,535	1,242,334	2,148	-	1,244,482
October	1,057,618	3,375	-	1,060,993	1,470,592	2,796	-	1,473,388
November	1,269,546	3,920	7,895	1,281,361	1,660,198	2,730	-	1,662,928
December	637,778	824	-	638,602	1,001,198	3,128	-	1,004,326
<b>Total</b>	<b>9,466,762</b>	<b>65,937</b>	<b>34,675</b>	<b>9,567,334</b>	<b>9,836,110</b>	<b>67,493</b>	<b>20</b>	<b>9,963,613</b>
<b>LIGNITE—</b>								
January	425	-	-	425	310	-	-	310
February	206	-	-	206	736	-	-	736
March	255	-	-	255	154	-	-	154
April	82	-	-	82	70	-	-	70
May	12	-	-	12	172	-	-	172
June	61	-	-	61	-	-	-	-
July	112	-	-	112	105	-	-	105
August	13	-	-	13	80	-	-	80
September	76	-	-	76	155	-	25	180
October	355	-	-	355	343	-	27	370
November	427	-	-	427	789	-	-	789
December	937	-	-	937	432	-	-	432
<b>Total</b>	<b>2,961</b>	<b>-</b>	<b>-</b>	<b>2,961</b>	<b>3,346</b>	<b>-</b>	<b>52</b>	<b>3,398</b>

### Coal Made Available for Consumption in Canada, 1938 and 1939

(Short tons)

Month	1938				1939			
	Output	Imports	Exports	Coal made available for use	Output	Imports	Exports	Coal made available for use
January	1,470,964	512,366	44,193	1,939,157	1,199,951	467,479	40,036	1,627,394
February	1,409,036	426,397	32,667	1,802,766	1,299,078	430,806	29,272	1,700,612
March	1,222,621	479,301	28,012	1,673,910	1,177,818	538,278	31,328	1,684,768
April	873,193	526,845	12,538	1,387,500	912,327	264,520	14,945	1,161,902
May	1,020,609	1,321,727	22,092	2,320,244	1,136,381	793,212	30,276	1,899,317
June	934,750	1,601,185	26,086	2,560,840	1,090,726	1,371,651	30,817	2,431,560
July	825,940	1,405,321	20,022	2,271,239	1,091,019	1,590,973	18,627	2,663,365
August	1,012,901	1,447,702	34,522	2,426,081	1,270,599	1,628,296	25,042	2,873,853
September	1,117,269	1,542,535	30,012	2,629,792	1,312,567	1,744,468	42,883	3,074,152
October	1,503,608	1,437,768	25,826	2,815,550	1,782,455	1,949,633	42,053	3,690,035
November	1,552,841	1,674,877	48,471	3,179,247	1,721,251	1,947,631	29,524	3,639,358
December	1,350,986	848,252	28,740	2,170,498	1,465,292	1,157,869	41,400	2,581,761
<b>Total</b>	<b>14,291,718</b>	<b>13,284,296</b>	<b>333,181</b>	<b>27,225,833</b>	<b>15,519,464</b>	<b>13,884,816</b>	<b>376,203</b>	<b>29,628,677</b>

## Coke Statistics for Canada, by Months, 1939

(Exclusive of Petroleum Coke) (Short tons)

Month	Bituminous coal used in coke making			Coke made	Disposition of coke by makers				Total
	Canadian	Imported	Total		Used		Sold		
					In coke or gas plants	In makers' smelters	For domestic use	For other uses	
January.....	83,259	193,672	276,931	202,428	19,947	48,634	132,508	35,006	236,095
February.....	75,357	169,053	244,410	176,537	18,845	43,346	127,852	26,268	210,311
March.....	79,446	182,308	261,754	187,785	19,970	51,998	114,565	28,863	215,390
April.....	83,940	173,248	257,188	183,443	18,224	54,577	67,278	26,816	160,895
May.....	97,555	174,371	271,926	184,630	18,463	64,408	40,591	32,914	156,376
June.....	94,051	166,002	260,053	187,990	16,138	60,695	38,291	34,741	140,865
July.....	91,301	160,992	261,293	189,254	13,976	65,967	53,593	32,585	160,121
August.....	89,752	174,564	264,316	190,723	15,530	69,507	53,738	28,563	167,338
September.....	90,412	169,850	260,262	186,284	18,511	66,026	139,982	26,432	250,951
October.....	104,500	207,036	311,536	226,614	23,711	89,193	112,568	47,640	273,118
November.....	106,008	206,008	313,006	229,216	25,067	86,823	90,687	43,158	254,735
December.....	108,700	220,703	329,403	243,123	25,491	102,837	97,761	42,590	268,685
<b>Total.....</b>	<b>1,104,371</b>	<b>2,207,707</b>	<b>3,312,078</b>	<b>2,388,037</b>	<b>233,873</b>	<b>804,011</b>	<b>1,078,414</b>	<b>465,588</b>	<b>2,521,886</b>

## Production in Canada, Imports and Exports of Coke, by Provinces, 1938 and 1939

(Exclusive of Petroleum Coke) (Short tons)

	Nova Scotia, New Brunswick and Quebec	Ontario	Manitoba, Saskat- chewan, Alberta and British Columbia	Canada
<b>PRODUCTION—</b>				
1938.....	754,975	1,365,571	231,457	2,352,003
1939.....	793,018	1,365,871	229,138	2,388,027
<b>IMPORTS—</b>				
1938.....	26,408	376,576	11,698	414,682
1939.....	24,379	399,388	12,104	435,871
<b>EXPORTS—</b>				
1938.....	737	—	29,800	30,537
1939.....	776	21,352	25,986	48,114
<b>AVAILABLE FOR CONSUMPTION—</b>				
1938.....	780,646	1,742,147	213,355	2,736,148
1939.....	816,621	1,743,907	215,256	2,775,784

NOTE.—Re Imports—The imports of coal or coke, as shown in this report, represent the actual tonnages arriving at customs ports, while the report of the Trade of Canada shows clearances from customs for consumption in Canada.

## Natural Gas

The output of natural gas in Canada in 1939 totalled 35,394,087 thousand cubic feet or 5.8 per cent above the preceding year's output. This total includes only the natural gas consumed for industrial and domestic purposes and does not take into account the waste gas burned in the Turner Valley and the gas piped to the Bow Island field for repressuring.

Alberta wells accounted for 64.1 per cent of the 1939 output, the Turner Valley field being the most important producer in this province. In February, the transmission of waste gas from the Turner Valley to Bow Island wells ceased. Since 1930 over 13 million thousand cubic feet of this gas have been forced into the exhausted Bow Island sands raising the closed pressure from 260 pounds to 565 pounds. Other important producing fields in 1939 were the Medicine Hat-Redcliff and Viking.

Ontario produced 11,985,851 thousand cubic feet compared with 10,952,806 thousand cubic feet, a year ago. New Brunswick's output totalled 606,249 thousand cubic feet in 1939 while, the Saskatchewan production was 96,423 thousand cubic feet.

