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

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ANNUAL REPORT

ON THE

MINERAL PRODUCTION OF CANADA

DURING THE CALENDAR YEAR

1925

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NOTES ON STATISTICS OF PRODUCTION

In the collection of production data, the Dominion Bureau of Statistics makes a division between primary and secondary production. In the first-named class, there are separate sections for the collection of statistics on (a) **Agricultural Products,** (b) **Furs,** (c) **Fish,** (d) **Forest Products,** (e) **Mineral Products.**

In the second are included (a) **Manufacturing** and (b) **Construction.**

Manufacturing is subdivided into nine groups of industries, producing concerns being classified according to the principal component material of their major products. For example, manufactures of leather goods are classified under "Animal Products"; the pulp and paper industry under "Wood and Paper," etc. An outline of the scheme of classification in use for manufacturing industries is given below:

Manufactures of

(1) **Vegetable Products,** including—Coffee and Spices; Cocoa and Chocolate; Preserved and Canned Products; Pickles, Vinegar and Cider; Flour and Cereals; Bread and other Bakery Products; Macaroni and Vermicelli; Distilled and Brewed Liquors and Wines; Rubber Products; Starch and Glucose; Sugar; Tobacco Products; Linseed Oil and Oil Cake.

(2) **Animal Products,** including—Fish and Fish Products; Dairy Factory Products; Meat and Meat Products; Leather and Leather Products; Furs and Fur Products.

(3) **Textiles and Textile Products,** including—Cotton Textiles (Cloth, Yarn, Thread and Waste); Woollen Textiles (Cloth, Yarn, Blankets, Felt and Waste); Silk Products; Factory-Made Clothing; Carpets, Rugs and Mats; Cordage, Rope and Twine.

(4) **Wood and Paper,** including—Pulp and Paper Mill Products; Paper Goods; Printing, Publishing and Lithographing; Saw and Planing Mill Products; Furniture; Carriages, Wagons and Sleighs; Wooden Containers; Woodenware; Turned Wood Products; and the Output of Similar Wood-Using Industries.

(5) **Iron and Steel and their Products,** including—Pig Iron and Ferro-Alloys; Steel and Rolled Products; Castings and Forgings; Boilers, Tanks and Engines; Agricultural Implements; Machinery; Automobiles; Automobile Supplies; Bicycles; Railway Rolling Stock; Wire and Wire Goods; Sheet Metal Products; Hardware and Tools; Miscellaneous Iron and Steel Products.

(6) **Manufactures of Non-Ferrous Metal Products,** including—Aluminium and Aluminium Ware; Brass and Copper Products; Lead, Tin and Zinc Products; Precious Metal Products; Electrical Apparatus and Supplies; Miscellaneous Non-Ferrous Metal Products.

(7) **Manufactures of Non-Metallic Mineral Products,** including—Aerated Waters; Asbestos and Allied Products; Cement Products and Sand-Lime Brick; Coke and By-Products; Glass (blown, cut, ornamental, etc.); Illuminating and Fuel Gas; Products made from Imported Clay; Monumental and Ornamental Stone; Petroleum Products; Miscellaneous Manufactured Non-Metallic Mineral Products, including (a) Artificial Abrasives; (b) Abrasive Products; (c) Artificial Graphite and Electrodes; (d) Gypsum Products; (e) Mica Products; (f) Miscellaneous Non-Metallic Mineral Products, n.e.s.

(8) **Chemicals and Allied Products,** including—Coal Tar and its Products; Acids, Alkalies, Salts and Compressed Gases; Explosives, Ammunition, Fireworks and Matches; Fertilizers; Medicinal and Pharmaceutical Preparations; Paints, Pigments and Varnishes; Soaps, Washing Compounds and Toilet Preparations; Inks, Dyes, and Colours; Wood Distillates and Extracts; Miscellaneous Chemical Products including (a) Adhesives, (b) Baking Powder, (c) Boiler Compounds, (d) Celluloid Products, (e) Flavouring Extracts, (f) Insecticides, (g) Polishes and Dressings, (h) Sweeping Compounds, (i) Chemical Products, n.e.s.

(9) **Miscellaneous Products,** including—Brooms and Brushes; Electric Light and Power; Musical Instruments, etc.

The statistics of manufactures are also classified according to the **use** or **purpose** of the end product as follows:—

(1) **Food,** including—Breadstuffs; Fish; Nuts; Fruits and Vegetables; Meats; Milk Products; Oils and Fats; Sugar; Infusions; Miscellaneous.

(2) **Drink and Tobacco,** including—Beverages, alcoholic; Beverages, non-alcoholic; Tobacco.

(3) **Clothing,** including—Boots and Shoes; Fur Goods; Garments and Personal Furnishings; Gloves and Mitts; Hats and Caps; Knitted Goods; Waterproofs; Miscellaneous.

(4) **Personal Utilities,** including—Jewellery and Time-Pieces; Recreational Supplies; Personal Utilities, n.e.s.

(5) **House Furnishings.**

(6) **Books and Stationery.**

(7) **Vehicles and Vessels.**

(8) **Producers' Materials,** including—Farm Materials; Manufacturers' Materials; Building Materials; General Materials.

(9) **Industrial Equipment,** including—Farming Equipment; Manufacturing Equipment; Trading Equipment; Service Equipment; Light, Heat and Power Equipment; General Equipment.

(10) **Miscellaneous.**

PREFACE

Annual statistical reports on the mineral production of Canada have been published for many years, first by the Geological Survey, later by the Mines Branch of the Department of Mines, and since 1921, by the Dominion Bureau of Statistics. The present report is issued in continuance of this series, certain new material having been introduced which it is believed will be found of value to the mineral industry.

The statistics relating to the different minerals and the general statistical tables have been prepared as formerly, and these have been supplemented by general reviews of the principal mineral industries, (e.g., the copper-gold industry, the silver-lead-zinc industry, the nickel-copper industry, etc.), and by a section on metallurgical works. In recent years, the value of statistics of this character, covering capital, labour, equipment, etc., has become more generally recognized and the demand for such information has greatly increased.

To meet a demand for the names and addresses of concerns operating in the mineral industry, a list has been prepared and is included in this report.

Statistical reports on the mineral production of Canada issued by the Dominion Bureau of Statistics include the following publications: (*a*) Preliminary estimate of production issued on January 1 of each year; (*b*) Preliminary Report for the calendar year, printed in February; (*c*) Report on production during the six months ending June 30, distributed in August; (*d*) Bulletins giving finally revised production data for the calendar year on each mineral product, issued as the compilations are completed; (*e*) Annual Report on the Mineral Production of Canada, available towards the close of the year. Monthly reports on Coal Statistics are also issued on the fifteenth of each month, and a special annual report giving detailed information on the Canadian coal mining industry and on the importation and distribution of coal, is published in June.

The cordial thanks of the Bureau are tendered to the Dominion Department of Mines and to the several Provincial Departments of Mines, which have without exception, assisted materially in the preparation of the report. In reference to the co-ordination of mining statistics between the Provincial Departments and this Bureau, it has been found possible to arrange for the co-operative collection of monthly statistics of coal production with all the provinces in which such records are obtained, namely, Nova Scotia, New Brunswick, Saskatchewan and Alberta. In the field of general mining statistics, co-operative arrangements with the Ontario Department of Mines have been continued, thus preventing overlapping and duplication of work. During the year similar arrangements with Quebec were completed, to the mutual advantage of provincial and federal departments. All data collected by the Bureau on mining statistics are made available to the Dominion Department of Mines.

The thanks of the Bureau are also tendered to the mine and smelter operators, for assistance given and information made available. The railway and other transportation companies, as well as smelter operators outside of Canada, have also furnished data the receipt of which is gratefully acknowledged.

The report has been prepared under the direction of Mr. S. J. Cook, B.A., A.I.C., F.C.I.C., Chief of the Mining, Metallurgical and Chemical Branch of the Bureau, by Mr. W. H. Losee, B.Sc., and by Mr. B. R. Hayden.

R. H. COATS,
Dominion Statistician.

DOMINION BUREAU OF STATISTICS, OTTAWA,
April 30, 1927.

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PART ONE

PRODUCTION STATISTICS

The first section of this report deals with the statistics of the Mineral Production of Canada. Where possible, tables showing historical data, and World's Production have been shown.

Table 1.—Quantities and Values of Mineral Products from Canadian Sources, 1924 and 1925

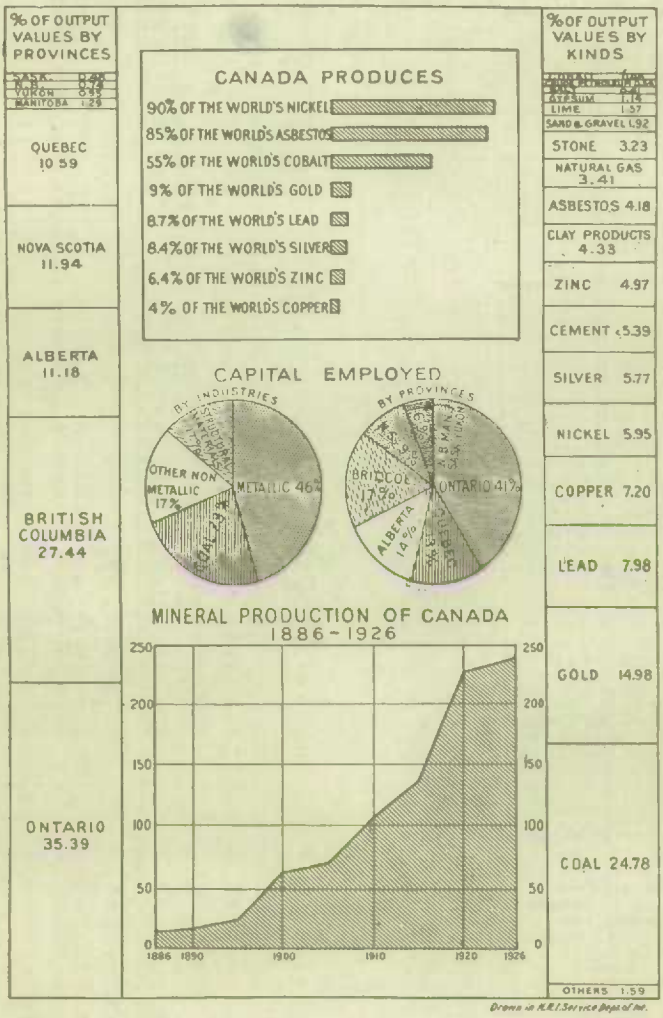
—		1924 Quantity	1924 Value	1924 Per cent of total	1925 Quantity	1925 Value	1925 Per cent of total
METALLIC			$			$	
Antimony	Lb.	.....	.....	.....	1,751	206	—
Arsenic (As_2O_3)	"	4,621,567	348,293	0·16	3,434,137	130,302	0·05
Bismuth	"	12,863	27,913	0·01	19,667	18,566	.....
Cobalt, metallic and contained in oxide	"	948,704	1,682,395	0·80	1,116,492	2,328,517	1·03
Copper	"	104,457,447	13,604,538	6·50	111,450,518	15,649,882	6·90
Gold	Fine oz.	1,525,382	31,532,443	15·05	1,735,735	35,880,826	15·85
Iron pig, from Canadian ore	Tons	3,710	92,750	0·04	.....	.....	.....
Iron ore sold for export	"	1,408	3,771	.....	3,978	11,934	.....
Lead	Lb.	175,485,499	14,221,345	6·79	253,590,578	23,127,460	10·20
Manganese ore	Tons	584	4,088	.....	.....	.....	.....
Molybdenite	Lb.	18,739	9,370	.....	22,350	11,176	.....
Nickel (x)	"	60,536,350	19,470,178	9·29	73,857,114	15,946,672	7·05
Palladium	Fine oz.	8,923	811,993	0·39	8,288	648,969	0·28
Platinum	"	9,186	1,091,427	0·52	8,698	1,028,192	0·46
Rhodium, Osmium, Iridium	"	593	51,120	0·02	.....	.....	.....
Silver	"	19,736,323	13,180,113	6·29	20,228,988	13,971,150	6·16
Zinc	Lb.	98,909,077	6,274,791	3·00	109,268,511	8,328,446	3·69
Total		.....	**102,406,528**	**48·86**	.....	**117,082,298**	**51·67**
NON-METALLIC							
Actinolite	Tons	90	1,225	.....	40	500	.....
Asbestos	"	225,744	6,710,830	3·20	290,389	8,088,360	3·96
Barytes	"	151	3,308	.....	95	2,259	.....
Bituminous sands	"	531	2,127	.....	1,148	4,594	.....
Coal	"	13,638,197	53,593,088	25·58	13,134,968	49,261,951	21·76
Feldspar	"	44,804	358,540	0·17	28,681	235,789	0·10
Fluorspar	"	76	1,343	.....	3,886	10,234	.....
Garnets	"	360	7,200	.....	.....	.....	.....
Graphite	"	1,334	76,117	0·04	2,569	158,763	0·07
Grinding pebbles	"	.....	.....	.....	105	945	.....
Grindstones	"	2,691	130,824	0·06	2,562	124,165	0·05
Gypsum	"	646,016	2,208,108	1·06	740,323	2,389,891	1·05
Magnesite	"	3,873	101,356	0·05	5,576	122,325	0·05
Mica	"	4,091	357,272	0·17	4,020	261,463	0·11
Mineral water	Imp. gal.	209,353	15,421	0·01	190,134	28,413	0·01
Natro-alunite	Tons	.....	.....	.....	20	1,000	.....
Natural gas	M cu. ft.	14,881,336	5,708,636	2·73	16,902,897	6,833,005	3·01
Oxides, iron	Tons	7,266	91,160	0·04	7,118	91,913	0·04
Peat	"	.....	.....	.....	1,370	8,394	.....
Petroleum, crude	Brl.	160,773	467,400	0·22	332,001	1,250,705	0·58
Phosphates	Tons	.....	.....	.....	16	189	.....
Pyrites	"	23,552	95,620	0·05	15,605	58,899	0·03
Quartz	"	150,896	323,156	0·15	197,224	363,612	0·16
Salt	"	207,979	1,374,780	0·66	233,746	1,410,697	0·64
Sodium carbonate	"	510	5,173	.....	1,120	8,140	.....
Sodium sulphate	"	1,083	6,004	.....	3,876	19,380	.....
Talc and soapstone	"	11,332	154,480	0·07	14,474	205,835	0·09
Tripolite	"	33	838	.....	.....	.....	.....
Volcanic ash	"	245	1,103	.....	160	1,380	.....
Total		.....	**71,796,009**	**34·26**	.....	**71,851,881**	**31·71**
STRUCTURAL MATERIALS AND CLAY PRODUCTS							
Cement, portland	Brl.	7,498,624	13,398,411	6·39	8,116,597	14,046,704	6·20
Clay products—							
Brick—Soft mud process, Face	M	10,831	185,248	0·09	27,701	521,739	0·23
Brick—Soft mud process, Common	"	50,079	746,044	0·36	51,214	753,970	0·33
Stiff mud process (wire cut), Face	"	80,565	1,842,224	0·88	93,903	1,883,856	0·83
Stiff mud process (wire cut), Common	"	124,556	1,880,631	0·90	116,105	1,635,257	0·73
Dry press, Face	"	35,203	761,572	0·36	37,201	800,504	0·35
Dry press, Common	"	12,794	168,043	0·08	22,053	270,135	0·12
Fancy or ornamental brick	"	755	98,460	0·05	524	26,320	0·01
Sewer brick	"	2,690	40,775	0·02	2,485	52,382	0·02
Fire brick from domestic clay	"	4,327	209,256	0·10	6,197	305,332	0·13
Fireclay	Tons	3,645	26,258	0·01	623	6,544	.....
Fireclay blocks and shapes	"	.....	51,273	0·02	.....	36,567	0·02
Structural tile—Hollow blocks (including fireproofing and load-bearing tile)	"	96,818	926,777	0·44	115,576	1,093,397	0·49
Roofing tile	No.	7,377	917	.....	78,479	6,323	.....
Floor tile (quarries)	Sq. ft	444,601	35,608	0·02	140,927	28,338	0·02
Drain tile	M	15,137	409,369	0·20	14,552	401,503	0·18
Sewer pipe (including copings, flue lining, etc)	Tons	76,355	1,594,280	0·76	73,791	1,440,269	0·64
Pottery, glazed or unglazed		.....	238,342	0·11	.....	267,255	0·12
Lime	Bush.	9,138,952	3,178,541	1·51	10,256,542	3,387,652	1·49
Sand and gravel	Tons	11,603,500	3,181,083	1·52	11,018,647	3,220,410	1·42
Stone—							
Granite	"	419,971	1,013,345	0·47	971,718	2,014,535	0·89
Limestone	"	4,249,061	4,831,684	2·35	4,643,853	5,049,563	2·22
Marble	"	4,379	322,455	0·14	3,046	254,922	0·12
Sandstone	"	94,603	240,273	0·10	87,502	145,757	0·06
Total		.....	**35,380,869**	**16·88**	.....	**37,649,234**	**16·62**
Grand total		.....	**209,583,406**	**100·00**	.....	**226,583,333**	**100·00**

x See text on nickel page 61.