## Production in Canada and Imports of Natural Gas, 1938 and 1939

Province	1938		1939	
	M cu. ft.	Value	M cu. ft.	Value
		\$		\$
<b>PRODUCTION—</b>				
New Brunswick.....	577,492	284,689	606,249	292,400
Ontario.....	10,952,806	6,460,764	11,985,851	7,191,510
Manitoba.....	600	180	600	180
Saskatchewan.....	90,285	34,136	96,423	36,640
Alberta.....	21,822,108	4,807,346	22,703,904	5,018,000
Northwest Territories.....	1,500	335	1,000	224
<b>Canada.....</b>	<b>33,444,791</b>	<b>11,587,450</b>	<b>35,394,087</b>	<b>12,538,954</b>
<b>IMPORTS—</b>				
Gas for cooking, heating or illuminating, imported by pipe line....	133,062	87,311	114,396	75,380

## Peat

Peat production in Canada, for use as fuel, in 1939 amounted to 520 tons worth \$3,095. This output was obtained from Ontario bogs.

## Petroleum

The Canadian production of crude petroleum and natural gasoline set up a new high record in 1939 when 7,838,310 barrels worth \$10,353,351 were produced. The continued development of the Turner Valley field, Alberta, was responsible in the main part for the advance in output during the year. Thirty-four new wells were brought into production in this field in 1939 and drilling was in progress on some twenty-two other wells at the close of the year. The south producing area of the Turner Valley field is now about 6 miles in length and from 1½ to 1½ miles in width. In the north producing area Royalite No. 43 well, a large producer, was brought into production in 1939, but the field at this point is less than ½ mile wide.

The Petroleum and Natural Gas Conservation Board continued to regulate the output of oil in the Turner Valley to meet market requirements. During the first two days of December, 1939, the daily rate was set at 20,000 barrels; this was lowered to 14,000 barrels a day until the twenty-second of the month when a further reduction to 12,000 barrels was enforced. The Board also controls the spacing of wells in the Turner Valley, confining drilling to one well per 40 acres.

In 1939, the British American Oil Company shut down its refinery at Coutts, which had been using Montana crude and erected a new plant in Calgary. Important additions were made to the Imperial Oil Calgary refinery. The Gas and Oil Products completed a modern cracking plant in Turner Valley. Provincial government reports indicate that these new refinery facilities have proven that a high octane gasoline can be made from Alberta crude without the need of blending imported stocks.

New Brunswick wells produced 20,101 barrels in 1939. Output in Ontario totalled 200,196 barrels and in the Northwest Territories, 17,013 barrels.



## Production of Crude Petroleum in Canada, 1938 and 1939

Province	1938		1939	
	Barrels	Value	Barrels	Value
NEW BRUNSWICK.....	19,276	27,246	20,101	28,000
ONTARIO—		\$		\$
Petrolia and Emskillen.....	58,273	120,229	50,951	109,934
Oil Springs.....	32,283	69,728	32,336	65,646
Moore Township.....	1,398	2,882	1,527	2,947
Sarnia Township.....	595	1,227	397	766
Plympton Township.....	191	394	156	301
Bothwell Township.....	40,449	83,399	39,539	76,315
West Dover.....	8,401	18,145	15,037	29,023
Onondaga.....	878	1,882	219	507
Mosa Township.....	13,527	27,888	12,857	24,816
Brooke.....	101	208	52	101
Dunwich.....	195	402	210	405
Raleigh and Tilbury East.....	207	427	27	52
Thamesville.....	1,990	4,103	1,293	2,490
Dawn and Euphemia.....	5,416	11,196	3,958	7,639
Warwick.....	8,310	17,132	41,478	80,057
Chatham.....	27	56	159	307
Total for Ontario.....	172,641	359,268	206,196	401,312
ALBERTA—				
Turner Valley.....	6,703,548	8,736,664	7,553,000	9,834,550
Red Coulee—Border.....	14,157	12,742	13,000	11,700
Wainwright—Ribstone.....	18,229	15,461	15,000	12,750
Other.....	15,378	10,227	14,000	14,000
Total for Alberta.....	6,751,312	8,775,094	7,595,000	9,873,000
NORTHWEST TERRITORIES.....	22,855	68,565	17,013	51,039
Canada.....	6,966,684	9,230,173	7,838,310	10,353,351

## Imports into Canada, and Exports of Petroleum and Its Products, 1938 and 1939

Imports	1938		1939		Exports	1938		1939	
Petroleum and asphalt (Total) \$	55,606,622	55,913,177	Oil petroleum, crude..... Gal.			1,125	336		
Asphalt, solid..... Cwt.	296,125	231,136		\$		57	17		
Other Asphalt..... \$	3,255	8,802	Oil, coal and kerosene, refined..... Gal.			767,763	614,139		
Crude petroleum..... Gal.	1,228,510,309	1,298,367,561		\$		77,585	67,267		
	\$	\$	Oil, gasoline and naphtha..... Gal.			4,984,879	3,443,416		
Fuel oil for ships..... Gal.	31,198,446	41,057,202		\$		458,997	331,541		
	\$	\$	Fuel oil..... Gal.			1,847,017	2,879,286		
Gasoline..... Gal.	119,038,120	109,021,177		\$		92,095	188,409		
	\$	\$	Oil, Mineral, n.o.p..... Gal.			806,041	709,681		
Kerosene, refined..... Gal.	5,866,423	7,776,493		\$		247,207	251,176		
	\$	\$	Wax, mineral..... Cwt.			289	3,638		
Lubricating oil..... Gal.	16,465,965	18,067,304		\$		1,612	10,148		
	\$	\$	Total Exports..... \$			877,553	848,558		
	3,187,348	3,957,615							

## NON-METALLICS (except Fuels)

## Abrasives

**Grindstones, Pulpstones and Scythestones.**—Quarries for the production of these products are located at Shediac, Stonehaven, and in the parish of Derby, New Brunswick, also in Pictou county, Nova Scotia, also on the northwest end of Gabriola Island, British Columbia.

The only commercial production of natural grindstones to be reported in 1939 came from a property located in Nova Scotia. Shipments totalled 152 short tons valued at \$5,616. Sales of natural abrasives were also reported to have been made from a quarry in New Brunswick but data pertaining to same are not yet available.

Pulpstones are used in magazine grinders in Canadian pulp mills but as deposits containing thick beds of the proper quality sandstones are scarce in Canada, this country supplies only a very small percentage of the number annually. Artificial pulpstones made of silicon carbide or fused alumina segments are gradually replacing the natural stones.

**Volcanic Dust.**—No production has been reported since 1934. This material is used as an abrasive base in scouring and cleaning compounds. Deposits occur in Saskatchewan, Alberta and British Columbia.