Table 2.—Increase or Decrease in Quantities and Values of Mineral Products from Canadian Sources, in 1925 as compared with 1924

—		Increase (+) or Decrease (−) Quantity	%	Increase (+) or Decrease (−) Value	%
Metallic					
Antimony	Lb.	+ 1,751	.....	+ 206	.....
Arsenic	"	− 1,187,430	− 25·6	− 217,991	− 62·5
Bismuth	"	+ 6,804	+ 52·8	− 9,347	− 33·5
Cobalt, metallic and contained in oxide	Lb.	+ 167,788	+ 17·6	+ 646,122	+ 38·4
Copper	"	+ 6,993,071	+ 6·6	+ 2,045,344	+ 15·0
Gold	Fine oz.	+ 210,353	+ 13·7	+ 4,348,383	+ 13·7
Iron pig from Canadian ore	Tons	− 3,710	.....	− 92,750	.....
Iron ore sold for export	"	+ 2,570	+ 182·5	+ 8,103	+ 216·4
Lead	Lb.	+78,105,079	+ 44·5	+ 8,906,115	+ 62·6
Manganese	Tons	− 584	.....	− 4,088	.....
Molybdenite	Lb.	+ 3,611	+ 19·2	+ 1,806	+ 19·2
Nickel	"	+ 4,320,764	+ 6·2	− 3,523,506	− 18·0
Palladium	Fine oz.	− 1,228	− 12·9	− 214,144	− 24·8
Platinum	"	− 488	− 5·3	− 63,235	− 6·7
Silver	"	+ 492,665	+ 2·4	+ 791,037	+ 6·0
Zinc	Lb.	+10,359,434	+ 10·4	+ 2,053,655	+ 32·7
Total		.....	.....	**+14,675,770**	**+ 14·3**
Non-Metallic					
Actinolite	Tons	+ 50	− 55·5	− 725	− 59·1
Asbestos	"	+ 64,645	+ 28·6	+ 2,277,530	+ 33·9
Barytes	"	− 56	− 27·0	− 1,049	− 31·7
Bituminous sands	"	+ 617	+ 116·1	+ 2,467	+ 115·9
Coal	"	− 503,229	− 3·6	− 4,332,037	− 8·0
Feldspar	"	− 16,123	− 35·9	− 122,751	− 34·2
Fluorspar	"	+ 3,810	.....	+ 17,891	.....
Garnets	"	− 360	.....	− 7,200	.....
Graphite	"	+ 1,235	+ 92·5	+ 82,646	+ 108·5
Grinding pebbles	"	+ 105	.....	+ 945	.....
Grindstones	"	− 129	− 4·7	− 6,659	− 5·0
Gypsum	"	+ 94,307	+ 14·5	+ 181,783	+ 8·2
Magnesite	"	+ 1,703	+ 43·9	+ 20,969	+ 20·6
Mica	"	− 71	− 1·7	− 95,809	− 26·8
Mineral water	Imp. Gal.	− 19,219	− 9·1	+ 12,992	+ 84·2
Natro-alunite	Tons	+ 20	.....	+ 1,000	.....
Natural gas	M cu. ft.	+ 2,021,561	+ 13·5	+ 1,124,369	+ 19·6
Oxides, iron	Tons	− 148	− 2·0	+ 753	+ 0·8
Peat	"	+ 1,370	.....	+ 8,394	.....
Petroleum, crude	Brl.	+ 171,228	+ 106·5	+ 783,305	+ 167·5
Phosphate	Tons	+ 16	.....	+ 189	.....
Pyrites	"	− 7,947	− 33·7	− 36,721	− 38·4
Quartz	"	+ 46,328	+ 30·7	+ 40,456	+ 12·5
Salt	"	+ 25,767	+ 12·3	+ 35,917	+ 2·6
Sodium carbonate	"	+ 610	+ 119·6	+ 2,967	+ 57·3
Sodium sulphate	"	+ 2,793	+ 257·8	+ 13,376	+ 222·7
Talc	"	+ 3,142	+ 27·7	+ 51,355	+ 33·2
Tripolite	"	− 33	.....	− 838	.....
Volcanic ash	"	− 85	− 34·6	+ 277	+ 25·1
Total		.....	.....	**+ 55,792**	**0·00**
Structural materials and Clay Products					
Cement	Brl.	+ 617,973	+ 8·2	+ 648,293	+ 4·8
Clay products—					
Brick—Soft mud process, Face	M	+ 16,870	+ 155·7	+ 336,491	+ 181·6
Brick—Soft mud process, Common	"	+ 1,135	+ 2·2	+ 7,926	+ 1·0
Stiff mud process, Face	"	+ 13,338	+ 16·5	+ 41,632	+ 2·2
Stiff mud process (wire cut), Common	"	− 8,451	− 6·7	− 245,374	− 13·0
Dry press, Face	"	+ 1,998	+ 5·6	+ 38,932	+ 5·1
Dry press, Common	"	+ 9,259	+ 72·3	+ 102,092	+ 60·7
Fancy or ornamental brick	"	− 231	− 30·5	− 72,140	− 73·2
Sewer brick	"	− 205	− 7·6	+ 11,607	+ 28·4
Fire brick from domestic clay	"	+ 1,870	+ 43·2	+ 96,076	+ 45·9
Fire clay	Tons	− 3,022	− 82·9	− 19,714	− 75·0
Fire clay blocks and shapes	"	.....	.....	− 14,706	− 28·6
Structural tile—Hollow blocks (including fire proofing and load-bearing tile)	"	+ 18,758	+ 19·3	+ 166,620	+ 17·9
Roofing tile	No.	+ 71,102	+ 963·8	+ 5,406	+ 589·5
Floor tile (quarries)	Sq. ft.	− 303,674	− 68·3	− 7,270	− 20·4
Drain tile	M	− 585	− 3·8	− 7,866	− 1·9
Sewer pipe (including copings, flue linings, etc.)	Tons	− 2,564	− 3·3	− 154,011	− 9·6
Pottery, glazed or unglazed		.....	.....	+ 28,913	+ 12·1
Lime	Bush.	+ 1,119,590	+ 12·2	+ 209,111	+ 6·5
Sand and gravel	Tons	−584,853	− 5·0	+ 39,327	+ 1·2
Stone	"	+ 938,105	+ 19·6	+ 1,057,020	+ 16·4
Total		.....	.....	**+ 2,268,365**	**+ 6·4**
Grand total		.....	.....	**+16,999,927**	**+ 8·1**

MINERAL PRODUCTION OF CANADA



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DOMINION BUREAU OF STATISTICS

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ANNUAL REPORT
ON THE
MINERAL PRODUCTION OF CANADA

DURING THE CALENDAR YEAR 1925

GENERAL REVIEW

Great progress was made in Canada's mineral industry in 1925, when the total production of the mines, quarries, oil and gas wells, cement and clay products plants was valued at $226,583,333. This was an increase of $16,999,927 or 8.1 per cent over the total for 1924 and only 1.2 million dollars less than the record valuation of $227,859,665 established in 1920, when the average range of metal prices was approximately 35 per cent higher than in 1925. Metallic mineral output was the greatest of any year on record, even exceeding the 1918 war year figure of 114.5 million dollars and was 14.3 per cent greater than in 1924. Non-metallic minerals did not experience the same rapid increase over the previous year but maintained about the same value of production even though coal output, the largest commodity in the non-metallic list, dropped 3.6 per cent in quantity and 8 per cent in value. This drop, however, was offset considerably by the increase in production of asbestos, gypsum, natural gas, petroleum and several other non-metallics. With the exception of coal, which was subjected to a severe setback owing to the strike in Nova Scotia in the early part of the year, the non-metallics generally showed improvement. Building operations in Canada during 1925 were slightly more extensive than in 1924 with the result that structural materials showed a gain of 6.4 per cent and nearly equalled the values reported in 1923. During the latter part of the year under review, mineral production generally showed an upward trend. This great industry in Canada represents a capital investment of more than half a billion dollars, employs upwards of sixty-five thousand hands, and is only surpassed by agriculture and forest production among the primary industries. Every province in the Dominion contributes annually to the output; the variety and wide distribution of Canada's mineral products and continued advance of the industry more particularly in recent years, have brought mining in Canada into great prominence.

Among the metals, increased outputs in comparison with the totals for the previous year were recorded in the case of bismuth, cobalt, copper, gold, molybdenite, lead, nickel, silver and zinc. In the non-metallic field, advances were made in the production of asbestos, fluorspar, graphite, gypsum, magnesite, natural gas, crude petroleum, quartz, salt and talc and soapstone. Among the structural materials, increases were recorded in the production of cement, most of the clay products, lime, sand and gravel, granite and limestone.

Considered by groups and compared with corresponding data for 1924, metals showed an advance of 14.3 per cent to a total of $117,082,298; including coal, the values of the non-metallics produced increased $55,792 over the previous year; while the structural materials and clay products group showed an increase of 6.4 per cent to a total of $37,649,234. Canada's mineral output values in 1925 included: metallics, 51.67 per cent; non-metallics, 31.71 per cent; structural materials, 16.62 per cent; in 1924 metallics made up 48.86 per cent of the total while non-metallics amounted to 34.26 per cent and structural materials, 16.88 per cent.

Ontario was again the principal mineral producing province of Canada, the value of its output in 1925 being determined at $87,980,436 or 38.82 per cent of the total for Canada. This percentage was slightly lower than that recorded in 1924, owing to the fact that the value of British Columbia's production increased from 52.3 million dollars in 1924 to $64,485,242 in 1925 and accounted for 28.46 per cent of the total for the Dominion. Alberta came next with a total of $25,318,866 or 11.17 per cent, winning third place in the list. Quebec's output, valued at $24,284,527 or 10.72 per cent of the Dominion aggregate, was the second greatest record for this province being surpassed only in 1920, when the output of minerals was valued at 28.8 million dollars. Nova Scotia, which held third place in 1924, dropped to fifth place in 1925, with a total of $17,625,612 or 7.78 per cent; and Manitoba, the Yukon, New Brunswick and Saskatchewan followed in the order named.

Ontario, with an area of 407,262 square miles, occupies first place among the mineral-producing provinces of the Dominion, and is particularly notable for its production of gold and silver. It is in this province only that cobalt and nickel are produced, supplying 90 per cent of the world's markets in these metals. Here also are produced one-third of Canada's copper, small quantities of platinum, lead, natural gas, salt, gypsum, quartz, crude petroleum, feldspar, talc, mica, garnets and pyrites. In the class of building materials there is also a large production of portland cement, bricks and other clay products, building stone, sand and gravel, and quick and hydrated lime.

Individual mines in Ontario are said to own the largest deposits in America of talc, feldspar, mica and graphite. Porcupine and Kirkland Lake are two of the most productive gold camps in the world and the rich silver ores of Cobalt, South Lorrain and Gowganda put these areas among the world's richest silver camps.

British Columbia has long been associated with mining, first as a placer gold producer and then in lode mining. This province yields more than two-thirds of Canada's copper production, about fifty per cent of the silver production, and the greater part of the lead and zinc produced in the Dominion. Gold production from this province amounts to about 12.66 per cent of the Dominion total. In this province, on Vancouver Island, along the Crowsnest Pass, and in different parts of the interior, there are large coal areas. Other minerals produced in less amounts include: cement, sand and gravel, lime, building stone, clay products, quartz, pyrites, fluorspar and gypsum, and in recent years sodium carbonate.

Production in 1925 surpassed all previous records, and in all phases of mining—prospecting, development and production, lode mining, placer mining and coal mining—great progress has been and still is being made in the Pacific coast province. The Sullivan mine of the Consolidated Mining and Smelting Company has now become recognized as one of the greatest lead and zinc mines in the world and the silver produced in association with these metals makes this mine the largest individual silver producer in Canada. It is also highly satisfactory that the metals, silver, lead and zinc contained in the crude ore of this mine, are now to a large extent being smelted, refined and prepared in finished condition for the market by this company's metallurgical works at Trail.

Alberta stood third in the list in 1925. The chief mineral product is coal, but outputs of natural gas, crude petroleum, clay products, lime, cement, stone, sand and gravel and bituminous sands, are also recorded. Considerable prospecting for oil has been going on in this province over a period of years and during the latter part of 1924, the Imperial Oil Company met success when their Royalite No. 4 well was put in the producing class.

While the main source of revenue from the mineral production of Quebec was among the non-metallics, the province also produced lead, zinc, silver, gold and chromite. Asbestos is the chief non-metallic mineral produced and the output of this commodity from the mines in the Eastern townships represents about 85 per cent of the world's production. Feldspar and mica are produced each year in considerable amounts. Other non-metallic minerals found in Quebec are graphite, magnesite, iron oxides, mineral waters, phosphate, pyrites, quartz and soapstone and there is a very considerable production of cement, brick and other clay products, lime, building stone, sand and gravel. Extensive prospecting in the

Rouyn field has resulted in the proving-up of many claims and the establishment of a very considerable metal-mining industry in this area yielding copper and gold is bound to result.

Nova Scotia produces coal, gypsum, clay products, gold, building stone, salt and several other mineral products of less importance. Labour troubles accounted for a decrease in the output of coal to the extent of about 1.7 million tons and this loss was the chief factor in causing this province to drop from third place in 1924 to fifth place in 1925.

Manitoba and Saskatchewan are primarily agricultural provinces, and the annual production of minerals in each of these is valued usually between one and two million dollars. However, in 1925, Manitoba's production was in the neighborhood of two and one-quarter millions. This province has a total area of 251,882 square miles. Of this, approximately two-fifths in the southern and southwestern sections, is agricultural and is the main source of the non-metallic minerals. The remaining three-fifths is Precambrian and at different points is being prospected by large companies for gold, copper and other metallic minerals. Transportation to and from the northern metal mining fields is costly and the development of properties in these areas has been retarded for this reason. The principal items of interest in the minerals of Saskatchewan are lignite coal, sodium sulphate, clay products, sand and gravel. There is also in this province a supply of high-grade pottery clay. Shipments have been made from time to time to Alberta, and hope is held out that this deposit may yet prove the basis of a ceramic industry within the province.

The Yukon, with its production value of nearly 2 million dollars, showed improvement over the preceding year. It is difficult, however, to compare the production of the Yukon territory from year to year owing to the practice there of making seasonal shipments to outside smelters. The principal minerals produced are silver, lead and placer gold, the latter becoming relatively less important in recent years. The Treadwell Yukon Company, a large silver-lead producer, established a concentrator on their property which put them in a position to ship high-grade concentrates and also to be of great assistance to nearby operators of smaller mines who could ship to the Treadwell Yukon Company and get quicker returns thus allowing them to do further development on their properties. The Treadwell Company cannot ship in the winter and must therefore pile up their high-grade ore and concentrates awaiting the opening of navigation in the spring. Thus, statements of smelter receipts and annual shipments from the Yukon often do not agree although production may have been fairly steady in the period under review.

In New Brunswick non-metallic mines are of chief interest. Small deposits of manganese and antimony are known to occur there but these have not been worked to any great extent in recent years. Of the non-metallics, coal is the most important but other minerals obtained are grindstones, gypsum, petroleum, natural gas, clay products, lime, stone, sand and gravel, and recently there has been some movement towards the development of oil shales.

Mention has been made of the inflation in prices during and immediately after the war, and in the study of production records, shown in terms of money values, the trend in prices must be taken into consideration. The *Internal Trade Branch* of the Bureau has developed a commodity price index based on the prices prevailing in 1913. Prices in that year are represented by the figure 100, and the index for subsequent years is expressed as a percentage of the prices prevailing in 1913. Several methods of grouping items have been adopted so that index numbers for many different groups of commodities are available, as well as a general index based on the prices of all commodities entering into the compilation. Taking the average price for 1913 as a base of 100, the index for non-ferrous metals in 1925 stood at 107.7 in January, 106.5 in February, 105.2 in March and 101.5, the low point for the year, in April. From that time on, it rose gradually until November when it reached 108, the high point for the year; in December it dropped back to 106. Non-metallic minerals and their products were from 74 to 77 per cent higher in price than the average quotations in 1913. At this level, prices in 1925 showed a slight drop from the average in the previous year when the index stood at 185. The non-metallic group includes such materials as coal, gas, lime, brick, stone, sulphur, etc.

The index number for iron and its products stood at 158.4 in January. It dropped each month from February to August when 147.7 was reached. In September the index rose to 148.5 but during the remaining three months of the year the index was fairly steady at about 147.

Nineteen mineral products reached a production value of one million dollars each or over in Canada during 1925 and contributed over 98 per cent of the total recorded value of the mineral production of the Dominion in that year. In order of total values these were, coal at $49,261,951; gold, lead, nickel, copper, cement, silver, clay products (including brick, tile and pottery), asbestos, zinc, stone, natural gas, lime, sand and gravel, gypsum, cobalt, salt, petroleum, and platinum the output of which was valued at $1,028,192.

In the following paragraphs the production of each of these commodities is considered in further detail, the metals being reviewed first, then the non-metals, and finally the clay products and other structural materials.

Increased production from Ontario's gold mines was the principal cause of the great advance in the amount of gold produced in Canada during 1925, when a new record output was established at 1,735,735 fine ounces worth $35,880,826, an increase of 210,353 fine ounces or 13.7 per cent over the totals for the previous year. Ontario contributed 84.27 per cent of the total and British Columbia mines yielded 12.6 per cent; the balance was derived from mines in Nova Scotia, Quebec, Manitoba and the Yukon. Since 1914, Ontario has become by far the largest producer of gold in Canada. This remarkable increase has been brought about by the successful development of the Porcupine and Kirkland Lake districts and by the extension of milling facilities in these camps. The decline in production during 1918 was due to the abnormal conditions created by the war. There was a marked recovery in 1919 and this developed in the following years to a maximum in 1925. Power shortage in northern Ontario during the earlier months of 1923 seriously interfered with production, but the provision of adequate power facilities later in that year definitely removed the possibility of further power shortage.

In each of the past five years, new Canadian records have been established in the production of lead. By far the greatest output of any of the provinces is from the smelter of the Consolidated Mining and Smelting Company at Trail, B.C. This company refines the ores from the now famous Sullivan mine, one of the greatest in the world, and also draws customs ores from other silver-lead producing mines in the east and west Kootenay districts. Most of the Ontario production of lead comes from a mine at Galetta in Carleton county operated by the Kingdon Mining, Smelting and Manufacturing Company. The lead from the rich ores of the Mayo district in the Yukon territory and from the zinc-lead ores from Notre Dame des Anges in Quebec make up the total. Including all lead from these sources, the total production in 1925 reached 253,590,578 pounds valued at $23,127,460, an increase of 78,105,079 pounds or 44.5 per cent above the quantity produced in 1924 and an advance of $8,906,115 or 62.6 per cent above the total reported in the previous year.