**Diatomite.**—Shipments of diatomite were made in 1939 from deposits located in Nova Scotia, Ontario and British Columbia. Diatomite is used as a filter aid, for insulation purposes, concrete admixture, and as a silver polish base. Production in 1939 totalled 301 tons valued at \$10,397.

### Imports into Canada and Exports of Abrasives in 1938 and 1939

	1938		1939	
	Quantity	Value	Quantity	Value
		\$		\$
<b>IMPORTS</b>				
Artificial abrasives in bulk, crushed or ground; when imported for use in the manufacture of abrasive wheels and polishing composition...	-	418,462	-	642,792
Diamond dust or hort, and black diamonds for borers.....	-	3,950,698	-	4,129,532
Emery in bulk, crushed or ground.....	-	38,743	-	55,967
Grinding wheels, manufactured by the bonding together of either natural or artificial abrasives.....	-	88,851	-	100,977
Grinding stones or blocks manufactured by the bonding together of either natural or artificial abrasives.....	-	21,257	-	22,586
Grindstones, not mounted, and not less than 36 inches in diameter. No.	840	91,205	849	126,260
Grindstones, n.o.p. No.	4,516	6,161	1,502	7,013
Pumice and pumice stone, lava and calcareous tufa, not further manufactured than ground.....	-	24,688	-	29,314
Sand paper, glass, flint and emery paper or emery cloth.....	-	60,590	-	60,797
Manufactures of emery or of artificial abrasives, n.o.p.....	-	42,345	-	43,301
Diatomaceous earth or infusorial earth (kieselguhr), ground or unground..... Cwt.	51,299	73,000	86,139	128,808
<b>Total</b> .....	-	<b>4,816,870</b>	-	<b>5,347,347</b>
<b>EXPORTS</b>				
Grindstones, manufactured.....	-	5,441	-	6,312
Abrasives—				
Natural, n.o.p., in one or bulk, crushed or ground*..... cwt.	6,397	11,346	5,122	11,827
Artificial, crude, including silicon carbide..... cwt.	1,202,216	3,773,570	1,439,126	4,380,148
Artificial, made up into wheels, stones, etc.....	-	-	-	47,158
<b>Total</b> .....	-	<b>3,790,357</b>	-	<b>4,445,445</b>

\* Including infusorial earth, rotten stone, tripoli, etc.

### Asbestos

Canada produces more asbestos than any other country in the world and from the standpoint of value it is the most important industrial mineral produced in this country. The Eastern Townships of Quebec province have long been the principal source. Deposits have been reported from other districts in Canada but to date there has been very little commercial production. Mining and general development work was carried on during the year by the Rahn Lake Mines Corporation Ltd., Bannockburn Township, Ontario, and small shipments were reported by the Company.

### Sales of Asbestos in Canada, 1938 and 1939

Grades	1938			1939		
	Shipments and sales		Average value per ton	Shipments and sales		Average value per ton
	Tons	Value		Tons	Value	
		\$	\$	\$	\$	
Crudes.....	2,911	955,423	328.21	3,121	938,718	300.68
Fibres.....	103,097	9,710,899	59.54	193,992	12,049,539	62.12
Shorts.....	123,785	2,223,873	17.97	167,359	2,870,955	17.15
<b>Total</b> .....	<b>289,793</b>	<b>12,890,195</b>	<b>41.48</b>	<b>364,472</b>	<b>15,859,212</b>	<b>43.51</b>
Sunds, gravel and stone (waste rock only)....	3,279	2,464	0.75	3,897	2,930	0.75
<b>Total</b> .....	<b>293,072</b>	<b>12,892,659</b>	-	<b>368,369</b>	<b>15,862,142</b>	-
		1938 Tons		1939 Tons		
Rock mined.....		5,816,368		6,650,416		
Rock milled.....		4,874,548		5,548,765		

## Imports into Canada and Exports of Asbestos, 1938 and 1939

	1938		1939	
	tons	\$	tons	\$
<b>IMPORTS—</b>				
Asbestos clutch facings for automobiles, motor vehicles and chassis	—	93,470*	—	36,895
Asbestos brake linings for automobiles, motor vehicles and chassis	—	150,410†	—	185,673
Asbestos brake linings and clutch facings, n.o.p.	—	13,157†	—	19,856
Asbestos in any form other than crude, and all manufactures of, n.o.p.	—	581,989	—	764,946
Asbestos packing	47	45,866	65	65,074
<b>Total</b>	—	<b>884,892</b>	—	<b>1,072,443</b>
<b>EXPORTS—</b>				
Asbestos	165,744	10,872,435	186,238	12,463,177
Asbestos sand and waste	123,143	2,237,751	159,780	2,902,111
Asbestos manufactures, including asbestos roofing	—	206,372	—	479,415
<b>Total</b>	—	<b>13,316,558</b>	—	<b>15,844,703</b>

\*To March 31, 1938.

†From April 1, 1938.

## Barytes

Commercial shipments of barytes were made in 1939 from two properties located in Northern Ontario. This was the first output of the mineral in Canada since 1933 and the data relating to the shipments made in 1939 are not yet available for publication. The deposits worked during the year under review were situated in Lawson Township, Elk Lake district and in Langmuir Township.

## Bituminous Sands

According to information received from the Department of Mines and Resources, there was no commercial production of hydrocarbons from the bituminous sands of the McMurray area in Alberta in 1939. Operations by International Bitumen Limited, at Bitumount on the Athabaska River, were temporarily discontinued. It is expected that commercial production by Abasand Oils Limited, at Abasand, on Horse River will be commenced during the Spring of 1940. The separation plant of this company has a rated capacity of 400 tons of bituminous sand per day of 24 hours and the refinery a corresponding capacity.

## Feldspar

Canadian feldspar production totalled 12,463 tons valued at \$112,084 compared with 14,058 tons valued at \$129,293 in 1938. There are two feldspar grinding plants in Canada, one at Buckingham, Quebec, and the other at Kingston, Ontario. Crude feldspar is exported to the United States and Canadian ground spar is used in the manufacture of glass, enamels, white tableware, and sanitaryware.

## Production in Canada, Imports and Exports of Feldspar, 1938 and 1939

	1938		1939	
	Tons	Value	Tons	Value
<b>PRODUCTION—(Sales)</b>				
Quebec	5,874	62,878	5,402	61,028
Ontario	8,106	65,964	7,061	51,056
Manitoba	78	451	—	—
<b>Total</b>	<b>14,058</b>	<b>129,293</b>	<b>12,463</b>	<b>112,084</b>
<b>IMPORTS—</b>				
Crude	42	367	257	1,302
Ground	615	10,083	607	10,379
<b>Total</b>	<b>657</b>	<b>10,450</b>	<b>864</b>	<b>11,681</b>
<b>EXPORTS—Total (a)</b>	<b>29,242</b>	<b>139,408</b>	<b>32,362</b>	<b>137,444</b>

(a) Includes nepheline syenite.