Two companies, the International Nickel Company and the Mond Nickel Company produced nickel-copper ores throughout the year and operated smelters in the Sudbury area. As in previous years, the Mond Nickel Company shipped its matte for refining to Clydach, Wales, and the International Nickel Company shipped some matte to Huntingdon, West Virginia, to be made into monel metal, and part to Port Colborne, Ontario, where electrolytic nickel, refined nickel, nickel oxide, and converter copper were produced. There was an increase in the production of nickel in 1925 over 1924 of 4,320,764 pounds or 6.2 per cent. Prior to 1925 there was always a difference between the nickel production figures as reported by the Ontario Department of Mines and as published by the Dominion Bureau of Statistics. As a result of a conference held during the year 1925, it was agreed to adopt the same method of making up nickel totals in both offices and in this report the necessary changes in method have been made. Computed on the agreed plan, nickel production in 1925 totalled 73,857,114 pounds valued at $15,946,672 as compared with 61,356,451 pounds worth $12,126,739 in 1924. These figures include nickel in matte exported by the Mond Nickel Company and the International Nickel Company of Canada at 18 cents per pound, refined and electrolytic nickel

produced at Port Colborne valued at the average price obtained for such products sold during the year; nickel in nickel oxide sold from the Port Colborne refinery and the Deloro Smelter at its total selling value as oxide, and nickel contained in speiss residues exported valued at 18 cents a pound.

Copper contained in matte produced by the nickel-copper smelters of Ontario constituted about one-third of the total Canadian production; the output of blister copper from the Granby smelter along with a small amount from the Trail smelter contributed approximately another third; the remainder was made up of the recoverable copper from British Columbia and Quebec ores treated in foreign smelters, the greater part of this balance being credited to British Columbia ores. Copper production for the year as thus computed totalled 111,450,518 pounds which, valued at the average New York price for the year of 14.042 cents per pound, was worth $15,649,882. This was an advance of 6,993,071 pounds or 6 per cent in quantity and $2,045,344 or 15.0 per cent in value over the totals for 1924.

Silver production showed an advance over 1924 of 492,665 fine ounces to a total of 20,228,988 fine ounces valued at $13,971,150. The average price for silver in 1925 was 69·065 cents per fine ounce as against 66.781 cents in 1924. Production in 1925 included silver contained in silver and gold bullion amounting to 10,219,359 fine ounces or 50.5 per cent of the total for Canada; silver contained in blister copper and lead bullion, 6,179,238 fine ounces or 30·5 per cent; and silver estimated to have been recovered from ores, concentrates, etc., exported 3,830,391 fine ounces or 19 per cent. The largest silver-producing mine in Canada in 1925 was the Sullivan, which is primarily mined for its lead and zinc. Other mines of note are the Premier on the Portland Canal in northern British Columbia, the Nipissing and Keeley mines in Ontario, and the Treadwell Yukon in the Mayo district.

Continued development of the world-famous Sullivan mine in British Columbia resulted in the establishment of another high record in the output of zinc in 1925. Although the Trail smelter is now able to handle the greater part of the output from this mine, concentrates have been exported to foreign smelters for treatment. Quebec also produces a small amount of zinc, concentrates being exported to Belgium. Including the recoverable zinc and concentrates exported and the refined zinc made at Trail, production during the year reached a total of 109,268,511 pounds valued at $8,328,446, an advance of 10.4 per cent in quantity and 32.7 per cent in value over the totals for the previous year. The price of zinc on the St. Louis market in 1925 averaged 7.622 cents per pound as against 6.344 cents in 1924. The Canadian market is centred in Montreal and Toronto to which points the Consolidated Mining and Smelting Company is the most important shipper. The average yearly Montreal quotation for zinc was 9.06 cents per pound and the fluctuations on this market corresponded closely to the price changes in the United States market.

Sales of cobalt and its products in the form of metal oxides and salts and in residues exported during 1925 computed in terms of cobalt metal content comprised 1,116,492 pounds for which the producers received $2,328,517. This was an increase of 17.6 per cent in quantity and 38.4 per cent in value over the production of 1924.

Six non-metallic minerals were each produced in sufficient volume to bring their total values above the million-dollar mark and to put them among the 19 principal minerals listed above; these were coal, asbestos, natural gas, gypsum, salt and crude petroleum. Production of coal from Canadian mines in 1925 amounted to only 13,134,968 short tons, marking a loss of approximately half-a-million tons from the total reported in the preceding year. Lower average values per ton and the decreased production reduced the aggregate value of the output to $49,261,951 as compared with $53,593,988 reported in 1924. This was the lowest aggregate value reported for the output of coal mines in Canada since 1917. Reductions in output occurred in the provinces of Nova Scotia, New Brunswick and Saskatchewan, whilst slight increases were noted in Alberta and British Columbia. Alberta took first place in production with 5,869,031 short tons. Nova Scotia which was the leading producing province in 1924, had an output of 3,842,978 tons. British Columbia, holding third place in output for the year, accounted for 2,742,252 tons—a considerable gain over the

total for the preceding year. Production of coal in Canada during 1925 included 8,939,607 tons of bituminous coal, 570,654 tons of sub-bituminous and 3,624,707 tons of lignite. Canada's consumption of coal in 1925 amounted to only 28,457,261 short tons or an average of 3.039 tons per capita as compared with a total of 29,243,501 tons, averaging 3.170 tons per capita in 1924. Of this total, 42.6 per cent was drawn from Canadian mines, 55.4 per cent from United States and 2 per cent from Great Britain. Small quantities were also imported from other countries. Coal from Canadian mines constituted an increasing percentage of the coal consumed in Canada in the years 1918 to 1920 and again in 1922, when 50 per cent of the total consumption was of Canadian origin. In 1921 and in the years 1923 to 1925 the proportion of Canadian coal consumed, ranged from 41.1 per cent to 42.8 per cent.

A new high record was established in the Canadian production of asbestos in 1925. Total shipments for the year were 290,389 short tons valued at $8,988,360 as compared with 225,744 tons worth $6,710,830 in 1924. The average price per ton received by the operators was $30.95, while in 1924, receipts averaged $29.73.

For the first time in the history of Canada the gas fields of the province of Ontario were superseded as the leading producer, by the more recently developed fields of Alberta. The Alberta production amounted to 9,119,500 thousand cubic feet; Ontario's production was 7,143,962 thousand cubic feet. New Brunswick's output during the same period was recorded at 639,235 thousand cubic feet. A small production was also reported from Manitoba. These four provinces produced in all 16,902,897 thousand cubic feet of gas, valued at $6,833,005. This was an increase over 1924 of 13.5 per cent in quantity and 19.6 per cent in value.

Increased production of gypsum in Nova Scotia resulted in the establishment of a new high record for this mineral in 1925. Canada's total production for the year was 740,323 tons with a valuation of $2,389,891 as compared with 646,016 tons at $2,208,108 in 1924. Gypsum is shipped in several different forms: lump, crushed, fine ground or calcined. Nova Scotia is the principal source of supply, production in that province in 1925 amounting to 551,230 tons. Ontario produced 82,020 tons; New Brunswick, 71,745 tons; Manitoba, 35,088 tons, and British Columbia, 240 tons. In computing the production of gypsum the quantities reported in the different forms are added; the values are those given as at point of shipment. Slightly more than 70 per cent of the output was exported in 1925.

In 1925 the production of salt in Canada exceeded all previous records. Shipments during the year totalled 233,746 tons as compared with 207,979 tons produced in 1924. There was a considerable decline in value during the year, the average price for all grades being $6.04 per ton as against $6.61 in 1924. Most of the production is obtained from the salt wells of western Ontario, but a small amount is produced from the Malagash mine in Nova Scotia. Alberta also produces small quantities of salt.

Structural materials mentioned among the 19 principal mineral products were cement, clay products, stone, sand and gravel and lime. During the year under review, shipments of cement from Canadian plants showed an appreciable advance over the record for the previous year. Sales during 1925 totalled 8,116,597 barrels valued at $14,046,704. Imports during the year amounted to 21,849 barrels, as against 27,672 barrels imported in 1924, a decrease of 5,823 barrels. Exports, on the other hand, showed a marked increase, when 997,915 barrels were sent out of the country as compared with 153,520 barrels during 1924.

The total value of clay products produced in Canada from domestic raw materials during 1925 was $9,529,691 an increase of 3.4 per cent over the 1924 total of $9,215,077. Sales in the province of Ontario were slightly greater in 1925 than in 1924 and stood at $5,195,084. Nova Scotia, Manitoba, Alberta, and British Columbia producers all reported increased outputs, but there was a slight falling off in each of the other provinces. Stiff-mud process face and common brick produced during the year reached a value of $3,519,113 while soft-mud process brick sold during the year had a total value of $1,275,709. Dry press brick was valued at $1,070,639. Structural tile reached a value of $1,128,058; drain

tile $401,503; pottery from Canadian clays $267,255; and sewer pipe $1,440,269. Fancy or ornamental brick showed a considerable decrease from the 1924 production. The value of sewer brick produced was up 28 per cent, while fire brick showed an increase of 43.2 per cent in quantity and 46 per cent in value.

Lime production showed an increase of $209,111 or 6.5 per cent over the previous year and the value of sand and gravel produced remained practically the same.

Granite production in 1925 was nearly double that of 1924, while limestone showed approximately a quarter-million dollar increase. Marble and sandstone outputs were both lower than in the preceding year.

On the whole, conditions in the Canadian mining industry in 1925 were very satisfactory from an economic viewpoint. Third in rank among Canada's primary industries and contributing extensively to the wealth and prosperity of the Dominion, the mining industry provides large tonnages of freight for the transportation companies and keeps alive many subsidiary industries. Canada's progress in the production of mineral wealth has been notable particularly in recent years. Developments in established fields have won the confidence of the investing public; the discovery of new mineral areas has provided attractive opportunities for those of more speculative nature; the growth and evident stability of the mineral industry stamp it as one of the great and increasing factors in Canada's industrial and commercial life.

Table 3.—Exchange Table Showing the Amount Paid in Canadian Dollars for one United States Dollar by Months, 1922-1925

Month	1922	1923	1924	1925
	$	$	$	$
January	1·0553	1·0067	1·0275	1·0026
February	1·0351	1·0119	1·0322	1·0014
March	1·0297	1·0208	1·0294	1·0013
April	1·0208	1·0203	1·0184	1·0005
May	1·0125	1·0222	1·0166	1·0000
June	1·0138	1·0231	1·0141	1·0000
July	1·0051	1·0263	1·0064	0·9995
August	1·0023	1·0244	1·0011	0·9995
September	0·9998	1·0233	1·0078	1·0001
October	1·0011	1·0156	1·0016	0·9992
November	0·9998	1·0181	1·0000	0·9992
December	0·9966	1·0239	1·0015	1·0003
Averge for the year	**1·0145**	**1·0197**	**1·0131**	**1·0003**

Table 4.—Metal Prices 1921-1925

Commodity	Market	Unit	1921	1922	1923	1924	1925
			$	$	$	$	$
Antimony (ordinaries)	New York	Pound	0·04957	0·05471	0·07897	0·10836	0·17494
Arsenic, white	"	"	0·08850	0·08500	0·12050	0·09636	0·0466
Cobalt	"	"	3·00	3·25	2·85	2·75	2·50
Cobalt oxide	"	"	–	2·00	2·10	2·10	2·20
Copper	"	"	0·12502	0·12382	0·14421	0·13024	0·14042
Lead	"	"	0·04545	0·05734	0·07267	0·08097	0·09020
"	Montreal*	"	0·05742	0·06219	0·07179	0·08104	0·0912
Nickel	New York	"	0·35	0·35	0·29353	0·28	0·34
Platinum	" *	Ounce	75·033	97·618	116·537	118·817	119·693
Silver	" *	"	0·62654	0·67528	0·64873	0·66781	0·69065
Tin	"	Pound	0·28576	0·31831	0·41799	0·49674	0·56790
Zinc	St. Louis*	"	0·04655	0·05716	0·06607	0·06344	0·07622

*Quotations used in this report in computing value of mineral production.

Table 5.—Prices of Non-Metallic Minerals and Structural Materials, 1921-1925, Showing the Average Returns Received by Producers, f.o.b., Shipping Points in Canada as Computed from the Total Receipts and Total Shipments for the Year

Commodity	Unit	1921	1922	1923	1924	1925
		$	$	$	$	$
NON-METALLIC						
Actinolite	Ton	12·50	11·50	11·00	13·60	12·50
Asbestos	"	52·89	33·92	32·50	29·73	30·95
Barytes	"	35·43	33·00	20·89	21·90	23·77
Chromite	"	19·90	15·00	.....	.....	.....
Bituminous sands	"	.....	.....	.....	.....	4·00
Coal	"	4·81	4·32	4·24	3·93	3·75
Corundum	"	138·87	.....	.....	.....	.....
Feldspar	"	7·73	8·96	8·13	8·00	8·22
Fluorspar	"	24·69	22·68	12·46	17·66	4·94
Graphite	"	70·29	52·52	60·98	57·05	61·79
Grinding pebbles	"	.....	.....	.....	.....	9·00
Grindstones	"	50·00	43·52	39·76	48·60	48·46
Gypsum (crushed)	"	2·56	2·26	1·90	1·82	1·83
Magnesite	"	21·80	26·78	27·99	26·17	21·93
Magnesium sulphate	"	19·47	23·52	54·38	.....	.....
Manganese	"	50·00	28·00	.....	.....	.....
Mica (rough cobbed)	Pound	0·10	0·12	0·10	0·06	0·05
Mineral water	Gal	0·07	0·06	0·07	0·07	0·14
Natro-alunite	Ton	50·00	50·00	50·00	.....	50·00
Natural gas	M. cu. ft.	0·33	0·40	0·36	0·38	0·40
Oxides, iron	Ton	10·34	15·18	12·43	12·54	12·91
Peat	"	4·00	4·83	.....	.....	.....
Petroleum, crude	Brl	3·42	3·41	3·06	2·91	3·76
Phosphate	Ton	15·00	9·45	20·00	.....	11·81
Pyrites	"	3·48	4·10	3·95	4·06	3·77
Quartz	"	3·12	1·90	2·26	2·14	1·84
Salt	"	10·16	8·96	8·46	6·61	6·04
Sodium carbonate	"	.....	.....	.....	.....	7·26
Sodium sulphate	"	30·25	23·76	13·90	5·54	5·06
Talc	"	14·28	14·28	14·51	13·63	14·22
Tripolite	"	33·00	26·39	25·00	25·40	.....
Volcanic ash	"	.....	.....	.....	.....	8·62
STRUCTURAL MATERIALS AND CLAY PRODUCTS						
Cement, portland and puzzolan	Brl	2·47	2·22	2·00	1·78	1·73
Clay products—						
Brick, common	M	16·18	15·99	15·50	.....	.....
Brick, pressed	"	21·47	20·31	19·91	.....	.....
Brick, hollow building	"	48·88	91·72	80·35	.....	.....
Brick, moulded and ornamental	"	25·35	20·68	20·95	.....	.....
Brick, face (Soft mud process)	"	.....	.....	.....	17·10	18·83
Brick, common (Soft mud process)	"	.....	.....	.....	14·89	11·20
Brick, face (Stiff mud process, wire cut)	"	.....	.....	.....	22·86	20·06
Brick, common (Stiff mud process, wire cut)	"	.....	.....	.....	15·09	14·08
Brick, face (Dry press)	"	.....	.....	.....	21·60	21·50
Brick, common (Dry press)	"	.....	.....	.....	13·13	12·24
Brick, fancy or ornamental	"	.....	.....	.....	130·41	50·20
Brick, sewer	"	.....	.....	.....	15·15	21·07
Firebrick	"	53·85	37·55	48·19	48·36	49·27
Fireclay	Ton	10·18	5·41	9·00	7·20	10·50
Fireproofing and hollow porous blocks	"	.....	.....	.....	.....	9·46
Floor tile	Sq. ft.	.....	.....	.....	.....	0·20
Kaolin	Ton	15·23	14·92	14·53	.....	.....
Paving brick	M	.....	39·81	.....	.....	.....
Roofing tile	No.	.....	.....	.....	.....	0·08
Sewer-pipe	Ton	.....	23·26	23·01	20·87	19·51
Tile, drain	M	.....	27·65	30·50	27·04	27·59
Lime	Bush	0·40	0·35	0·33	0·34	0·33
Sand and gravel	Ton	0·22	0·30	0·24	0·28	0·29
Stone—						
Granite	Ton	2·94	3·24	2·91	2·41	2·07
Limestone	"	1·55	1·32	1·21	1·14	1·08
Marble	"	104·67	121·28	81·49	73·63	83·69
Sandstone	"	2·75	3·20	2·92	2·54	1·66

Table 6.—Annual Values of the Mineral Production of Canada, 1886-1925

Year	Value of production	Value per capita	Year	Value of production	Value per capita
	$	$		$	$
1886	10,221,255	2·23	1906	79,286,697	12·81
1887	10,321,331	2·23	1907	86,865,202	13·75
1888	12,518,894	2·67	1908	85,557,101	13·16
1889	14,013,113	2·96	1909	91,831,441	13·70
1890	16,763,353	3·50	1910	106,823,623	14·93
1891	18,976,616	3·92	1911	103,220,994	14·32
1892	16,623,415	3·39	1912	135,048,296	18·33
1893	20,035,082	4·04	1913	145,634,812	19·35
1894	19,931,158	3·98	1914	128,863,075	16·75
1895	20,505,917	4·05	1915	137,109,171	17·44
1896	22,474,256	4·38	1916	177,201,534	22·05
1897	28,485,023	5·49	1917	189,646,821	23·18
1898	38,412,431	7·32	1918	211,301,897	25·37
1899	49,234,005	9·27	1919	176,686,390	20·84
1900	64,420,877	12·04	1920	227,859,665	26·40
1901	65,797,911	12·16	1921	171,923,342	19·56
1902	63,231,836	11·36	1922	184,297,242	20·55
1903	61,740,513	10·83	1923	214,079,331	23·41
1904	60,082,771	10·27	1924	209,583,406	22·71
1905	69,078,999	11·49	1925	226,583,333	24·19

Table 7.—Annual Values of Metallic and Non-Metallic Mineral Production of Canada 1907-1925

Year	Metallic	Non-Metallic		Total
		Fuels and other non-metallics	Structural materials and clay products	
	$	$	$	$
1907	42,426,607	31,275,546	12,863,049	*86,865,202
1908	41,774,362	32,142,784	11,339,955	*85,557,101
1909	44,156,844	31,141,251	16,533,349	91,831,441
1910	49,438,873	37,757,158	19,627,592	106,823,623
1911	46,105,423	34,405,960	22,709,611	103,220,994
1912	61,172,753	45,080,674	28,794,869	135,048,296
1913	66,361,251	48,462,709	30,809,752	145,634,812
1914	59,386,619	43,467,229	26,009,227	128,863,075
1915	75,814,841	43,373,571	17,920,759	137,109,171
1916	106,319,365	53,414,983	17,467,186	177,201,534
1917	106,455,147	63,354,363	19,837,311	189,646,821
1918	114,549,152	77,621,946	19,130,799	211,301,897
1919	73,262,793	76,002,087	27,421,510	176,686,390
1920	77,939,630	108,027,947	41,892,088	227,859,665
1921	49,343,232	87,842,682	34,737,428	171,923,342
1922	61,785,707	82,976,794	39,534,741	184,297,242
1923	84,394,218	91,936,732	37,751,381	214,079,331
1924	102,406,528	71,796,009	35,380,869	209,583,406
1925	117,082,298	71,851,801	37,649,234	226,583,333

* Total includes $300,000 allowed for products not reported.