## Fluorspar

The most important deposit of fluorspar in Canada is located near Grand Forks, B.C., and has been operated intermittently by the owners, The Consolidated Mining and Smelting Company of Canada Limited, who mine the mineral for their own use. Other deposits are

located near Madoc, Hastings County, Ontario. According to the press, a shipment was made in the early part of 1940 from Cardiff Township in the Bancroft area. Shipments in 1939 totalled 240 tons valued at \$4,995 and came entirely from the Madoc district.

Imports of fluorspar into Canada during 1939 totalled 16,321 short tons worth \$258,796 as against 15,057 tons worth \$212,131 in 1938.

### Graphite

The Black Donald mine near Calabogie, Renfrew County, Ontario, is the only Canadian producer of graphite. Production in 1939 was valued at \$61,684 compared with \$41,590 in 1938. This graphite is not suitable for crucible manufacture but is well adapted for lubricants and foundry purposes. In recent years the highest grade has been employed in the manufacture of pencils, being exported to the United States and there reduced to the requisite degree of fineness. Important producing countries are Australia, Austria, Germany, Italy, Madagascar, Mexico and Korea. Imports of graphite in all forms into Canada during 1939 were appraised at \$160,419.

#### Production, Imports and Exports of Graphite, 1938 and 1939

	1938		1939	
	Tons	Value	Tons	Value
		\$		\$
<b>PRODUCTION—Total</b> .....	-	<b>41,590</b>	-	<b>61,684</b>
<b>IMPORTS—</b>				
Crucibles, plumbago.....	-	60,616	-	60,091
Plumbago, not ground or otherwise manufactured.....	-	18,546	-	13,384
Plumbago, ground, and manufactures of, n.o.p.....	-	69,342	-	86,944
<b>Total</b> .....	-	<b>148,504</b>	-	<b>160,419</b>
<b>EXPORTS—</b>				
Graphite or plumbago, crude or refined.....	<b>1,150</b>	<b>54,366</b>	<b>1,321</b>	<b>56,614</b>

### Gypsum

Gypsum production in Canada in 1939 totalled 1,408,188 tons valued at \$1,922,957 compared with 1,008,799 tons worth \$1,502,265 in the preceding year. Production from Nova Scotia mines, a large part of which is exported in crude form, constitutes the major part of the total output. Gypsum is also produced in New Brunswick, Ontario, Manitoba, and British Columbia. In addition to being marketed in the crude form, as the hydrous calcium sulphate, it is also partly dehydrated and sold as plaster of Paris. A proportion of the calcined material enters into the manufacture of wallboard, gypsum blocks, insulating material, acoustic plaster, etc. Included in the output for Nova Scotia is a considerable quantity of anhydrite.

#### Production in Canada, Imports and Exports of Gypsum, 1938 and 1939

	1938		1939	
	Tons	Value	Tons	Value
		\$		\$
<b>PRODUCTION—(Sales)</b>				
Crude—				
(1) Lump or mine run.....	17,030	20,391	27,762	33,468
Crushed.....	892,028	939,073	1,275,200	1,292,803
Fine ground.....	473	2,489	412	2,490
(2) Calcined (sold and used).....	99,268	540,312	104,814	594,196
<b>Total</b> .....	<b>1,008,799</b>	<b>1,502,265</b>	<b>1,408,188</b>	<b>1,922,957</b>
<b>IMPORTS—</b>				
Gypsum, crude (sulphate of lime).....	8	212	3	52
Plaster of Paris or gypsum, ground, not calcined.....	418	13,602	695	18,075
Plaster of Paris or gypsum calcined and prepared wall plaster.....	1,326	25,464	1,520	30,225
<b>Total</b> .....	<b>1,752</b>	<b>39,278</b>	<b>2,218</b>	<b>48,352</b>
<b>EXPORTS—</b>				
Gypsum or plaster, crude.....	810,109	932,742	1,260,231	1,390,126
Plaster of Paris, ground, and prepared wall plaster.....	1,458	34,004	1,339	33,727
<b>Total</b> .....	<b>811,567</b>	<b>966,746</b>	<b>1,261,570</b>	<b>1,423,853</b>

(1) Includes some anhydrite produced in Nova Scotia.

(2) Does not include gypsum calcined in manufacturing plants at Montreal, Calgary and Lethbridge.

### Iron Oxides

Shipments of iron oxides totalled 5,822 tons valued at \$87,463 in 1939 compared with 5,821 tons worth \$71,769 in 1938. The province of Quebec has been for many years the principal producer of iron oxides. The raw product is dried and shipped for use in purifying illuminating gas, or calcined and ground to be used as a pigment in the paint industry. There is a small annual production from British Columbia which is used entirely in gas works. Other deposits of this material exist in Nova Scotia, Alberta, Saskatchewan and Manitoba.

### Magnesitic Dolomite

Magnesitic dolomite, an intimate mixture of magnesite and dolomite is quarried and processed at Kilmar and Harrington East, in Argenteuil county, Quebec. It is marketed in the caustic and dead-burned states; in the form of bricks; as finely ground refractory cement; and also in combination with chrome as an ingredient in certain types of refractories. Caustic-calcined magnesia is used for fettling the bottoms of basic open hearth furnaces and for the construction of floors and floor tiles. The deposits of magnesitic dolomite in Argenteuil county, Quebec, are ample to supply magnesia products for domestic requirements for many years, and also to support a large export trade. Experimental work was carried on during the year on brucite-bearing limestone discovered in 1938 at Rutherglen, Ontario, and at Bryson and Wakefield, Quebec. The work has demonstrated that the brucite can be separated from the limestone by a process involving calcination. The calcined brucite or magnesia so obtained is suitable for the making of basic refractories, magnesium metal and various chemical compounds.

#### Production in Canada, Imports and Exports of Magnesitic Dolomite, 1938 and 1939

	1938		1939	
	Tons	Value	Tons	Value
<b>PRODUCTION*</b> —		\$		\$
Calcined or clinkered— <b>Total</b> .....	—	429,261	—	474,418
<b>IMPORTS</b> —				
Magnesia pipe covering.....	—	34,601	—	47,276
Magnesite, crude rock.....	—	4	—	640
Magnesite, dead burned, sintered, caustic, calcined or plastic magnesia.....	698	43,956	596	37,366
Magnesite, calcined, not further manufactured than ground, when imported by manufacturers of insulating materials for use exclusively in the manufacture of such insulating materials in their own factories.....	298	9,307	433	16,745
Brick, fire, magnesite.....	—	571,910	—	677,011
<b>Total</b> .....	—	658,778	—	779,638
<b>EXPORTS</b> —				
Magnesite, calcined, dead burned, etc.....	3,971	95,607	7,399	183,034

\* In former years, the value of the production of magnesitic dolomite included the value of calcined sold plus the sales value of manufactured products such as refractory bricks and other similar materials. Beginning with 1938, the value of the production includes only the value of the calcined sold plus the cost value of the calcined magnesitic dolomite used for further manufacture by the producing company.