Table 8.—Values of the Mineral Production of Canada by Provinces, 1899-1925

Year	Nova Scotia*	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon
	$	$	$	$	$	$	$	$	$
1899	6,817,274	420,227	2,585,635	9,819,557		17,108,707		12,482,605	Included
1900	9,298,479	439,060	3,292,383	11,258,099		23,452,330		16,680,526	with
1901	7,770,159	467,985	3,759,984	13,970,010		19,297,940		20,531,833	Manitoba,
1902	10,686,549	607,129	3,743,636	14,619,091		16,127,400		17,448,031	Saskatchewan
1903	11,431,914	580,495	3,585,938	14,160,033		14,082,986		17,899,147	and
1904	11,212,746	559,913	3,688,482	12,582,843		12,713,613		19,325,174	Alberta
1905	11,507,047	559,035	4,405,975	18,833,292		11,387,642		22,386,008	
1906	12,894,303	646,328	5,242,058	25,111,682		10,092,726		25,299,600	
1907	14,532,010	664,467	6,205,553	30,381,638	898,775	533,251	4,657,524	25,656,050	3,335,898
1908	14,487,108	579,816	6,372,949	30,623,812	584,374	413,212	5,122,505	23,704,035	3,069,290
1909	12,504,810	657,035	7,086,265	37,374,577	1,193,377	456,246	6,047,447	22,479,006	4,032,678
1910	14,195,730	581,942	8,270,136	43,538,078	1,500,359	498,122	8,996,210	24,478,572	4,76[illegible],474
1911	15,409,397	612,830	9,304,717	42,796,162	1,791,772	636,706	6,662,673	21,299,305	4,707,432
1912	18,922,236	771,004	11,656,998	51,985,876	2,463,074	1,165,642	12,073,589	30,076,535	5,933,272
1913	19,376,183	1,102,613	13,475,534	59,167,749	2,214,496	881,142	15,054,046	28,086,312	6,276,737
1914	17,584,639	1,014,570	11,838,929	53,034,677	2,413,489	712,313	12,684,234	24,164,039	5,418,185
1915	18,088,342	903,467	11,619,275	61,071,287	1,318,387	451,933	9,909,347	28,689,425	5,057,708
1916	20,042,262	1,118,187	14,406,598	80,461,323	1,823,576	590,473	13,297,513	39,969,962	5,491,610
1917	21,104,542	1,435,024	17,400,077	89,066,600	2,628,264	860,651	16,527,535	36,141,926	4,482,202
1918	22,317,108	2,144,017	19,605,347	94,694,093	3,120,600	1,019,781	23,109,987	42,935,333	2,355,631
1919	23,445,215	1,770,945	21,267,947	67,917,998	2,868,378	1,521,964	21,087,582	34,865,427	1,940,934
1920	34,130,017	2,491,787	28,886,214	81,715,808	4,223,461	1,837,468	33,586,456	39,411,728	1,576,726
1921	28,912,111	1,901,505	15,157,094	57,356,651	1,934,117	1,414,220	30,592,229	33,230,460	1,751,955
1922	25,923,499	2,263,692	17,647,939	65,866,029	2,258,942	1,255,470	27,872,136	39,423,962	1,785,573
1923	29,648,893	2,462,457	20,308,763	80,825,851	1,768,037	1,047,583	31,287,536	43,757,388	2,972,823
1924	23,820,352	1,969,260	19,136,504	86,398,656	1,534,249	1,128,100	22,344,940	52,298,533	952,812
1925	17,625,612	1,743,858	24,284,527	87,980,436	2,276,759	1,076,392	25,318,866	64,485,242	1,791,641

*Includes a small production from Prince Edward Island.

Table 9.—Percentage of the Total Value of the Mineral Production of Canada Produced by Each Province, 1921-1925

Province	1921	1922	1923	1924	1925
Nova Scotia*	16·82	14·12	13·85	11·38	7·78
New Brunswick	1·10	1·23	1·15	0·94	0·77
Quebec	8·82	9·57	9·49	9·12	10·72
Ontario	33·36	35·74	37·76	41·29	38·82
Manitoba	1·12	1·23	0·83	0·73	1·01
Saskatchewan	0·65	0·67	0·49	0·54	0·48
Alberta	17·78	15·13	14·60	10·61	11·17
British Columbia	19·33	21·39	20·44	24·94	28·46
Yukon	1·02	0·92	1·39	0·45	0·79
Canada	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**

*Includes a small percentage from Prince Edward Island.

Table 10.—Values by Classes of Products of the Mineral Production of Canada, by Provinces, 1925

Province	Metallic	Non-Metallic	Structural materials and clay products	Total
	$	$	$	$
Nova Scotia*	33,671	16,972,719	619,222	**17,625,612**
New Brunswick	.....	1,445,095	298,763	**1,743,858**
Quebec	1,501,533	9,603,481	13,179,513	**24,284,527**
Ontario	63,806,538	7,084,316	17,089,582	**87,980,436**
Manitoba	91,781	417,928	1,767,050	**2,276,759**
Saskatchewan	.....	891,635	184,757	**1,076,392**
Alberta	.....	23,632,321	1,686,545	**25,318,866**
British Columbia	49,864,306	11,797,134	2,823,802	**64,485,242**
Yukon Territory	1,784,469	7,172	.....	**1,791,641**
Canada	**117,082,298**	**71,851,801**	**37,649,234**	**226,583,333**

*Includes a small production from Prince Edward Island.

Table 11.—Mineral Production in Canada by Provinces, 1925

—	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon
Metallic									
Antimony ... Lb.				1,751					
$				206					
Arsenic ... Lb.				2,156,441				1,277,696	
$				113,324				16,978	
Bismuth ... Lb.				19,667					
$				18,566					
Cobalt ... Lb.				1,116,492					
$				2,328,517					
Copper ... Lb.			2,510,141	39,718,777				69,221,600	
$			352,474	5,577,311				9,720,097	
Gold ... Fine oz.	1,626		1,602	1,461,039	4,424			219,227	47,817
$	33,612		33,116	30,202,357	91,452			4,531,823	988,465
Iron, p.g. from Canadian ore ... Tons									
$									
Iron ore sold for export ... Tons			3,978						
$			11,934						
Lead ... Lb.			2,051,100	7,209,534				242,454,502	1,875,442
$			187,060	657,510				22,111,850	171,040
Manganese ... Tons									
$									
Molybdenite ... Lb.			22,350						
$			11,176						
Nickel ... Lb.				73,857,114					
$				15,946,672					
Palladium, Rhodium, Osmium, Iridium, Ruthenium ... Fine oz.				8,288					
$				648,969					
Platinum ... Fine oz.				8,692				6	
$				1,027,477				715	
Silver ... Fine oz.	86		214,943	10,529,131	477			8,579,458	904,893
$	59		148,451	7,271,944	329			5,925,403	624,964
Zinc ... Lb.			9,936,000	179,545				99,152,966	
$			757,322	13,685				7,557,439	
Total ... $	33,671		1,501,533	63,806,538	91,781			49,864,306	1,784,469
Non-Metallic									
Actinolite ... Tons				40					
$				500					
Asbestos ... Tons			290,387	2					
$			8,987,459	901					
Barytes ... Tons	95								
$	2,259								
Bituminous sands ... Tons							1,148		
$							4,594		
Coal ... Tons	3,842,978	208,012				471,965	5,869,031	2,742,252	730
$	15,826,680	815,367				870,875	20,021,484	11,720,373	7,172
Feldspar ... Tons			11,287	17,394					
$			94,730	141,059					
Fluorspar ... Tons				12				3,874	
$				200				19,034	
Garnets ... Tons									
$									
Graphite ... Tons			359	2,210					
$			30,900	127,863					
Grinding pebbles ... Tons				105					
$				945					
Grindstones ... Tons	439	1,642						481	
$	16,723	79,661						27,781	
Gypsum ... Tons	551,230	71,745		82,020	35,088			240	
$	1,070,408	408,917		491,833	417,868			865	
Iron oxides ... Tons			6,985					133	
$			89,173					2,740	
Magnesite ... Tons			5,576						
$			122,325						
Mica ... Tons			2,415	1,605					
$			178,800	82,663					
Mineral water Imp. Gals.			7,122	183,012					
$			2,961	25,452					
Natro-alunite ... Tons								20	
$								1,000	
Natural gas ... M cu. ft.		639,235		7,143,962	200		9,119,500		
$		122,394		3,958,006	60		2,752,545		
Peat ... Tons				1,370					
$				8,394					
Petroleum, crude ... Brls.		5,376		143,134			183,491		
$		18,756		386,555			845,394		
Phosphate ... Tons			16						
$			189						
Pyrites ... Tons			12,250	685				2,670	
$			36,750	8,799				13,350	
Quartz ... Tons	1,352		6,450	188,560				853	
$	6,760		30,064	324,520				2,262	
Salt ... Tons	6,598			226,315			833		
$	49,889			1,352,504			8,304		

Table 11.—Mineral Production in Canada by Provinces, 1925—Concluded

—	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon
NON-METALLIC—*Con.*									
Sodium carbonate..Tons								1,120	
$								8,140	
Sodium sulphate...Tons						3,876			
$						19,380			
Talc and soapstone. Tons			704	13,678				92	
$			30,130	174,116				1,589	
Tripolite.....Tons									
$									
Volcanic ash.....Tons						160			
$						1,380			
Total.....	16,972,719	1,445,095	9,603,481	7,084,316	417,928	891,635	23,632,321	11,797,134	7,172
STRUCTURAL MATERIALS AND CLAY PRODUCTS									
Cement, Portland...Brls			3,365,802	3,462,358	407,395		395,857	485,185	
$			5,689,991	5,253,911	1,037,929		913,529	1,151,344	
Clay products—									
Brick—									
Soft mud process—									
Face.....M.			3	24,479	3,219				
$			35	476,638	45,066				
Common.....M.	830	2,000	7,740	30,799	6,014	662		3,169	
$	10,760	30,000	80,114	474,114	96,632	9,951		52,399	
Stiff mud process (wire cut)—									
Face.....M.	1,435		21,224	68,975	324	560	852	533	
$	29,180		506,113	1,288,382	8,404	17,104	17,963	16,710	
Common (a)...M.	3,838		93,827	12,642	29	465	5,036	268	
$	47,095		1,328,403	195,202	282	6,531	52,645	4,198	
Dry press—									
Face.....M.			2,919	32,016		77	922	1,267	
$			91,551	638,812		2,634	16,525	50,982	
Common.....M.		250	800	4,587			11,930	4,486	
$		2,800	7,200	64,377			137,436	58,322	
Fancy or ornamental brick...M.			98	426					
$			4,592	91,728					
Sewer brick.....M.				2,125				360	
$				37,082				15,300	
Fire brick from domestic clay..M.	1,221	30		904		447	58	3,537	
$	71,336	768		46,459		21,672	2,524	162,573	
Fireclay.....Tons	48	49				319		207	
$	480	1,956				2,895		1,204	
Fireclay blocks and shapes.....$	280					7,113		29,174	
Structural tile—hollow blocks (including fire-proofing and load-bearing tile)—									
Tons	6,706		31,842	62,926	610	2,700	5,166	5,626	
$	67,863		302,272	577,477	9,329	27,052	49,831	59,573	
Roofing tile.....No				78,479					
$				6,323					
Floor tile (quarries) Sq. ft.				140,927					
$				28,338					
Drain tile (b).....M.	66		50	13,496	278	20	84	558	
$	2,020		1,906	360,710	14,080	1,000	3,373	18,414	
Sewer pipe (including copings, flue lining, etc.).....Tons	11,483		4,251	49,334			6,985	1,738	
$	195,787		104,701	893,442			191,257	55,082	
Pottery, glazed or unglazed.....$		33,949		86,000			147,306		
Lime—									
Quick lime.....Bush.	57	202,106	2,272,751	5,115,974	324,515		98,938	515,058	
$	20	92,216	601,081	1,566,540	100,833		39,852	304,223	
Hydrated lime...Tons	287		9,432	41,610	4,403			4,718	
$	3,444		72,249	477,585	69,397			60,212	
Sand and gravel (c).Tons	286,514	70,156	2,203,196	5,201,604	727,152	579,901	534,892	1,415,232	
$	35,362	12,331	533,850	1,779,129	196,601	88,805	107,436	446,896	
Stone—									
Granite.....Tons	14,961	9,027	491,986	263,567				192,177	
$	54,524	89,731	1,363,220	242,150				264,910	
Limestone.....Tons	84,939	16,364	1,077,514	2,750,115	52,770		3,979	58,172	
$	73,717	35,012	2,160,790	2,530,621	188,496		6,868	54,059	
Marble.....Tons			3,046						
$			254,922						
Sandstone.....Tons	2,225		70,370	9,030				5,877	
$	6,445		76,523	44,562				18,227	
Total..... $	619,222	298,763	13,179,513	17,089,582	1,767,050	184,757	1,686,545	2,823,802	
Grand total.....	17,625,612	1,743,858	24,284,527	87,980,436	2,276,759	1,076,392	25,318,866	64,485,242	1,791,641

(a) Includes 180 M valued at $2,520 for P.E.I.
(b) Includes 22 M valued at $500 for P.E.I.
(c) Includes 35430 tons valued at $5,475 for P.E.I.

Table 12.—Mineral Production of Nova Scotia, 1923, 1924 and 1925

Product	1923		1924		1925	
	Quantity	Value	Quantity	Value	Quantity	Value
		$		$		$
Metallic—						
Arsenic ... lb.	45,000	2,250	381,092	15,244	...	...
Gold ... Fine oz.	655	13,540	1,047	21,643	1,626	33,612
Manganese ... Tons	200	1,400	...	...	...	...
Silver ... Fine oz.	25	16	44	29	86	59
Non-Metallic—						
Barytes ... Tons	209	4,368	151	3,308	95	2,259
Coal ... "	6,597,838	28,170,458	5,557,441	22,280,554	3,842,978	15,826,680
Grindstones ... "	256	7,906	338	12,525	439	16,723
Gypsum ... "	341,705	747,934	441,752	915,845	551,230	1,070,408
Quartz ... "	...	...	...	...	1,352	6,760
Salt ... "	4,180	39,151	4,551	37,469	6,598	49,889
Tripolite ... "	130	3,250	33	838	...	...
Structural Materials and Clay Products						
Clay products	...	413,974	...	359,288	...	*425,710
Lime ... Bush.	42,370	7,199	‡ 78	936	8,257	3,464
Stone ... Tons	138,682	177,090	67,535	111,824	102,125	134,686
Sand and gravel ... Tons	224,016	†60,357	306,873	†60,849	286,514	†55,362
Total	...	**29,648,892**	...	**23,820,352**	...	**17,625,613**

* Includes clay products from P.E.I. valued at $3,020.

† Includes railway ballast from P.E.I., valued at $4,429 in 1923, $11,490 in 1924, and $5,475 in 1925.

‡ Tons.