### Magnesium Sulphate

Production of magnesium sulphate in 1939 totalled 550 tons valued at \$9,900 compared with 470 tons valued at \$9,400 in 1938. Production was entirely from the Kamloops district of British Columbia. This mineral also occurs in association with sodium sulphate deposits in Saskatchewan.

Imports of magnesium sulphate or Epsom salts totalled 1,950 tons valued at \$56,648 in 1939 compared with 1,803 tons worth \$33,018 in 1938.

### Mica

General improvement was experienced in the mica mining industry in 1939. Production totalled 1,601,085 pounds valued at \$144,514 compared with 1,037,026 pounds worth \$80,989 in the preceding year. The principal producing areas in Canada are in the neighbourhood of

Ottawa. The northern portion of the field lies principally between or adjacent to the Gatineau and Lièvre rivers in Quebec, and the southern portion is the Perth-Kingston district of Ontario. A relatively small production of ground mica was reported in British Columbia in 1939.

### Production, Imports into Canada and Exports of Mica, 1938 and 1939

	1938		1939	
	Quantity	Value	Quantity	Value
		\$		\$
PRODUCTION..... Lb.	1,037,026	80,989	1,741,085	144,514
IMPORTS—				
Mica and manufactures of, n.o.p.—Total .....	-	86,803	-	61,835
EXPORTS—				
Rough cobbled and thumb trimmed..... Lb.	118,200	57,960	169,700	42,924
Mica splittings..... Lb.	49,000	22,143	228,500	108,823
Mica, scrap and waste..... Lb.	1,288,600	7,649	1,971,100	12,525
Mica, plate, and manufactures of (micanite).....	-	1,507	-	980
<b>Total</b> .....	-	89,259	-	165,252

### Mineral Waters

Sales of natural mineral waters in Canada during 1939 totalled 122,909 imperial gallons valued at \$19,062 compared with 188,309 gallons worth \$21,619 in 1938. These shipments were made from mineral springs in Ontario and Quebec.

Mineral and aerated waters, n.o.p., imported during 1939 were valued at \$69,525 compared with \$61,928 in 1938. Exports of mineral and aerated waters amounted to \$1,842 against \$6,177 during the previous year.

### Nepheline-Syenite

Commercial production of nepheline-syenite began in 1936 from deposits located in Peterborough county, Ontario, with production extending in 1937 to the Bancroft district. The rock consists of a mixture of nepheline and potash and soda feldspars, having a considerably higher aluminium content than feldspar. It is finding favour for use in the manufacture of glass and is also found to be valuable for a variety of other ceramic uses. Four companies are producing at present and production in 1939 was valued at \$140,148 as against \$142,737 in 1938. Exports of nepheline syenite in 1939 totalled 24,701 tons valued at \$87,487.

### Phosphate

There is a small annual output of phosphate rock from the Lièvre district of the province of Quebec. Production in 1939 totalled 157 tons worth \$1,712 compared with 208 tons worth \$1,886 in the previous year. Imported rock phosphate is used in the manufacture of super-phosphates by Canadian fertilizer manufacturers. Imports of this material for fertilizer purposes totalled 124,900 tons valued at \$477,317 as against 128,409 tons worth \$455,697 in 1938.

### Pyrites (Sulphur)

Canadian sulphur production is computed as the sulphur in pyrites shipped from the mines plus the sulphur content of sulphuric acid and other products made from waste smelter gases at Trail, British Columbia, and Copper Cliff, Ontario.

No iron pyrites was mined as such but there is an annual production of pyrites concentrates which is separated in the milling of the ores at the Aldermac mine in Western Quebec, at Eustis in the Eastern Townships of Quebec, and at the Britannia copper mine in British Columbia. Operations ceased at the Eustis property during 1939 but interest in iron pyrites deposits located in northwestern Ontario and British Columbia was renewed during the year under review.

### Production in Canada, Imports and Exports of Pyrites, 1938 and 1939

	1938		1939	
	Sulphur content	Value	Sulphur content	Value
	tons	\$	tons	\$
<b>*PRODUCTION—</b>				
Quebec.....	16,580	98,261	60,902	275,951
Ontario.....	16,807	108,970	16,126	161,260
British Columbia.....	78,918	777,580	133,476	1,230,814
<b>Total.....</b>	<b>112,305</b>	<b>1,044,817</b>	<b>210,704</b>	<b>1,668,025</b>
<b>IMPORTS—</b>				
Brimstone, or sulphur, crude or in roll or flour.....	93,697	1,471,741	152,216	2,453,836
<b>EXPORTS—</b>				
Pyrites (Sulphur content).....	22,109	145,189	110,142	793,466

\* Includes sulphur in pyrites concentrates and sulphur recovered from smelter gases.

### Quartz

Canadian quartz production includes quartz and low-grade silica sands used for fluxing purposes and moulding, also various grades for the manufacture of scouring compounds, glass, ferro-silicon, brick and artificial abrasives. The price range varies greatly, depending upon the purity of the product which in turn depends on the purpose for which it is to be used.

### Production in Canada and Imports of Quartz, 1938 and 1939

	1938		1939	
	Tons	Value	Tons	Value
<b>*PRODUCTION—</b>		\$		\$
Nova Scotia.....	4,701	8,415	10,574	18,927
Quebec.....	85,153	315,251	104,807	369,193
Ontario.....	1,173,259	597,037	1,300,016	655,584
Saskatchewan.....	116,898	40,914	134,192	46,907
<b>Total.....</b>	<b>1,380,011</b>	<b>961,617</b>	<b>1,555,589</b>	<b>1,090,671</b>
<b>IMPORTS—</b>				
Ganister.....	300	2,888	255	2,018
Silex or crystallized quartz, ground or unground.....	3,069	77,815	2,750	61,497
Flint and ground flint stones.....	1,005	16,946	645	11,601
Silica sand†.....	172,073	338,832	167,721	349,256
<b>Total.....</b>	<b>-</b>	<b>436,481</b>	<b>-</b>	<b>424,372</b>
<b>EXPORTS—</b>				
Quartzite.....	-	-	108,397	198,418

\* Includes both crude and crushed quartz and quartzite, silica fluxing gravel and natural silica sands.

† For making carborundum and glass and for filtration and sand blasting.

### Salt

Salt is one of Canada's most important non-metallic minerals and in addition to its use for ordinary purposes, large quantities of the mineral in the form of brine from Ontario wells are consumed annually in the manufacture of caustic soda, chlorine, calcium chloride, soda ash, and hydrochloric acid.

In Nova Scotia at the Malagash mine, the salt is recovered by mining methods and by leaching. In Ontario, Manitoba, Saskatchewan and Alberta, salt is obtained from brine wells. Production from Ontario comes entirely from wells in the southern part of the province. The Neepawa Salt Ltd. is the only producer in Manitoba and at Fort McMurray, Alberta, Industrial Minerals Ltd. completed in December, 1937, the erection of a plant for the production of salt from brines obtained from rock salt deposits. It is interesting to note that certain sections of the Malagash deposit contain appreciable quantities of potash.

## Production of Salt in Canada, by Grades, 1938 and 1939

Grade	1938			1939		
	Manu- factured	Sold	Value of salt sold (Not includ- ing con- tainers)	Manu- factured	Sold	Value of salt sold (Not includ- ing con- tainers)
	Tons	Tons	\$	Tons	Tons	\$
Table, dairy and pressed blocks.....	83,323	85,422	876,204	68,629	70,390	1,223,433
Common, fine.....	101,949	104,174	418,810	88,921	84,106	503,589
Common, coarse.....	32,446	30,613	253,384	27,733	28,704	286,179
Highway salt.....	5,778	10,174	34,688	8,156	8,156	40,501
Land salt.....	88	71	397	288	268	1,697
Other grades.....	44,214	38,653	158,491	46,313	44,918	185,274
Brine for chemical works (Salt equivalent sold or used).....	170,938	170,938	170,938†	187,958	187,958	245,959†
<b>Total.....</b>	<b>438,736</b>	<b>440,045</b>	<b>1,912,913</b>	<b>424,998</b>	<b>424,500</b>	<b>2,486,632</b>
Value of containers.....	-	-	576,806	-	-	471,350
<b>Grand total.....</b>	<b>438,736</b>	<b>440,045</b>	<b>2,489,719</b>	<b>424,998</b>	<b>424,500</b>	<b>2,015,282</b>

†Value of brine subject to revision.

## Imports into Canada and Exports of Salt, 1938 and 1939

	1938		1939	
	Tons	Value	Tons	Value
		\$		\$
<b>IMPORTS—</b>				
Salt, for use of the sea or gulf fisheries.....	39,016	110,808	34,646	97,598
Salt, in bulk, n.o.p.....	44,692	169,039	54,659	193,233
Salt, n.o.p., in bags, barrels, etc.....	24,384	172,742	28,313	216,171
Salt, table, made by an admixture of other ingredients, when containing not less than 90 per cent of pure salt.....	41	1,176	11	366
<b>Total.....</b>	<b>108,133</b>	<b>453,765</b>	<b>117,629</b>	<b>507,368</b>
<b>EXPORTS—</b>				
<b>Total.....</b>	<b>11,844</b>	<b>68,293</b>	<b>10,656</b>	<b>76,287</b>

## Sodium Carbonate

Sodium carbonate production totalled 300 tons valued at \$2,400 during 1939 compared with 252 tons valued at \$2,268 in 1938 and came entirely from deposits located on or near the line of the Pacific and Great Eastern Railway in British Columbia.

Sodium carbonate, or soda ash, has many industrial uses being employed in the manufacture of glass, soap, and in the purification of oils.

Imports of soda ash or barilla during 1939 totalled 1,572 tons valued at \$45,377 compared with 1,454 tons worth \$41,831 in 1938.

## Sodium Sulphate

The large increase in Canadian output of sodium sulphate during recent years is due to its use in the metallurgical treatment of nickel-copper matte and in the manufacture of "kraft paper." Practically all of the Canadian production comes from the province of Saskatchewan.

Production in 1939 totalled 71,453 tons valued at \$627,941 compared with 63,009 tons worth \$553,307 in 1938. Not included in the production data for 1939 are 30 tons valued at \$186 shipped from deposits located in the province of Alberta. Imports of salt cake in 1939 amounted to 6,542 tons valued at \$73,575 as against 5,786 tons worth \$61,122 in 1938. Glauber's salt imports amounted to 1,330 tons valued at \$20,102 in 1939.

## Talc and Soapstone

Canadian talc production in 1939, as for some years past, came chiefly from important deposits of foliated white talc located near Madoc, Ontario. Preparation of the mineral for the market includes crushing, drying, grinding and bolting; the products from these mills are marketed in Canada, United States and Europe.



Soapstone products are produced from deposits of the mineral occurring in the Eastern Townships, Quebec. The mineral is mainly used, in the shape of blocks, as a refractory lining in alkali recovery furnaces in paper mills using the sulphite process. Powdered soapstone finds a good market as a filler in various industries. Mixed with Portland cement it has been used successfully for interior plastering purposes giving a very white velvet finish. It is now used in the manufacture of fireless cookers, fireplaces, stoves, wood or coal burners and electrical heaters. Soapstone is easily carved and when polished takes a soft marble-streaked appearance. Various objects, such as tobacco jars, candlesticks, clock cases, and book-ends made of carved and polished soapstone have lately been put on the market.

#### Production in Canada, Imports and Exports of Talc and Soapstone, 1938 and 1939

	1938		1939	
	Tons	Value	Tons	Value
		\$		\$
<b>PRODUCTION—</b>				
Soapstone (dimension and ground)*.....	—	35,038	—	41,471
Talc.....	10,853	109,810	13,144	128,595
<b>Total</b> .....	—	<b>144,848</b>	—	<b>170,066</b>
<b>IMPORTS—</b>				
Talc or soapstone, ground or unground— <b>Total</b> .....	<b>2,647</b>	<b>40,386</b>	<b>3,193</b>	<b>51,380</b>
<b>EXPORTS—</b>				
Talc— <b>Total</b> .....	<b>6,952</b>	<b>70,742</b>	<b>7,185</b>	<b>74,560</b>

\*Includes some talc.

#### Structural Materials and Clay Products

The aggregate value of the production of clay products, cement, lime, stone and sand and gravel was slightly greater than in 1938. Building activities, as represented by building permits issued by 58 cities in Canada in 1939, stood at 38.5 per cent of the 1926 level and the index of wholesale prices of building materials in 1939 stood at 89.7 per cent of the 1926 average level.

#### Cement

During 1939 the Canada Cement Company Limited operated plants at Montreal East and at Hull, Quebec; Port Colborne and Point Anne, near Belleville, Ontario; Port Whyte, Manitoba; and Exshaw, Alberta. Other companies producing cement were the St. Mary's Cement Company, St. Mary's, Ontario, and the British Columbia Cement Company, Bamberton, British Columbia.

#### Production in Canada, Imports and Exports of Cement, 1938 and 1939

	1938		1939	
	Barrels	Value	Barrels	Value
		\$		\$
<b>OUTPUT—Total</b> .....	<b>5,588,047</b>	<b>—</b>	<b>5,721,447</b>	<b>—</b>
<b>SALES—</b>				
Quebec.....	2,730,320	3,093,188	3,027,759	4,035,294
Ontario.....	1,818,032	2,555,214	1,709,203	2,437,777
Manitoba.....	330,889	754,427	343,717	773,303
Alberta.....	304,373	611,790	377,846	744,357
British Columbia.....	335,488	620,731	272,079	520,420
<b>Total</b> .....	<b>5,519,102</b>	<b>8,241,350</b>	<b>5,731,264</b>	<b>8,511,211</b>
Stocks, December 31.....	1,875,288	—	1,865,471	—
<b>IMPORTS—</b>				
Portland.....	48,407	105,328	16,622	58,316
Manufactures.....	—	6,050	—	14,968
<b>Total</b> .....	—	<b>111,376</b>	—	<b>73,284</b>
<b>EXPORTS—Total</b> .....	<b>89,419</b>	<b>101,059</b>	<b>156,556</b>	<b>159,579</b>
<b>APPARENT CONSUMPTION—Total</b> .....	<b>5,478,180</b>	<b>—</b>	<b>5,591,330</b>	<b>—</b>

#### Clay Products

The value of production of clay products, including brick, structural tile, drain tile, pottery, etc., was \$4,984,491 as compared with \$4,536,084 in 1938. Details of production by provinces may be found on page 10.