Table 13.—Mineral Production of New Brunswick, 1923, 1924 and 1925

Product	1923		1924		1925	
	Quantity	Value	Quantity	Value	Quantity	Value
		$		$		$
Metallic—						
Manganese ore ... Tons	...	...	584	4,088	...	...
Non-Metallic—						
Coal ... "	276,617	1,196,772	217,121	932,185	208,012	815,367
Grindstones ... "	1,758	72,177	2,113	99,299	1,642	79,661
Gypsum ... "	104,740	564,680	86,738	476,804	71,745	408,917
Natural gas ... M cu. ft.	640,300	126,068	599,972	113,577	639,235	122,394
Petroleum ... Brl.	8,826	35,642	5,561	21,313	5,376	18,756
Structural Materials and Clay Products						
Clay products	...	62,587	...	74,994	...	69,473
Lime ... Bush.	329,548	143,814	208,180	108,890	202,106	92,216
Sand and gravel ... Tons	608,528	94,634	141,897	23,999	70,156	12,331
Stone ... "	22,448	166,083	19,229	114,111	25,391	124,743
Total	...	**2,462,457**	...	**1,969,268**	...	**1,743,858**

Table 14.—Mineral Production* of Quebec, 1923, 1924 and 1925

Product		1923		1924		1925	
		Quantity	Value	Quantity	Value	Quantity	Value
			$	$	$		$
METALLIC—							
Chromite	Tons	3,558	52,650	.....	.....	.....	.....
Copper	Lb.	.....	.....	1,893,008	246,546	2,510,141	352,474
Gold	Fine oz.	667	13,788	883	18,253	1,602	33,116
Iron ore, sold for export	Tons	69	186	1,408	3,771	3,978	11,934
Lead	Lb.	520,041	37,334	1,058,983	85,820	2,051,100	187,060
Molybdenite	"	.....	.....	18,739	9,370	22,350	11,176
Silver	Fine oz.	33,006	21,412	83,814	55,972	214,943	148,451
Zinc	Lb.	336,240	24,197	2,909,008	184,547	9,936,000	757,322
NON-METALLIC—							
Asbestos	Tons	231,476	7,519,906	225,572	6,618,930	290,387	8,987,459
Feldspar	"	12,026	102,779	16,147	142,118	11,287	94,730
Graphite	"	45	2,316	46	3,275	359	30,900
Magnesite	"	4,801	134,382	3,873	101,356	5,576	122,325
Mica	"	1,545	216,684	1,677	185,020	2,415	178,800
Mineral Water	Imp. Gal.	5,421	2,408	7,683	2,288	7,122	2,961
Iron oxides	Tons	9,911	123,186	7,146	88,540	6,985	89,173
Phosphate	"	30	600	.....	.....	16	189
Pyrites	"	.....	.....	4,032	10,619	12,250	36,750
Quartz	"	13,376	68,936	17,893	87,267	6,459	30,064
Talc and soapstone	"	590	19,993	449	20,273	704	30,130
STRUCTURAL MATERIALS AND CLAY PRODUCTS—							
Cement	Brl.	3,173,993	6,347,986	2,758,316	4,796,959	3,365,802	5,689,991
Clay products		.....	2,437,229	.....	2,435,695	.....	2,426,887
Kaolin	Tons	163	2,369	.....	.....	.....	.....
Lime—							
Quicklime	Bush.	2,198,071	576,731	2,219,359	640,990	2,272,751	601,081
Hydrated lime	Tons	5,595	57,482	5,848	58,947	9,432	72,249
Slate	"	1,836	17,289	.....	.....	.....	.....
Sand and gravel	"	1,055,817	206,175	2,197,145	414,428	2,203,196	533,850
Stone	"	1,094,816	2,322,745	1,592,089	2,925,520	2,242,916	3,855,455
Total		.....	**20,308,763**	.....	**19,136,504**	.....	**24,284,527**

*There is also in this province an important production of aluminium from imported ores.

Table 15.—Mineral Production of Ontario, 1923, 1924 and 1925

Product		1923		1924		1925	
		Quantity	Value	Quantity	Value	Quantity	Value
			$		$		$
METALLIC—							
Antimony	Lb.	.....	.....	.....	.....	1,751	206
Arsenic, white	"	5,158,617	582,785	3,745,225	313,281	2,156,441	113,324
Bismuth	"	.....	.....	12,863	27,913	19,667	18,566
Cobalt	"	888,061	2,530,974	948,704	1,682,395	1,116,492	2,328,517
Copper	"	31,656,800	4,565,227	37,113,193	4,833,692	39,718,777	5,577,311
Gold	Fine oz	971,704	20,086,904	1,241,728	25,668,795	1,461,039	30,202,357
Iron ore, sold for export	Tons	5,358	18,878	.....	.....	.....	.....
Iron, pig, from Canadian ore (a)	"	20,739	432,298	3,696	92,400	.....	.....
Lead	Lb.	4,401,494	315,983	5,055,368	409,687	7,209,534	657,510
Nickel	"	62,453,843	18,332,077	69,538,350	19,470,178	73,857,114	15,946,672
Platinum	Fine oz.	1,210	141,010	9,181	1,090,858	8,692	1,027,477
Palladium	"	1,732	138,560	8,923	811,993	8,288	648,969
Rhodium, ruthenium, osmium, iridium	"	(b) 304	45,000	593	51,120	(c)	
Silver	Fine oz.	10,540,943	6,838,226	11,272,567	7,527,933	10,529,131	7,271,944
Zinc	Lb.	.....	.....	.....	.....	179,545	13,685
NON-METALLIC—							
Actinolite	Tons	53	583	90	1,225	40	500
Asbestos	"	6	2,600	172	91,900	2	901
Barytes	"	200	4,180	.....	.....	.....	.....
Feldspar	"	17,199	134,822	28,657	216,422	17,394	141,059
Fluorspar	"	64	597	76	1,343	12	200
Garnet	"	1,250	100,000	360	7,200	.....	.....
Graphite	"	1,068	65,557	1,288	72,842	2,210	127,863
Grinding pebbles	"	.....	.....	.....	.....	105	945
Gypsum	"	99,958	542,317	88,121	467,097	82,020	491,833
Mica	"	1,980	110,290	2,414	172,252	1,605	82,663
Mineral water	Imp. gal	227,030	14,047	201,670	13,133	183,012	25,452
Natural gas	M. cu. ft.	8,128,413	4,066,244	7,150,078	3,798,381	7,143,962	3,958,006
Peat	Tons	.....	.....	.....	.....	1,370	8,394
Petroleum	Brl.	159,400	478,149	154,368	441,952	143,134	386,555
Pyrites	Tons	25,134	99,716	11,429	44,542	685	8,799
Quartz	"	225,110	483,285	111,645	192,855	188,560	324,526
Salt	"	197,917	1,674,365	203,428	1,337,311	226,315	1,352,504
Talc	"	9,531	125,124	10,718	130,577	13,678	174,116
STRUCTURAL MATERIALS AND CLAY PRODUCTS—							
Cement	Brl.	3,296,428	5,855,589	3,564,499	5,668,671	3,462,358	5,253,911
Clay products		.....	6,270,615	.....	5,089,299	.....	5,195,084
Lime—							
Quicklime	Bush.	4,810,421	1,373,823	4,391,050	1,401,545	5,115,974	1,566,540
Hydrated	Tons	41,727	519,840	35,989	438,607	41,610	477,585
Sand and gravel	"	8,146,433	2,006,958	6,174,284	2,041,959	5,201,604	1,779,129
Stone	"	2,638,984	2,869,228	2,840,173	2,789,368	3,022,712	2,817,333
Total		.....	**80,825,851**	.....	**86,398,656**	.....	**87,980,436**

(a) The total production of blast-furnace pig-iron in Ontario, in 1923 was 674,428 tons valued at $15,995,496, in 1924 it was 465,888 valued at $10,482,480, and in 1925 it was 368,604 tons valued at $7,873,816.

(b) Rhodium and iridium.

(c) Included with palladium.

Table 16.—Sales and Shipments from the Mineral Industries of Ontario, 1924 and 1925 (Quantities shown are final hsipments during the year; values given are those reported as received, f.o.b., shipping point, by the shippers.)

Metal mining industries		1924		1925	
		Quantity	Marketed value as reported	Quantity	Marketed value as reported
			$		$
Silver-Cobalt Industry—					
Sold by South Ontario smelters—					
Silver bullion	Oz.	4,300,595	2,936,927	2,813,071	1,985,755
Arsenic (As_2O_3)	Lb.	3,596,165	309,108	2,005,252	108,789
Cobalt metal, oxide, salts, etc., (metal content)	"	626,400	1,421,826	823,019	2,114,835
Nickel metal, oxide, salts, etc. (metal content)	"	42,482	9,418	441,326	91,462
Sulphate	"	10,672	533	13,834	692
Speiss residues exported	Tons	637	235,317	542	211,991
Silver lead bismuth bullion	Lb.	60,044	87,264	98,714	103,638
Clean up material	Tons	.....	.....	29	32,205
Sold direct from Ontario silver mines—					
Silver bullion	Oz.	5,004,992	3,369,664	5,551,112	3,823,921
Nuggets to provincial government	"	15,406	10,398	910	674
Ores, concentrates and residues exported	Tons	2,412	556,779	3,091	674,203
Total for silver-cobalt industry		.....	8,937,234	.....	9,148,165
Nickel-Copper Industry—					
Matte exported	Tons	26,565	4,667,136	32,397	7,884,661
Refined nickel Nickel oxides Converter copper		.....	9,760,022	.....	12,654,759
Precious metals	Oz.	62,713	364,246	155,396	1,852,105
Total for nickel-copper industry		.....	14,791,404	.....	22,391,525
Gold Mining Industry—					
Crude bullion	Oz.	1,579,987	25,692,570	1,850,466	30,224,456
Exchange premium		.....	196,748	.....	67
Slags exported	Tons	39	30,919	41	30,429
Concentrates exported	"	.....	.....	804	52,991
Temiskaming testing laboratory	"	39	1,837	.....	.....
Gross value		.....	25,922,074	.....	30,307,943
Less discount		.....	.....	.....	2,905
Total for gold mining industry		.....	25,922,074	.....	30,305,038
Lead Mining and Smelting Industry—					
Lead bullion	Lb.	5,415,574	412,110	7,205,250	599,816
Zinc concentrates	Tons	.....	.....	311	13,685
Total		.....	412,110	.....	613,501
Iron Mining and Smelting Industry—					
Pig iron from Ontario ores	Tons	3,696	92,400	.....	.....
Totals—					
(a) Metal mining and smelting industries listed above		.....	50,155,764	.....	62,458,229
(b) Non-Metallic mineral industries, as per Table 15		.....	6,989,032	.....	7,084,316
(c) Structural materials and clay products industries, as per Table 15		.....	17,429,449	.....	17,089,582
Grand Total of Sales		.....	**74,574,245**	.....	**86,632,127**

Table 17.—Mineral Production of Manitoba, 1923, 1924 and 1925

Product	1923		1924		1925	
	Quantity	Value	Quantity	Value	Quantity	Value
		$		$		$
METALLIC—						
Gold ..... Fine oz.	31	641	1,180	24,393	4,424	91,452
Silver ..... "	5	3	140	93	477	329
NON-METALLIC—						
Gypsum ..... Tons	31,575	386,554	29,375	348,212	35,088	417,868
Natural gas ..... M cu. ft.	200	60	200	60	200	60
STRUCTURAL MATERIALS AND CLAY PRODUCTS—						
Cement ..... Brl.	320,218	817,664	286,948	746,750	407,395	1,037,929
Clay products	.....	160,134	.....	117,450	.....	173,794
Lime ..... Bush.	524,128	161,226	394,229	121,518	450,315	170,230
Sand and gravel ..... Tons	595,549	123,478	359,535	81,897	727,152	196,601
Stone ..... Tons	51,304	118,277	54,065	93,876	52,770	188,496
Total	.....	**1,768,037**	.....	**1,534,249**	.....	**2,276,759**

Table 18.—Mineral Production of Saskatchewan, 1923, 1924 and 1925

Product	1923		1924		1925	
	Quantity	Value	Quantity	Value	Quantity	Value
		$		$		$
NON-METALLIC—						
Coal ..... Tons	438,100	858,448	479,118	886,668	471,965	870,875
Sodium sulphate ..... "	733	10,189	1,083	8,004	3,876	19,280
Volcanic ash ..... "	.....	.....	245	1,103	160	1,380
STRUCTURAL MATERIALS AND CLAY PRODUCTS—						
Clay products	.....	119,405	.....	137,280	.....	95,952
Sand and gravel ..... Tons	438,319	59,541	702,713	97,045	579,901	88,805
Total	.....	**1,047,583**	.....	**1,128,100**	.....	**1,076,392**

Table 19.—Mineral Production of Alberta, 1923, 1924 and 1925

Product	1923		1924		1925	
	Quantity	Value	Quantity	Value	Quantity	Value
		$		$		$
NON-METALLIC—						
Bituminous sand ..... Tons	.....	.....	531	2,127	1,148	4,594
Coal ..... Tons	6,854,397	28,018,303	5,189,729	18,884,318	5,869,031	20,021,484
Natural gas ..... M cu. ft.	7,191,670	1,692,246	7,131,086	1,796,618	9,119,500	2,752,545
Petroleum ..... Brl.	1,943	8,227	844	4,135	183,491	845,394
Salt ..... Tons	.....	.....	.....	.....	833	8,304
STRUCTURAL MATERIALS AND CLAY PRODUCTS—						
Cement ..... Brl.	318,756	740,940	416,534	945,700	395,857	913,529
Clay products	.....	590,565	.....	540,477	.....	618,860
Lime ..... Bush.	87,753	37,999	90,214	36,279	98,938	39,852
Sand and gravel ..... Tons	888,216	199,256	615,594	115,969	534,892	107,436
Stone ..... Tons	.....	.....	16,698	19,317	3,979	6,868
Total	.....	**31,287,536**	.....	**22,344,940**	.....	**25,318,866**

Table 20.—Mineral Production of British Columbia, 1923, 1924 and 1925

Product		1923		1924		1925	
		Quantity	Value	Quantity	Value	Quantity	Value
			$		$		$
METALLIC—							
Arsenic	Lb.	1,217,970	41,780	495,250	19,768	1,277,696	16,978
Copper (a)	"	55,224,737	7,963,959	65,451,246	8,524,370	69,221,600	9,720,097
Gold	Fine oz.	200,140	4,137,261	245,719	5,079,462	219,227	4,531,824
Iron ore sold for export	Tons	243	1,215	.....	.....	.....	.....
Iron, pig, from Canadian ores		.....	.....	14	350	.....	.....
Lead	Lb.	99,541,818	7,146,107	168,467,628	13,652,617	242,454,502	22,111,850
Platinum	Fine oz.	7	816	5	569	6	715
Silver	"	6,113,327	3,965,899	8,153,003	5,444,657	8,579,458	5,925,403
Zinc	Lb.	60,050,000	3,967,504	96,000,069	6,090,244	99,152,966	7,557,439
NON-METALLIC—							
Coal	Tons	2,823,306	13,813,520	2,193,667	10,601,998	2,742,252	11,720,373
Fluorspar	"	75	1,135	.....	.....	3,874	19,034
Grindstones	"	.....	.....	240	19,000	481	27,781
Gypsum	"	323	1,615	30	150	240	865
Magnesium sulphate	"	121	6,580	.....	.....	.....	.....
Natro-alunite	"	15	750	.....	.....	20	1,000
Oxides (iron)	"	513	6,450	120	2,620	133	2,740
Pyrites	"	3,457	13,304	8,091	40,459	2,670	13,350
Quartz	"	25,590	47,029	21,258	43,034	853	2,262
Sodium carbonate	"	265	3,975	510	5,173	1,120	8,140
Talc	"	245	5,390	165	3,630	92	1,589
STRUCTURAL MATERIALS AND CLAY PRODUCTS—							
Cement	Brl.	795,637	1,302,482	472,327	1,240,331	485,185	1,151,344
Clay products		.....	426,138	.....	460,594	.....	523,931
Lime—							
Quicklime	Bush.	564,971	338,443	517,577	320,312	515,058	304,223
Hydrated	Tons	4,410	50,051	4,157	50,517	4,718	60,212
Sand and gravel	"	434,194	266,119	1,105,459	344,937	1,415,232	446,896
Stone	"	165,100	249,866	178,225	353,741	256,226	337,196
Total		.....	**43,757,388**	.....	**52,298,533**	.....	**64,485,242**

(a) Smelter recoveries of copper.

Table 21.—Mineral Production of Yukon, 1923, 1924 and 1925

Product		1923		1924		1925	
		Quantity	Value	Quantity	Value	Quantity	Value
			$		$		$
METALLIC—							
Gold	Fine oz.	60,144	1,243,287	34,825	719,897	47,817	988,465
Silver	"	1,914,438	1,241,953	226,755	151,429	904,893	624,964
Lead	Lb.	6,771,113	486,098	903,520	73,221	1,875,442	171,040
NON-METALLIC—							
Coal	Tons	313	1,485	1,121	8,265	730	7,172
Total		.....	**2,972,823**	.....	**952,812**	.....	**1,791,641**

METALLICS

ALUMINIUM

Up to the present time no commercial ores of aluminium have been discovered in Canada. This extremely useful metal has been produced in Canada since 1903 from ore imported mainly from the United States and in less amounts from France, at Shawinigan Falls, Quebec. The ore from which aluminium is produced, known as bauxite, is a variety of laterite, a rock containing varying proportions of hydrated oxides of iron and aluminium. In Europe, bauxite is found in commercial quantities in the south of France, particularly in the Dalmatia-Croatia-Istria region, and in the Bihar mountains in Roumania. Other important deposits are those of the United States, British and Dutch Guiana, India and the Gold Coast of Africa.

As there was only one company in Canada producing aluminium in 1925, production figures are not shown separately. There are several companies making aluminium ware of all kinds and a separate report is published annually by the Dominion Bureau of Statistics on this section of the trade.