## Production (Sales) of Domestic Clay and Clay Products in Canada, 1938 and 1939

Products	Unit of measure	Sales or Shipments			
		1938		1939	
		Quantity	Value	Quantity	Value
Clay—Bentonite.....	ton	1,179	\$ 3,659	988	\$ 3,441
Fireclay.....	ton	2,344	17,243	9,685	31,220
Fireclay blocks and shapes.....	x x x x	-	73,512	-	95,256
Firebrick.....	M	2,213	113,581	2,315	118,731
Brick—Soft mud process—Face.....	M	10,838	208,610	8,725	151,378
Common.....	M	24,104	313,082	23,509	320,479
Stiff mud process—Face.....	M	34,179	671,471	39,703	780,969
(wire cut) Common.....	M	50,734	681,744	57,730	818,885
Dry press—Face.....	M	13,125	266,039	9,670	185,832
Common.....	M	15,536	192,741	21,286	312,603
Fancy or ornamental brick (including special shapes, embossed and enamelled brick).....	M	63	4,175	61	3,935
Sewer brick.....	M	228	3,581	313	4,879
Paving brick.....	M	1	34	157	6,089
Structural tile—					
Hollow blocks (including fireproofing, and load-bearing tile).....	ton	70,648	591,416	77,875	654,726
Roofing tile.....	No.	150,504	5,196	148,291	4,964
Floor tile (quarries).....	sq. ft.	100,958	15,330	90,812	15,233
Drain tile.....	M	12,862	322,774	13,518	343,201
Sewer pipe (including copings, flue linings, etc.).....	x x x x	-	778,107	-	812,988
Pottery, glazed or unglazed (including coarse earthenware, stoneware, and all other pottery).....	x x x x	-	235,890	-	278,512
Other products.....	x x x x	-	37,899	-	41,170
<b>Total</b> .....	x x x x	-	<b>4,536,084</b>	-	<b>4,884,491</b>

## Imports into Canada and Exports of Clay and Clay Products, 1938 and 1939

	Unit of measure	1938		1939	
		Quantity	\$	Quantity	\$
<b>Imports—</b>					
Building brick.....	ton	1,801	22,075	1,908	27,236
Building blocks.....		-	48,310	-	30,098
Clays—China.....	cwt.	758,794	324,933	877,425	376,750
Fire.....	"	1,083,493	181,221	1,060,786	162,925
Pipe.....		-	7,999	-	8,083
Other clays, n.o.p.....		-	203,587	-	192,521
Zirconium silicate.....		-	1,847	-	5,589
Zirconium oxide.....		-	24,983	-	40,096
Drain tile, unglazed.....		-	54	-	729
Drain, sewer pipe and earthenware fittings therefor, chimney linings or vents, chimney tops or inverted blocks, glazed or unglazed.....		-	12,950	-	15,788
Tiles or blocks of earthenware or stone prepared for mosaic flooring.....		-	53,233	-	56,209
Tiles, earthenware, for roofing purposes.....		-	3,152	-	10,731
Tiles, earthenware, n.o.p.....		-	131,990	-	123,689
Insulators, electric, porcelain.....		-	88,344	-	75,931
Pottery and chinaware.....		-	4,003,735	-	3,432,744
Brick, fire, other, valued at not less than \$100 per M, rectangular shaped; the dimensions of each not to exceed 125 cubic inches for use exclusively in the construction or repair of a furnace, kiln, etc.....		-	69,440	-	75,894
Brick, fire, n.o.p., for use exclusively in the construction or repair of a furnace, kiln, or other equipment of a manufacturing establishment.....		-	321,850	-	494,396
Firebrick, n.o.p.....		-	606,359	-	841,071
Firebrick, chrome.....		-	47,885	-	88,367
Magnesite brick.....		-	571,910	-	677,011
Silica brick (containing not less than 90 per cent silica).....		-	240,184	-	312,413
Paving brick.....	ton	1,695	12,798	816	6,801
Artificial teeth, not mounted.....		-	367,864	-	439,102
Baths, bathtubs, basins, laundry tubs, etc., of earthenware, cement or clay, n.o.p.....		-	119,164	-	147,976
Crucibles, clay or sand.....		-	29,139	-	40,250
Other manufactures of clay.....		-	62,526	-	95,957
<b>Total</b> .....		-	<b>7,617,522</b>	-	<b>7,778,346</b>
<b>Exports—</b>					
Building brick.....	M	1,134	77,544	1,303	22,826
Clay—Unmanufactured.....	cwt.	919	2,652	1,427	2,065
Manufactured.....		-	53,104	-	65,046
Earthenware.....		-	15,808	-	14,919
Porcelain insulators.....		-	456,897	-	437,932
<b>Total</b> .....		-	<b>606,005</b>	-	<b>542,788</b>

## Lime

Lime is produced in all provinces of Canada, except Prince Edward Island, though the production in Saskatchewan is very small and intermittent. It is marketed in the form of quicklime and as hydrate, the latter being a specially slaked lime in the form of an exceedingly fine, dry powder. Lime is one of the great basic raw materials for the chemical industry, and of the current production a large proportion is used in chemical and metallurgical processes. New chemical uses for lime are constantly appearing. For instance, in the manufacture of a new plastic, pulp mill waste liquor is used, which promises to be one of the cheapest of plastics; lime is used three times in the process.

New vertical gas-fired kilns equipped with centre burners erected by a Canadian lime company at two of its plants have proved to be very efficient, and these represent a notable advance in the technology of the manufacture of lime.