Aluminium is a product of the electric furnace. Alumina, which has previously been recovered by chemical means from bauxite, is dissolved in molten cryolite, in the electric furnace and a low voltage current is passed through the melt to decompose the oxide into metallic aluminium and oxygen; the metal sinks to the bottom of the crucible. The free oxygen attacks the carbon of the furnace electrode forming carbon dioxide gas; for this reason the electrode consumption is high. Theoretically, there should be no loss of cryolite but in actual operations losses occur, which must be made good from time to time. The mineral cryolite used in the manufacture of aluminium occurs in Greenland; annual shipments amount to approximately 10,000 tons. The chief uses of aluminium are in the manufacture of alloys with other metals including copper, nickel, cobalt, iron, antimony, tin, zinc and magnesium, and there are many uses for the pure metal itself. Pure aluminium powder is used in the thermit process to reduce the oxides of certain metals to the metallic state. In the manufacture of some alloys, metals of low carbon content are required and in the preparation of these metals from their oxides, reduction by aluminium is found very desirable, and a great improvement over the older method of reduction by carbon. Powdered aluminium is also used in precipitation of gold and silver from cyanide solutions and because of its great affinity for oxygen, it is sometimes employed as a de-gasifier or a de-oxidizer in the manufacture of steel.

Table 22.—Imports of Aluminium and its Products into Canada and Exports of Aluminium during 1923, 1924 and 1925

—	1923		1924		1925	
	Pounds	Value	Pounds	Value	Pounds	Value
		$		$		$
IMPORTS—						
Alumina	131,773,700	2,190,091	128,695,000	2,375,346	127,505,400	2,627,281
Cryolite ore	1,807,000	136,203	1,142,200	70,563	1,507,600	94,624
Aluminium—						
Ingots, blooms, bars	756,981	194,357	653,655	183,110	692,426	217,885
Tubing	73,103	30,770	47,247	27,064	82,086	45,409
Manufactures	.....	468,518	.....	485,037	.....	519,653
Leaf foil	.....	151,023	.....	135,316	.....	202,823
Household and hollow-ware	.....	544,046	.....	403,613	.....	342,116
Total	.....	**3,715,008**	.....	**3,680,649**	.....	**4,049,791**
EXPORTS—						
Aluminium—						
Ingots, bars, etc.	17,585,400	3,380,198	18,146,700	3,990,857	27,267,800	6,558,910
Manufactures	.....	797,635	.....	767,430	.....	793,170
Total	.....	**4,177,833**	.....	**4,758,287**	.....	**7,352,080**

Table 23.—Monthly Average Prices of Ingot Aluminium 1923, 1924 and 1925

(At New York in cents per pound)

Month	1923	1924	1925
January	23·00	28·00	28·00
February	23·37	28·00	28·00
March	25·12	28·00	28·00
April	27·06	28·50	28·00
May	27·00	28·50	28·00
June	27·00	28·50	28·00
July	26·50	28·50	28·00
August	26·50	28·00	28·00
September	26·30	28·00	28·00
October	26·50	28·00	28·00
November	26·50	28·00	29·00
December	27·00	28·00	29·00
Average	**25·98**	**28·17**	**28·17**

Table 24.—World's Production of Aluminium, 1913 and 1921-1925

(From *The Mineral Industry*, 1925)

(Short tons)

Country	1913	1921	1922	1923	1924	1925
Austria	5,510	2,204	4,408	4,408	3,306	4,408
Canada	6,519	6,612	9,918	18,183	17,632	18,734
France	14,880	11,020	13,224	13,224	20,387	22,591
Germany	882	11,020	13,224	14,326	20,277	27,550
Great Britain	11,020	5,510	10,469	9,918	7,714	9,918
Italy	963	820	694	1,653	2,267	2,016
Norway	2,755	4,408	6,612	15,428	21,983	25,346
Switzerland	11,020	11,020	13,224	13,224	20,938	22,040
United States	32,509	31,683	57,304	106,894	93,670	102,480
Total	**86,058**	**84,297**	**129,077**	**197,258**	**208,174**	**235,089**

Table 25.—World's Production of Bauxite, 1913 and 1921-1925

(1913 from *The Mineral Industry*, 1918; 1921-1925 from *The Mineral Industry*, 1925)

(Metric tons)

Country	1913	1921	1922	1923	1924	1925
Austria	.....	2,538	4,095	2,734	(a) 3,000	(a) 4,000
British Guiana	.....	(c)	(c)	135,712	188,071	(a) 200,000
British India	1,203	6,759	4,998	6,652	23,632	(a) 25,000
Dutch Guiana	.....	.....	18,805	15,839	(a) 60,000	(a) 100,000
France	309,285	95,318	236,141	314,330	335,582	405,000
Germany	.....	10,122	15,146	5,662	(a) 10,000	(a) 6,000
Roumania	.....	.....	3,737	4,162	(a) 5,000	(a) 7,000
Hungary (Data not available)						
Italy	6,953	49,120	66,646	98,055	(b) 145,520	198,000
Jugo-Slavia	.....	10,021	31,290	32,631	(a) 37,000	(a) 65,000
Spain	.....	184	.....	.....	.....	.....
United Kingdom	8,417	2,305	5,053	3,594	5,241	(a) 7,000
United States	213,675	141,790	314,569	531,079	352,117	321,622
Total	**539,533**	**318,257**	**701,380**	**1,151,360**	**1,165,133**	**1,338,622**

(a) Estimated.

(b) Istria included under Italy.

(c) Closed

ANTIMONY

There was no Canadian production of antimony reported during the years 1917-1924. In the year under review 1,751 pounds valued at $206 were reported as contained in some silver-lead-bismuth bullion exported by Canadian smelters which treat the ores from the Cobalt district.

Ores of antimony are known to occur in British Columbia, New Brunswick, Nova Scotia, Ontario, Quebec and Yukon. The greater part of the Canadian output of refined antimony was produced in the years 1907, 1909, 1915 and 1916 by the Consolidated Mining and Smelting Co. of Trail, B.C. The remainder was from the New Brunswick ores treated locally.

Table 26.—Production of Antimony in Canada, 1886-1925

Year	Antimony ore		Refined regulus	
	Tons	Value	Pounds	Value
		$		$
1886	665	31,490	.....	.....
1887	584	10,860	.....	.....
1888	345	3,696	.....	.....
1889	55	1,100	.....	.....
1890	26½	625	.....	.....
1891	10	60	.....	.....
1892-1897	.....	.....	.....	.....
1898	1,344	20,000	.....	.....
1899-1904	.....	.....	.....	.....
1905 (a)	527	.....	.....	.....
1906 (a)	782	.....	.....	.....
1907	2,016	65,000	63,850	5,108
1908 (b)	148	5,443	.....	.....
1909	35	1,575	61,207	4,285
1910	364	13,906	.....	.....
1911-1914	.....	.....	.....	.....
1915	1,341	81,283	59,440	11,888
1916	885	94,537	107,185	41,823
1917	361	22,000	.....	.....
1918-1924	.....	.....	.....	.....
1925	1	206	.....	.....

(a) As recorded by the Nova Scotia Department of Mines: no value given.
(b) Exports.

Table 27.—Imports of Antimony into Canada, 1923, 1924 and 1925

—	1923		1924		1925	
	Pounds	Value	Pounds	Value	Pounds	Value
		$		$		$
Antimony or regulus of	900,483	57,882	780,271	70,982	897,298	124,394
Antimony salts	19,883	4,904	16,412	3,408	36,263	6,838
Total	**920,366**	**62,786**	**796,683**	**74,390**	**933,561**	**131,232**

Table 28.—Monthly Average Prices of Antimony, 1923, 1924 and 1925

(Compiled from quotations given in the *Engineering and Mining Journal*—"Ordinaires" stand for Hungarian, Chinese or other "Foreign" brands)

(At New York in cents per pound)

Month	1923	1924	1925
	Ordinaries	Ordinaries	Ordinaries
January	6·884	10·279	17·428
February	7·290	10·935	19·759
March	8·885	11·412	15·553
April	8·380	9·952	12·553
May	7·477	8·755	15·770
June	6·839	8·403	16·500
July	7·097	8·477	17·779
August	7·753	9·839	17·683
September	7·633	11·022	17·143
October	8·005	11·519	18·029
November	9·156	14·385	20·000
December	9·365	15·024	21·692
Average	**7·897**	**10·836**	**17·494**

Table 29.—World's Production of Antimony and 1913 1921-1925

(From *The Mineral Industry*, 1921 and 1924)

(Metric tons)

Country	1913	1921	1922	1923	1924	1925
United States	.....	.....	4	9	33	33
Canada (a)	.....	.....	.....	.....	.....	1
Mexico	2,340	45	457	490	775	1,399
Bolivia	30	(b) 336	(b) 185	(b) 312	(b) 751	(b) 1,850
Peru	.....	7	.....	.....	.....	.....
Hungary	.....	.....	67	643	348	.....
Austria	1,038	.....	172			
Austria-Hungary	840	.....	.....	.....	.....	.....
Germany	.....	.....	.....	.....	.....	.....
France	5,170	1,118	814	437	873	795
Italy	360	40	183	271	455	70
Portugal	10	.....	.....	.....	.....	.....
Spain	.....	.....	.....	41	.....	.....
Jugo-Slavia	.....	.....	.....	.....	131	.....
Serbia	250	600	160	.....	410	350
Algeria	186	(b) 103	(b) 530	(b) 500	(b) 236	(b) 880
British South Africa	30	.....	1	.....	.....	.....
China	13,032	(b) 14,752	(b) 14,316	(b) 14,244	(c) 13,168	(b) 19,040
Japan	20	.....	.....	.....	.....	.....
India	.....	1	.....	.....	.....	.....
Indo-China	.....	.....	.....	.....	.....	50
Asia Minor	240	400	400	400	400	400
Victoria	960	150	730	421	163	288
New South Wales	10	40	.....	.....	.....	.....
Queensland	.....	.....	.....	.....	.....	.....
Western Australia	.....	.....	.....	.....	.....	.....
Total	**24,516**	**17,592**	**18,019**	**17,768**	**17,753**	**25,156**

(a) Dominion Bureau of Statistic figures.

(b) Exports.

(c) Statistics of Hunan Antimony Association.

ARSENIC

Arsenic occurs in Canada in the arsenical gold ores of Nova Scotia and British Columbia and in the silver-cobalt-nickel ores of Ontario.

Arsenical ores from Nova Scotia and British Columbia are exported for treatment as are also some ores from Cobalt, but the major part of the Dominion output of arsenic is produced by the smelters situated in the southern part of Ontario which treat the ores from Cobalt. In 1925, arsenic production amounted to 3,434,137 pounds valued at $130,302. Of this amount Ontario contributed 2,156,441 pounds valued at $113,324; British Columbia, 1,277,696 pounds valued at $16,978. There was no production from Nova Scotia in 1925. Arsenic credited to British Columbia was recovered from ores exported for treatment in foreign smelters. In 1924, Ontario produced 3,745,225 pounds valued at $313,281, British Columbia, 495,250 pounds valued at $19,768, and Nova Scotia 381,092 pounds valued at $15,244. During the year 1925, the price of arsenic decreased from 6.0 cents in January to 3.25 cents in December, averaging 4.65 cents for the year.

Arsenic is used mainly in the manufacture of insecticides and the annual consumption depends considerably on the activities of the boll-weevil, an insect which is very destructive to the southern cotton crop. In 1924 and 1925 this insect was not as destructive as in the immediate preceding years and the price of arsenic fell off.

Imports during the year amounted to 498,720 pounds having a value of $30,305. Exports of white arsenic amounted to 486 tons valued at $10,590; exports of arsenic contained in ore concentrates, etc., amounted to 881 tons valued at $97,748.

Table 30.—Production of Arsenic in Canada, 1885-1925

Year	White arsenic		Year	Arsenic in ore exported*		White arsenic	
	Tons	Value		Tons	Value	Tons	Value
		$			$		$
1885	440	17,600	1907	656	11,094	330	36,209
1886	120	5,460	1908	986	17,506	716	41,060
1887	30	1,200	1909	221	3,346	1,129	64,100
1888	30	1,200	1910	547	5,716	1,502	75,328
1889	.....	.....	1911	.....	.....	2,097	76,237
1890	25	1,500	1912	.....	.....	2,045	89,262
1891	20	1,000	1913	.....	.....	1,692	101,463
1892-3	.....	.....	1914	.....	.....	1,737	104,015
1894	7	420	1915	.....	.....	2,396	147,830
1895-8	.....	.....	1916	.....	.....	2,186	262,349
1899	57	4,872	1917	280	11,200	2,656	658,231
1900	303	22,725	1918	1,078	43,114	2,482	520,525
1901	695	41,676	1919	530	21,218	2,859	488,706
1902	800	48,000	1920	628	22,231	1,831	425,617
1903	257	15,420	1921	.....	.....	1,491	233,763
1904-5	.....	.....	1922	518	21,097	2,058	299,940
1906	201	14,058	1923	631	44,030	2,579	582,785
			1924	513	39,185	1,798	309,108
			1925	714	21,513	1,003	108,789
			Total	**7,385**	**261,250**	**37,572**	**4,809,448**

*Computed as As_2O_3; net value as reported by the operators.

Table 31.—Production, Exports and Imports of Arsenic, (As_2O_3), for Canada, 1923, 1924 and 1925

—		1923		1924		1925	
		Quantity	Value	Quantity	Value	Quantity	Value
			$		$		$
PRODUCTION—							
From arsenical concentrates exported	Tons	631	44,030	513	39,185	714	21,513
White arsenic	"	2,579	582,785	1,798	309,108	1,003	108,789
Total	"	**3,210**	**626,815**	**2,311**	**348,293**	**1,717**	**130,302**
EXPORTS—							
White arsenic (Arsenic n.o.p.)	"	587	25,003	545	28,360	486	10,590
Arsenic in ore, concentrates, etc.	"	1,564	348,646	1,304	227,331	881	97,748
IMPORTS—							
White arsenic	Lb.	457,422	66,280	3,105	319	498,720	30,305
Sulphide of arsenic	"	7,339	1,244	14,387	2,008	21,810	2,974
Arseniate of soda	"	4,940	475	1,687	220	6,361	1,709

Table 32.—Monthly Average Prices of Arsenic, 1923, 1924 and 1925

(From *Engineering and Mining Journal*)

Month	New York in cents per pound		
	1923	1924	1925
January	13·00	13·50	6·00
February	14·00	13·00	5·75
March	14·50	12·50	5·75
April	14·25	11·00	5·75
May	14·10	10·50	5·26
June	13·50	9·50	4·75
July	11·00	8·50	4·50
August	9·50	8·00	4·00
September	10·75	7·75	3·75
October	11·50	7·50	3·50
November	13·50	7·00	3·50
December	13·50	6·75	3·25
Average	**12·75**	**9·63**	**4·65**

Table 33.—*World's Production of Arsenic (As_2O_3) 1913 and 1921-1925

(From *The Mineral Industry*, 1924)

(Metric tons)

Country	1913	1921	1922	1923	1924
Belgium	.....	485	1,008	1,380	.....
Canada (a)	1,535	1,353	2,337	2,913	2,097
China (b)	(c) 547	100	29	589	.....
France—White arsenic	.....	.....	.....	.....	.....
Ore	4,427	580	941	4,245	10,552
Germany (d)	1,892	2,000	2,000	.....	.....
Ore	5,721	6,902	.....	.....	.....
Greece	.....	768	967	1,176	.....
Japan	21	1,395	2,044	4,287	.....
Mexico	.....	785	271	1,402	1,293
Portugal	925	268	.....	.....	.....
Queensland	.....	224	407	620	573
Rhodesia (e)	.....	327	451	774	534
Spain	47	.....	.....	.....	.....
Union of South Africa	.....	2	3	5	.....
United Kingdom—White arsenic	1,722	1,049	994	1,631	3,259
Pyrites	36	.....	360	741	304
United States	2,280	4,342	9,096	12,946	13,112

*White arsenic except where noted otherwise. 1925 figures not available for any country but Canada.
(a) Dominion Bureau of Statistics figures. (b) Exports. (c) Arsenic trisulphide.
(d) Estimated arsenic in ore. (e) Ore.

CHROMITE

There was no production of chromite in Canada during 1924 or 1925. In 1923, production totalled 3,558 tons, valued at $52,650. During the same year, Canadian exports amounted to 3,750 tons with a value of $64,890.

The mineral chromite (FeO, Cr_2O_2) is the commercial source of the metal chromium, which is of prime importance in the manufacture of chrome steel armour plate and other steels used in warfare. The metal is a necessary constituent of many high-speed cutting tools, and, in the manufacture of stainless steel, where it makes up from 12 to 14 per cent of the alloy, its use is well established.

Quebec has been the main source of chromite ore in Canada. Rhodesia, India and New Caledonia, supply over 90 per cent of the world's chromite.

During the war when the higher grades of ore from other countries were not easily obtainable, many low-grade deposits in Canada and the United States were opened up, and considerable metallurgical research was done in Canada on the reduction of chromium from the ore. When hostilities ceased, the demand fell off, with the result that the preliminary work then under way, was discontinued. Chromium metal may be obtained from chromium oxide by reduction with aluminium. The metal made in this manner is very pure and free from carbon. In less pure form, it has been made in the electric furnace directly from the ore, the resultant product containing small percentages of iron and carbon but not enough to cause any serious trouble when the metal is used in alloys with other metals. Ferro-chrome, also a product of the electric furnace, is made from a good grade of chromite ore, and the iron chromite alloy runs about 60 to 70 per cent chromium. This alloy can then be added in the required amounts to a bath of molten steel. Ferro-chrome requirements take about 40 per cent of the world's supply of chromite; about 35 per cent of the chromite produced is used in the manufacture of chromite refractories such as brick and other furnace linings, and about 25 per cent is used in the manufacture of chemicals.

Table 34.—Production of Chromite in Canada, 1886-1925

Year	Short tons	Value	Year	Short tons	Value
		$			$
1886	60	945	1908	7,225	82,008
1887	38	570	1909	2,470	26,604
1888-93	.....	.....	1910	299	2,734
1894	1,000	20,000	1911	157	2,587
1895	3,177	41,300	1912-13	.....	.....
1896	2,342	27,004	1914	136	1,210
1897	2,637	32,474	1915	12,341	179,543
1898	2,021	24,252	1916	(a) 27,517	311,460
1899	2,010	21,842	1917	(a) 36,725	499,682
1900	2,335	27,000	1918	21,994	867,122
1901	1,274	16,744	1919	8,541	228,898
1902	900	13,000	1920	11,016	251,379
1903	3,509	51,129	1921	2,798	55,696
1904	6,074	67,146	1922	767	11,503
1905	8,575	93,301	1923	3,558	52,650
1906	9,035	91,859	1924	.....	.....
1907	7,196	72,901	1925	.....	.....
			Total	**187,727**	**3,175,543**

(a) A portion of this ore was sold to a customs mill in the district and the final shipments of ores and concentrates in 1916 were 15,249 short tons valued at $310,902 or an average of $20.39 per ton: and 23,713 tons valued at $581,796 or an average of $24.54 per ton in 1917.

Table 35.—Production in Canada, Imports and Exports of Chromite 1923, 1924 and 1925

—	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
PRODUCTION—						
Quebec—Chromite	3,558	52,650	.....	.....	.....	.....
EXPORTS	3,750	64,890	.....	.....	.....	.....
IMPORTS—						
Bichromate of soda	693	103,093	877	126,670	816	107,035
Bichromate of potash	44	9,770	128	22,661	26	4,826

Table 36.—World's Production of Crude Chromite, 1913 and 1921-1925

(From *The Mineral Industry*, 1924)

(Metric tons)

Country	1913	1921	1922	1923	1924	1925
Brazil	.....	.....	.....	.....	.....	.....
Bosnia (d)	305	.....	.....	.....	305	.....
Canada*	.....	2,538	696	3,228	.....	.....
Cuba	.....	610	1	10,587	8,276	30,310
Greece	6,342	8,029	9,213	(b)14,509	14,327	.....
Guatemala	.....	401	.....	.....	.....	.....
India	5,670	35,322	23,144	55,115	46,194	.....
Japan	.....	3,368	3,756	4,528	5,376	5,815
New Caledonia (a)	63,370	29,458	10,718	23,226	15,292	.....
Queensland	.....	.....	.....	.....	.....	.....
Rhodesia	63,384	45,533	84,799	87,702	156,692	123,223
Russia	.....	2,220	(b)1,500	(c)970	(c)5,138	.....
Turkey	26,374	(b)10,000	2,540	.....	.....	.....
United States	259	256	361	231	237	110
Union of South Africa	.....	1,078	87	.....	4,572	.....

* Dominion Bureau of Statistics figures.
(a) Exports. (b) Estimated in part. (c) Fiscal year ending Oct. 1.
(d) Jugo Slavia after 1919.

COBALT

Cobalt production in 1925 amounted to 1,116,492 pounds valued at $2,328,517. Exports of cobalt including metal, oxides and various salts were valued at $1,867,607.

Canadian cobalt production comprises cobalt in the various products sold by the south Ontario smelters plus the cobalt contained in ores and residues exported; the value given is the selling value at the plant as reported by the producing companies.

Silver-cobalt-nickel ores from the Cobalt district of northern Ontario have provided the larger proportion of the world's supply of cobalt since that camp was discovered in 1903. The Coniagas Reduction Company of Thorold, Ontario, and the Deloro Smelting and Refining Company at Deloro, Ontario, developed processes for the recovery of cobalt from these ores. Recovery of this metal is accomplished by feeding the ore into a blast furnace where a speiss is made containing silver, cobalt, nickel, a small amount of iron and other metals which occur in the ore. The speiss is then roasted to free it from arsenic, and then chloridized, leached with sulphuric acid to extract the copper, and cyanided to dissolve the silver. Silver in the cyanide solution is precipitated by means of aluminium dust. The "speiss residues" then remaining are transferred to another plant where the cobalt and nickel oxides are precipitated. In some cases the speiss residues are exported to foreign countries where the cobalt, nickel and silver are recovered.

Cobalt oxide is marketed either in the black or gray form; the black oxide contains about 70 per cent cobalt metal and the gray, about 75 per cent cobalt metal. Gray oxide is made by giving the black oxide a slight roast in a reducing atmosphere in a reverberatory furnace. Cobalt salts of various kinds are also made, and if the pure metal is required, the black oxide is reduced in the reverberatory furnace using charcoal as the reducing agent.

The market for cobalt which was very poor in 1915 gradually improved during the war. No quotations on the New York market were available during 1918, 1919 or 1920. During 1921 the quotations given in the *Engineering and Mining Journal* ranged from $3 to $3.50 per pound; the former value was used in computing the annual production values. In 1922, the average price $3.25 per pound, was used. In 1923, the quotation, $2.85 was used, but in 1924 the value given in the report was based on the returns actually received by the operators for the products sold; this averaged about $1.77 per pound of metal and in 1925 it amounted to about $2.08. The New York quotation for metal in 1925 ranged from $2.75 to $2.50 per pound.

Bounties.—Under the provisions of the *Metal Refining Act,* passed by the Ontario Legislature in 1907, bounties were paid to refineries amounting to $126,987.08 on cobalt metal, cobalt oxide, and salts of cobalt, and $43,153.85 on dickel oxide, and salts of nickel, or a total for both cobalt and nickel of $170,140.93. The qantities produced and the bounties paid each year are given in detail in the annual reports of the Ontario Bureau of Mines.

The bounty was at the rate of 6 cents per pound on the metallic content of the oxides. The Act which expired in April, 1917, was not re-enacted.

An historical summary of the production in Canada which dates from the year 1904 is shown in the following table. For the years 1904 to 1910 inclusive, the figures given were prepared by the Ontario Bureau of Mines, and represent the estimated cobalt content of the ores shipped from the mines. From 1911 to date, the quantities given are the cobalt content of smelter products sold or shipped, such as cobalt metal, the oxides, mixed oxides and residues, etc.

Table 37.—*Production of Cobalt from Canadian Ores, 1904-1925

Year	Pounds	Year	Pounds	Year	Pounds
1904	22,000	1911	1,701,000	1918	737,157
1905	226,000	1912	663,093	1919	520,371
1906	642,000	1913	865,937	1920	546,023
1907	1,478,000	1914	871,831	1921	251,986
1908	2,448,000	1915	501,212	1922	616,088
1909	3,056,000	1916	840,536	1923	760,105
1910	2,196,000	1917	1,079,573	1924	948,704
				1925	1,116,492

*See preceding paragraph.

Table 38.—Summary of Cobalt Production Statistics for Canada, 1924-1925

—	1924			1925		
	Total quantity	Cobalt content	Value as reported by smelters	Total quantity	Cobalt content	Value as reported by smelters
	Tons	Lb.	$	Tons	Lb.	$
Ores and residues treated	5,253	.....	.....	4,229	.....	.....
Output of smelters as metallic cobalt, cobalt oxide, unseparated oxides, cobalt salts, speiss and other residues, and cobalt ores and residues exported	.....	948,704	1,682,395	.....	1,116,492	2,328,517

Table 39.—Imports into Canada and Exports of Cobalt, 1923, 1924 and 1925

—	1923		1924		1925	
	Pounds	Value	Pounds	Value	Pounds	Value
		$		$		$
IMPORTS—						
Ore	600	576	.....	.....	.....	.....
Total	**600**	**576**	.....	.....	.....	.....
EXPORTS—						
Cobalt metal	239,614	571,908	170,513	382,225	292,951	661,222
Cobalt oxides and salts	486,239	886,746	490,505	908,122	643,872	1,165,607
Cobalt alloys	422	1,997	2,421	11,930	17,061	40,778
Total	.....	**1,460,651**	.....	**1,302,277**	.....	**1,867,607**

Table 40.—Imports of Cobalt into the United States 1919-1925

(From *The Mineral Industry* 1925)

Year	Ore		Cobalt		Zaffer		Oxide	
	Pounds	Value $	Pounds	Value $	Pounds	Value $	Pounds	Value $
1919	17,045	2,832	60,511	141,450	.....	.....	131,424	184,751
1920	13,039	4,794	143,603	326,864	220	14	202,724	399,665
1921	7,657	3,235	38,442	105,539	.....	.....	164,003	342,426
1922	5,195	7,075	126,364	321,396	.....	.....	217,530	435,895
1923	58,719	56,326	225,639	552,434	.....	.....	258,594	511,903
1924	27,786	37,276	118,952	264,935	.....	.....	226,703	440,898
1925	34,782	31,320	198,669	422,185	.....	.....	287,265	525,803

Table 41.—Monthly Average Prices of Cobalt, 1923, 1924 and 1925

Month	(a) London in shillings per pound			(b) New York in cents per pound		
	1923	1924	1925	1923	1924	1925
January	11/	12/	12/	285	300	275
February	11/	12/	12/	285	275	275
March	11/	12/	10/	285	275	275
April	11/	12/	10/	285	275	275
May	11/	11/	10/	285	275	275
June	11/	12/	12/	285	275	275
July	11/	11/	12/	300	375	275
August	11/	12/	11/	300	275	250
September	12/	12/	10/	300	275	250
October	12/	12/	10/	300	275	250
November	12/	12/	10/	300	275	250
December	12/	12/	10/	300	275	250

(a) From *The Mining Journal*, London, E.C.
(b) From *Engineering and Mining Journal*, New York.

COPPER

Production of copper from Canadian ores during 1925 amounted to 111,450,518 pounds which at the average New York price during the year of 14.042 cents per pound amounted in value to $15,649,882 as against 104,457,447 pounds valued at $13,604,538 or an average price of 13.024 cents per pound in the preceding year. The increase amounted to 6.6 per cent in quantity and 15.01 per cent in total value.

Production in 1925 included (*a*) 33,259,609 pounds of blister copper, (*b*) 39,272,989 pounds of copper in matte some of which was exported and some refined in Canada, (*c*) 30,342 pounds contained in copper sulphate, (*d*) 38,887,578 pounds, the estimated recoveries from ores and concentrates exported. The corresponding figures for 1924 were (*a*) 35,109,895 pounds, (*b*) 36,979,424 pounds, (*c*) 31,825 pounds and (*d*) 32,336,303 pounds. Refined copper was produced commercially in quantity for the first time in Canada in 1916 at the Trail refinery of the Consolidated Mining and Smelting Company. The copper refinery of this company was not operated during 1923 but it produced a small quantity in 1924 and 1925. The British America Nickel Corporation which produced refined copper at the Déschenes plant for the first time in 1920, went into liquidation during July, 1924. The total production of refined copper in Canada during the past nine years was as follows:—

Calendar year	1917	3,901 tons
" "	1918	3,809 "
" "	1919	3,457 "
" "	1920	2,590 "
" "	1921	2,143 "
" "	1922	365 "
" "	1923	824 "
" "	1924	1,768 "
" "	1925	170 "

Copper sulphate is produced at Trail, B.C., by the Consolidated Mining and Smelting Company and in small amounts, by the Coniagas Reduction Company, Thorold, Ont. The amounts produced were 643,910 pounds in 1921; 230,835 pounds in 1922; 307,135 pounds in 1923; 127,301 pounds in 1924; and 121,746 pounds in 1925.

Copper sulphate is a by-product in the parting of gold and silver by the action of boiling concentrated sulphuric acid, the silver being dissolved as the sulphate and recovered by precipitating it with metallic copper. Copper sulphate may also be produced by treating scrap copper with a spray of dilute sulphuric acid in the presence of air. Copper sulphate forms blue crystals soluble in water. Heated to 240° C., these crystals lose their water of crystallization and become a white anhydrous powder. Blue vitriol, or copper sulphate in solution, is used in the preparation of insecticides and germicides, and for many other purposes.

Table 42.—Production of Copper from Canadian Ores, 1886-1925

Year	Pounds	Value	Cents per pound	Year	Pounds	Value	Cents per pound
		$				$	
1886	3,505,000	385,550	11·00	1906	55,609,888	10,720,474	19·278
1887	3,260,424	366,798	11·25	1907	56,979,205	11,398,120	20·004
1888	5,562,864	927,107	16·66	1908	63,702,873	8,413,876	13·208
1889	6,809,752	936,341	13·75	1909	52,493,863	6,814,754	12·982
1890	6,013,671	947,153	15·75	1910	55,692,369	7,094,094	12·738
1891	9,529,401	1,226,703	12·87	1911	55,648,011	6,886,998	12·376
1892	7,087,275	818,580	11·55	1912	77,832,127	12,718,548	16·341
1893	8,109,856	871,809	10·75	1913	76,976,925	11,753,606	15·269
1894	7,708,789	736,960	9·56	1914	75,735,960	10,301,606	13·602
1895	7,771,639	836,228	10·76	1915	100,785,150	17,410,635	17·275
1896	9,393,012	1,021,960	10·88	1916	117,150,028	31,867,150	27·202
1897	13,300,802	1,501,660	11·29	1917	109,227,332	29,687,989	27·180
1898	17,747,136	2,131,980	12·03	1918	118,769,434	29,250,536	24·628
1899	15,078,475	2,655,319	17·61	1919	75,053,581	14,028,265	18·691
1900	18,937,138	3,065,922	16·19	1920	81,600,691	14,244,217	17·456
1901	37,827,019	6,096,581	16·117	1921	47,620,820	5,953,555	12·502
1902	38,804,259	4,511,383	11·626	1922	42,879,818	5,738,177	13·382
1903	42,684,454	5,649,487	13·235	1923	86,881,537	12,529,186	14·421
1904	41,383,722	5,306,635	12·823	1924	104,457,447	13,604,538	13·024
1905	48,092,753	7,497,660	15·590	1925	111,450,518	15,649,882	14·042

Table 43.—Production of Copper from Canadian Ores, by Provinces, 1923, 1924 and 1925

Province	1923			1924			1925		
	Pounds	Value	Per cent	Pounds	Value	Per cent	Pounds	Value	Per cent
		$			$			$	
Quebec				1,893,008	246,546	1·8	2,510,141	352,474	2·2
Ontario	31,656,800	4,565,227	36·5	37,113,193	4,833,622	35·5	39,718,777	5,577,311	35·7
British Columbia	55,224,737	7,963,959	63·5	65,451,246	8,524,370	62·7	69,221,600	9,720,097	62·1
Total	**86,881,537**	**12,529,186**	**100·0**	**104,457,447**	**13,604,538**	**100·0**	**111,450,518**	**15,649,882**	**100·0**

Quebec

There was no production of copper ore reported for the province of Quebec for 1922 and 1923 but in 1924 there were 1,893,008 pounds estimated as recoverable from ores exported for treatment in foreign smelters. In 1925, the output amounted to 2,510,141 pounds, contained in copper pyritic ore shipped to an American smelter.

There was considerable activity in the copper-gold fields of north western Quebec during the year. Diamond-drilling proved up some very large ore bodies and when the proposed smelter is put in operation Quebec production of copper will be considerably augmented.

Table 44.—Production of Copper from Quebec Ores, 1886-1925

Year	Pounds	Value	Year	Pounds	Value	Year	Pounds	Value
		$			$			$
1886	3,340,000	367,400	1900	2,220,000	359,418	1914	4,201,497	571,488
1887	2,937,900	330,514	1901	1,527,442	246,178	1915	4,197,482	725,115
1888	5,562,864	927,107	1902	1,640,000	190,666	1916	5,703,347	1,551,424
1889	5,315,000	730,813	1903	1,152,000	152,467	1917	5,015,560	1,363,229
1890	4,710,606	741,920	1904	760,000	97,455	1918	5,869,649	1,445,577
1891	5,401,704	695,469	1905	1,621,243	252,752	1919	2,691,695	503,105
1892	4,883,480	564,042	1906	1,981,169	381,930	1920	880,638	153,724
1893	4,468,352	480,348	1907	1,517,990	303,659	1921	352,308	44,045
1894	2,176,430	208,067	1908	1,282,024	169,330	1922	.....	.....
1895	2,242,462	241,288	1909	1,088,212	141,272	1923	.....	.....
1896	2,407,200	261,903	1910	877,347	111,757	1924	1,893,008	246,546
1897	2,474,970	279,424	1911	2,436,190	301,503	1925	2,510,141	352,474
1898	2,100,235	252,658	1912	3,282,210	536,346			
1899	1,632,560	287,494	1913	3,455,887	527,679	**Total**	**107,810,802**	**17,097,586**

Ontario

Statistics of copper production in Ontario, include the amounts of recoverable copper in copper-nickel matte made in the smelting of the nickel ores, copper in cobalt flotation concentrates exported, and the copper in gold ores and concentrates exported. As thus computed the total production for the year 1925 amounted to 39,718,777 pounds; of this amount, copper in the matte contributed 39,272,989 pounds.

The bounty offered by the Ontario Government on copper, 95 per cent pure and on copper sulphate produced from ore mined and refined in the province was never gained, and the Act known as the *Metal Refining Bounty Act* warranting the bounty which expired April 10, 1917, was not re-enacted.