## Production in Canada, Imports and Exports of Lime, 1938 and 1939

	Total 1938		1939					
			Quicklime		Hydrated lime		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	Tons	\$	Tons	\$	Tons	\$	Tons	\$
<b>PRODUCTION (a)—</b>								
Nova Scotia .....	12,351	110,648	14,469	125,969	425	3,446	14,894	129,415
New Brunswick .....	15,247	119,550	11,082	92,661	6,273	48,314	17,355	140,975
Quebec .....	137,314	843,331	134,331	844,055	26,781	139,017	161,112	983,072
Ontario .....	270,475	1,989,259	268,575	1,885,947	33,637	366,917	302,212	2,252,804
Manitoba .....	19,824	198,685	15,625	119,696	4,407	76,494	20,032	196,190
Alberta .....	12,053	107,012	11,521	101,305	386	3,860	11,907	105,165
British Columbia .....	19,655	174,161	18,014	166,064	4,816	32,223	22,830	198,287
<b>Total .....</b>	<b>486,922</b>	<b>3,542,652</b>	<b>473,617</b>	<b>3,335,697</b>	<b>76,725</b>	<b>670,271</b>	<b>550,342</b>	<b>4,005,968</b>
<b>IMPORTS—Total .....</b>	<b>6,653</b>	<b>36,248</b>	—	—	—	—	<b>6,659</b>	<b>33,342</b>
<b>EXPORTS—Total .....</b>	<b>6,381</b>	<b>51,346</b>	—	—	—	—	<b>4,866</b>	<b>40,573</b>

(a) Includes relatively large quantities used as a chemical.

## Stone

The Canadian stone industry is engaged in the quarrying and processing of granite and related igneous rocks, limestone, sandstone, marble and slate. These rocks, particularly limestone, are used for a great variety of purposes and the industry occupies an important place in the industrial activities of the Dominion.

## Production (Sales) of Stone from Canadian Quarries, by Kinds and by Provinces, 1938 and 1939

Province	Granite	Limestone (a)	Marble	Sandstone	Total
1938					
Nova Scotia .....	tons 5,765	20,957	—	36,040	63,662
	\$ 31,768	34,696	—	80,480	146,944
New Brunswick .....	tons 954	7,985	—	4,340	13,279
	\$ 71,600	19,855	—	28,870	120,325
Quebec .....	tons 294,440	1,850,019	8,838	42,587	2,196,384
	\$ 757,531	1,672,260	46,550	51,010	2,527,928
Ontario .....	tons 254,917	2,242,964	10,537	4,662	2,513,291
	\$ 351,941	1,911,841	40,694	16,220	2,323,165
Manitoba .....	tons 329	39,049	—	—	39,378
	\$ 6,120	95,497	—	—	101,617
Alberta .....	tons —	1,691	—	—	1,691
	\$ —	6,148	—	—	6,148
British Columbia .....	tons 148,896	125,842	—	13,325	288,337
	\$ 160,457	124,322	—	41,825	329,899
<b>Canada .....</b>	<b>tons 705,307</b>	<b>4,288,507</b>	<b>19,375</b>	<b>101,854</b>	<b>5,116,022</b>
	<b>\$ 1,379,117</b>	<b>3,864,619</b>	<b>87,271</b>	<b>218,465</b>	<b>5,556,026</b>

**Production (Sales) of Stone from Canadian Quarries, by Kinds and by Provinces,  
1938 and 1939—Concluded**

Province	Granite	Limestone (a)	Marble	Sandstone	Total
<b>1939</b>					
Nova Scotia.....	tons 977	20,274	-	25,461	46,712
	\$ 25,809	27,855	-	70,231	123,895
New Brunswick.....	tons 1,502	9,040	-	21,412	31,954
	\$ 73,865	24,150	-	51,175	149,190
Quebec.....	tons 372,866	1,876,969	7,600	102,828	2,360,946
	\$ 962,251	1,698,777	168,612	157,263	2,987,616
Ontario.....	tons 484,419	2,178,065	6,778	3,272	2,673,134
	\$ 532,848	1,679,065	39,184	14,722	2,265,819
Manitoba.....	tons 174	39,599	-	-	39,773
	\$ 3,544	83,394	-	-	86,938
Alberta.....	tons -	3,041	5	155	3,201
	\$ -	8,931	800	5,314	15,045
British Columbia.....	tons 125,983	175,992	-	10,060	312,454
	\$ 139,454	109,797	-	9,060	323,739
<b>Canada.....</b>	<b>tons 985,921</b>	<b>4,383,589</b>	<b>14,383</b>	<b>163,188</b>	<b>5,468,174</b>
	<b>\$ 1,737,771</b>	<b>3,691,969</b>	<b>204,596</b>	<b>367,795</b>	<b>5,952,242</b>

NOTE.—Included in the total were 979 tons of slate valued at \$6,311 in 1938 and 1,102 tons worth \$6,111 in 1939; also not included in the limestone statistics is limestone consumed in the cement industry. Limestone used in the Canadian lime industry is also excluded. It is estimated that almost 1,000,000 tons of limestone were burned in the manufacture of lime in 1939.

(a) Includes dolomite.

**Imports and Exports of Stone, 1938 and 1939**

	1938		1939	
	Tons	Value	Tons	Value
		\$		\$
<b>IMPORTS—</b>				
Building stone, other than marble or granite, sawn on more than two sides, but not sawn on more than four sides.....	-	-	-	-
Building stone other than marble or granite, plined, turned, cut or further manufactured than sawn on four sides.....	-	-	-	11
Flagstone, sandstone, and all building stone, not hammered, sawn or chiselled.....	3,604	20,757	4,586	27,801
Flagstone and building stone, other than marble or granite, sawn on not more than two sides.....	1,840	13,997	1,160	9,644
Granite, sawn only.....	-	10,429	-	10,156
Granite, manufactures of, n.o.p.....	-	8,990	-	6,368
Granite monuments.....	-	16,949	-	10,941
Granite, rough, not hammered or chiselled.....	-	62,735	-	67,273
Marble, rough, not hammered or chiselled.....	-	23,102	-	20,436
Marble, sawn or sand rubbed, not polished.....	-	28,051	-	32,716
Marble, nor further manufactured than sawn for tombstones.....	-	11,886	-	11,088
Ornamental marble.....	-	9,743	-	22,373
Marble, manufactures of, n.o.p.....	-	8,634	-	11,184
Refuse stone.....	303,103	160,618	504,592	287,577
Slate—including roofing, pencils, writing, mantels and manufactures of, n.o.p.....	-	35,830	-	30,259
Manufactures of stone, n.o.p.....	-	30,518	-	16,531
<b>Total.....</b>	<b>-</b>	<b>442,239</b>	<b>-</b>	<b>564,358</b>
<b>EXPORTS—</b>				
Crushed stone.....	112,537	198,720	32	32
Granite and marble, unwrought.....	657	5,042	925	10,235
Freestone, limestone and other building stone, unwrought.....	42	227	94	828
Dressed stone.....	-	16,150	-	2,035
<b>Total.....</b>	<b>-</b>	<b>220,145</b>	<b>-</b>	<b>13,130</b>

**Sand and Gravel**

Sand and gravel production in 1939 totalled 28,172,384 tons valued at \$10,820,631 compared with 32,223,882 tons worth \$12,002,554 in 1938. One of the recent uses for sand and gravel is for back filling in several of our larger Canadian mines. Its greatest use is in road construction and in concrete aggregate.

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Coal and Coke Statistics for Canada.  
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#### SPECIAL REPORTS—

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