Table 45.—Production of Copper from Ontario Ores, 1886-1925

Year	Pounds	Value	Year	Pounds	Value	Year	Pounds	Value
		$			$			$
1886	165,000	18,150	1899	5,723,324	1,007,877	1912	22,250,601	3,635,971
1887	322,524	36,284	1900	6,740,058	1,091,215	1913	25,885,929	3,952,522
1888			1901	8,695,831	1,401,507	1914	28,948,211	3,937,536
1889	1,466,752	201,678	1902	7,408,202	861,278	1915	39,361,464	6,799,693
1890	1,303,065	205,233	1903	7,172,533	949,285	1916	44,997,035	12,240,094
1891	4,127,697	531,234	1904	4,913,594	630,070	1917	42,867,774	11,951,461
1892	2,203,795	254,538	1905	8,779,259	1,368,686	1918	47,074,475	11,593,502
1893	3,641,504	391,461	1906	10,638,231	2,050,838	1919	24,346,623	4,550,627
1894	5,207,679	497,854	1907	14,104,337	2,821,432	1920	32,059,993	5,596,392
1895	4,576,337	492,414	1908	15,005,171	1,981,883	1921	12,821,385	1,602,930
1896	3,167,256	344,598	1909	15,746,699	2,044,237	1922	10,943,636	1,464,477
1897	5,500,652	621,023	1910	19,259,016	2,453,213	1923	31,656,800	4,565,227
1898	8,375,223	1,007,539	1911	17,932,263	2,219,297	1924	37,113,193	4,833,622
						1925	39,718,777	5,577,311
						Total	**622,221,898**	**107,484,189**

Manitoba

During the years 1917 to 1920 the province of Manitoba was on record as one of the copper-producing provinces in Canada. The total production for the four years amounted to 9,866,328 pounds having a total value of $2,039,942. The record was as follows—1917—1,116,000 pounds, valued at $303,329; 1918—2,339,751 pounds valued at $576,234; 1919—3,348,000 pounds valued at $625,775 and 1920—3,062,577 pounds valued at $534,604. These amounts were estimated as recoverable copper in ores shipped by the Mandy Mining Company operating near Schist lake in The Pas district of northern Manitoba. During 1921, 1922, 1923 and 1924 with increasing production costs, high freight rates, and other transportation difficulties it was found impossible to operate, and no copper ores were shipped.

Much development has been carried on in this district during the past nine years. Toward the end of 1919 the Mandy Company suspended operations, and has since sold its equipment, which has been installed on the Flin Flon group of claims at Flin Flon lake in the same district.

British Columbia

British Columbia, the greatest copper-producing province of the Dominion, was credited in 1925 with a production of 69,221,600 pounds, as against 65,451,246 pounds in 1924, an increase of 6 per cent. The British Columbia output amounted to 62.1 per cent of the total Canadian production for 1925 and 62.5 per cent of the total for 1924.

In the total there are included the quantities of blister copper produced at Anyox by the Granby Consolidated Mining, Smelting, and Power Company, the blister copper and the copper contained in copper sulphate made by the Consolidated Mining and Smelting Company at Trail, and copper estimated as recoverable from the ores and concentrates exported. The Britannia mine on the shore of Howe Sound, a short distance north of Vancouver, is one of the largest producers of copper concentrates and ores which are shipped to Tacoma, Washington, U.S.A., for smelting.

Table 46.—Production of Copper from British Columbia Ores, 1894-1925

Year	Pounds	Value	Year	Pounds	Value	Year	Pounds	Value
					$			$
1894*	324,680	31,039	1905*	37,692,251	5,876,222	1916	63,612,550	17,312,046
1895*	952,840	102,526	1906*	42,990,488	8,287,706	1917	57,730,959	15,691,275
1896*	3,818,556	415,459	1907*	40,832,720	8,168,177	1918	62,865,681	15,482,560
1897*	5,325,180	601,213	1908	37,041,115	4,892,390	1919	44,502,079	8,317,884
1898*	7,271,678	874,783	1909	35,658,952	4,629,245	1920	45,319,771	7,911,019
1899*	7,722,591	1,359,948	1910	35,270,000	4,492,693	1921	34,447,127	4,306,580
1900*	9,977,080	1,615,289	1911	35,279,558	4,366,198	1922	31,936,182	4,273,700
1901*	27,603,746	4,448,896	1912	59,526,656	8,256,561	1923	55,224,737	7,963,959
1902*	29,636,057	3,445,488	1913	45,791,579	6,991,916	1924	65,451,246	8,524,370
1903*	34,359,921	4,547,735	1914	41,219,202	5,606,636	1925	69,221,600	9,720,097
1904*	35,710,128	4,579,110	1915	56,692,988	9,793,714			
						Total	1,152,639,904	192,886,435

*Metal content of ores shipped as published by the Provincial Bureau of Mines.

Yukon

There are important deposits of copper-bearing ore in the Yukon Territory some of which were operated during the period from 1906 to 1920. Since then no production of copper has been reported, and the grand total for the Territory remains at 12,912,507 pounds, or a little greater than that of Manitoba.

Table 47.—Production of Copper from Yukon Ores, 1906-1925

Year	Pounds	Value	Year	Pounds	Value
		$			$
1906 (and previous)	156,000	23,400	1914	1,367,050	185,946
1907	511,838	102,388	1915	533,216	92,113
1908	112,264	14,828	1916	2,807,096	763,586
1909	.....	.....	1917	2,460,079	668,650
1910	286,000	36,431	1918	619,878	152,663
1911	.....	.....	1919	165,184	30,874
1912	1,772,660	289,670	1920	277,712	48,478
1913	1,843,530	281,489	1921-1925	.....	.....
			Total	12,912,507	2,690,516

Exports and Imports.—Exports of copper from Canada reached their peak during 1920 when these exports in various forms amounted in value to $15,877,306. In 1925 the total exports were valued at $14,685,932, an increase over the total for the previous year when export values stood at $12,598,884. The two major export items were "copper, blister" valued at upwards of 6.5 million dollars, and "copper contained in ore, matte, regulus, etc.", which accounted for nearly 7 million dollars.

Imports into Canada of manufactured copper were valued at $7,628,341, an increase of about 1.3 million dollars over the 1924 totals.

Table 48.—Imports into Canada and Exports of Copper, 1923, 1924 and 1925

Item	1923		1924		1925	
	Pounds	Value	Pounds	Value	Pounds	Value
		$		$		$
Imports—						
Copper, in bars or rods, when imported by manufacturers of trolley, telegraph and telephone wires, electric wires and electric cables, for use only in the manufacture of such articles in their own factories	27,493,200	4,354,715	14,250,000	1,982,922	26,385,300	3,857,482
Copper, in bars or rods, in coil or otherwise, in lengths of not less than 6 feet, unmanufactured	1,463,800	284,484	757,000	143,322	482,500	95,563
Copper in blocks, pigs or ingots	8,167,041	1,215,349	12,082,131	1,591,958	7,934,779	1,178,740
Copper, old and scrap	3,046,400	432,362	1,896,200	246,632	4,174,100	572,656
Copper ore and concentrates	500	259	.....	.....	300	269
Copper, in strips, sheets or plates, not polished, planished or coated	389,300	551,166	1,861,900	380,431	1,971,300	400,229
Copper tubing in lengths of not less than 6 feet, and not polished, bent or otherwise mnaufactured	1,539,791	415,132	1,509,734	354,741	1,611,987	390,881
Copper wire, plain, tinned or plated	213,174	55,478	242,870	71,809	287,654	104,686
Copper wire cloth, or woven wire of copper	.....	19,858	.....	7,462	.....	4,379
Copper wire, single or several, covered with cotton, linen, silk, rubber or other material, including cable so covered	.....	390,566	.....	296,221	.....	487,779
Copper, all other manufactures of, n.o.p.	.....	429,327	.....	420,611	.....	415,625
Copper, precipitate of, crude	.....	.....	.....	.....	.....	661
Anodes of nickel, zinc, copper, silver or gold	.....	1,504	.....	5,288	.....	4,084
Copper, sub-acetate of, or verdigris, dry	3,782	860	683	201	4,083	812
Copper, sulphate of (blue vitriol)	3,374,871	176,858	2,866,760	142,994	3,027,088	146,833
Copper bars for use in the manufacture of rods to be used in the manufacture of electrical conductors, and copper rods for such manufacture, units not exceeding the area of 7/9 gauge conductor	.....	.....	5,114,600	682,369	*	*
Copper, sulphate of, dehydrated, for agriculture or spraying purposes	.....	.....	243,088	11,027	156,808	7,662
Total	.....	**8,327,919**	.....	**6,338,078**	.....	**7,628,341**
Exports—						
Copper, fine, contained in ore, matte, regulus, etc	34,548,000	3,607,031	49,545,800	5,346,489	60,527,500	6,969,960
Copper, blister	39,968,000	5,556,698	47,935,700	6,008,409	48,558,500	6,547,397
Copper, old and scrap	1,575,000	187,302	2,198,100	226,993	5,601,700	658,458
Copper, pig	.....	.....	2,405,800	284,780	1,100	126
Copper in bars, rods, strips, sheets, plates and tubing	826,000	104,028	170,400	39,500	156,300	45,599
Copper wire and cable	.....	387,359	.....	636,597	.....	404,600
Copper m'f's., n.o.p.	.....	262,296	.....	56,116	.....	59,792
Total	.....	**10,104,714**	.....	**12,598,884**	.....	**14,685,932**

* Included in the first item.

Prices.—According to the New York *Engineering and Mining Journal*, the average price of copper for 1925 was 14.042 cents per pound as against 13.024 cents per pound in 1924. In January, the price stood at 14.709 cents, the highest during the year. It then receded to 13.252 cents in April, rose again to 14.490 cents in August and from then gradually declined to 13.866 cents in December.

Table 49.—Monthly Average Prices of Copper, New York and London, 1923, 1924 and 1925

(From the *Engineering and Mining Journal*)

Month	Electrolytic Copper					
	New York in cents per pound			London, £ Sterling per ton of 2,240 pounds		
	1923	1924	1925	1923	1924	1925
January	14·510	12·401	14·709	71·409	67·193	70·607
February	15·355	12·708	14·463	74·500	68·167	69·525
March	16·832	13·515	14·004	81·464	72·087	67·739
April	16·663	13·206	13·252	81·331	70·150	64·194
May	15·440	12·772	13·347	76·568	67·648	63·560
June	14·663	12·327	13·399	73·238	66·313	63·369
July	14·321	12·390	13·946	72·364	65·815	65·750
August	13·822	13·221	14·490	70·000	67·800	68·169
September	13·323	12·917	14·376	68·275	67·125	67·693
October	12·574	12·933	14·300	64·250	66·620	67·523
November	12·727	13·635	14·353	66·477	68·063	67·893
December	12·823	14·260	13·866	67·611	69·762	65·625
Average	**14·421**	**13·024**	**14·042**	**72·291**	**68·062**	**66·804**

Table 50.—*Worlds' Production of Copper 1913 and 1921-1925

(From the *Year Book of the American Bureau of Metal Statistics*, 1925.)

(Short tons)

Country	1913	1921	1922	1923	1924	1925
NORTH AMERICA—						
United States	614,255	238,420	511,970	754,000	819,000	854,000
Mexico	58,185	13,576	29,842	60,538	57,139	59,123
Canada (a)	38,460	22,632	25,300	40,230	50,072	56,239
Cuba	3,747	8,600	11,788	11,963	12,742	13,128
Total, North America	**714,647**	**283,228**	**578,900**	**866,731**	**938,953**	**982,490**
SOUTH AMERICA—						
Bolivia	4,077	10,674	10,154	11,744	8,200	7,500
Chile	46,574	65,299	142,830	201,042	208,964	209,654
Peru	30,609	36,689	40,133	48,684	38,798	41,180
Venezuela	.....	800	1,075	1,175	1,230	1,500
Total, South America	**81,260**	**113,462**	**194,192**	**262,645**	**257,192**	**259,834**
EUROPE—						
Austria-Hungary (b)	4,518	4,600	5,050	5,327	4,465	3,665
France	.....	2,395	3,199	9,031	2,568	7,716
Germany	27,881	20,944	19,841	20,282	25,132	25,353
Jugo-Slavia	.....	4,376	5,756	7,536	8,978	8,048
Norway	3,021	6,311	10,598	8,816	10,913	12,125
Russia	37,258	.....	2,205	2,205	3,637	7,251
Spain and Portugal	39,683	36,596	40,234	57,115	61,839	63,933
Sweden	4,645	1,465	67	5,180	3,086	2,866
Serbia	7,053	.....	.....	.....	.....	.....
Total, Europe	**124,159**	**76,687**	**86,950**	**115,492**	**120,618**	**130,957**
ASIA—						
Japan	73,283	60,579	59,663	65,417	68,985	72,413
Other Asia	.....	1,280	1,162	810	2,315	4,600
Total, Asia	**73,283**	**61,859**	**60,825**	**66,227**	**71,300**	**77,013**
AUSTRALASIA	49,901	20,869	13,754	19,995	15,711	13,800
AFRICA	25,236	42,501	58,219	80,410	115,300	118,180
OTHER COUNTRIES	4,188	3,307	3,307	3,307	4,409	4,409
Grand Total	**1,072,674**	**601,913**	**996,147**	**1,414,807**	**1,523,483**	**1,586,683**

(*) So far as possible, these statistics are based on blister copper, referred to countries wherein ore originated.

(a) For Dominion Bureau of Statistics figures on Canada's production of copper, see Table 42.

(b) After 1918, Austria only.

GOLD

The production of gold from all sources in Canada during the calendar year 1925 was 1,735,735 fine ounces which, at $20.671834 per fine ounce amounted in value to $35,880,826.

This marked an increase of 210,353 fine ounces or 13.7 per cent over the previous year and was the greatest production of gold recorded in any one year in the history of Canada. In 1900 when the Yukon gold production was at its maximum the output reached a total of 1,350,057 fine ounces.

Gold produced in 1925 was derived from (*a*) alluvial deposits, 60.998 ounces; (*b*) gold obtained from milling ores, 1,479,095 ounces; (*c*) gold obtained from Canadian copper and lead smelters, 46,442 ounces, and (*d*) gold estimated as recoverable from various ores and concentrates exported, 149,200 ounces. The corresponding figures for the year 1924 were: (*a*) 55,862 ounces; (*b*) 1,254,737 ounces; (*c*) 45,784 ounces; and (*d*) 168,999 ounces.

The production of gold by provinces was: Nova Scotia, 1,626 ounces or 0.1 per cent; Quebec, 1,602 ounces, or 0.1 per cent; Ontario, 1,461,039 ounces, or 84.16 per cent; Manitoba, 4,424 ounces, or 0.25 per cent; British Columbia, 219,227 ounces, or 12.63 per cent; and the Yukon, 47,817 ounces, or 2.76 per cent. Comparing the production by provinces in 1925 with the totals for the previous year, it is noted that Nova Scotia shows a slight increase; Quebec reported a greater production than in the previous year whilst Ontario production increased by over two hundred thousand ounces due to the increased tonnage handled by the gold mines of the Porcupine and Kirkland Lake area. There was an increased production in Manitoba. British Columbia reported a decrease owing to the shutting down of some of the mines at Rossland. The Yukon's production was some 13,000 ounces higher than in 1924.

Table 51.—Production of Gold from Canadian Sources, 1858-1925

Year	Fine ounces*	Value	Year	Fine ounces*	Value	Year	Fine ounces*	Value
		$			$			$
1858	34,104	705,000	1881	63,524	1,313,153	1904	796,374	16,462,517
1859	78,129	1,615,072	1882	60,288	1,246,268	1905	684,951	14,159,195
1860	107,806	2,228,543	1883	53,853	1,113,246	1906	556,415	11,502,120
1861	128,973	2,666,118	1884	51,202	1,058,439	1907	405,517	8,382,780
1862	135,391	2,798,774	1885	55,575	1,148,829	1908	476,112	9,842,105
1863	202,498	4,186,011	1886	70,782	1,463,196	1909	453,865	9,382,230
1864	199,605	4,126,199	1887	57,460	1,187,804	1910	493,707	10,205,835
1865	192,898	3,987,562	1888	53,145	1,098,610	1911	473,159	9,781,077
1866	152,555	3,153,597	1889	62,653	1,295,159	1912	611,885	12,648,794
1867	145,775	3,013,431	1890	55,620	1,149,776	1913	802,973	16,598,923
1868	134,169	2,773,527	1891	45,018	930,614	1914	773,178	15,983,007
1869	102,720	2,123,405	1892	43,905	907,601	1915	918,056	18,977,901
1870	83,415	1,724,348	1893	47,243	976,603	1916	930,492	19,234,976
1871	105,187	2,174,412	1894	54,600	1,128,688	1917	738,831	15,272,992
1872	90,283	1,866,321	1895	100,798	2,083,674	1918	699,681	14,463,689
1873	74,346	1,536,871	1896	133,262	2,754,774	1919	766,764	15,850,423
1874	97,856	2,022,862	1897	291,557	6,027,016	1920	765,007	15,814,098
1875	130,300	2,693,533	1898	666,386	13,775,420	1921	926,329	19,148,920
1876	97,729	2,020,233	1899	1,028,529	21,261,584	1922	1,263,364	26,116,050
1877	94,304	1,949,444	1900	1,350,057	27,908,153	1923	1,233,341	25,495,421
1878	74,420	1,538,394	1901	1,167,216	24,128,503	1924	1,525,382	31,532,443
1879	76,547	1,582,258	1902	1,032,161	21,336,667	1925	1,735,735	35,880,826
1880	63,121	1,304,824	1903	911,559	18,843,590			
						Total	**28,089,642**	**580,664,528**

*Calculated from the value $1=0·048,375 ounces.

Refined Metal.—There were two refineries producing fine gold in Canada in 1925, namely, the Royal Mint, Ottawa, and the Consolidated Mining and Smelting Company of Canada, Limited, at Tadanac near Trail, B.C. From all ores treated in 1925, the latter company produced 18,441 fine ounces. This gold was recovered principally from the gold in copper ores but some was also recovered from silver-lead and dry ores. Small quantities of imported ores were also treated by this company.

Gold refined at the Royal Mint at Ottawa from the gold received from Ontario and British Columbia mines and the Yukon placers amounted to 120,570 fine ounces. Of this a small amount was recovered from scrap and crude gold from foreign sources. The total quantity of gold refined in Canada during 1925 was, therefore, 139,011 fine ounces.

Table 52.—Refined Gold Produced at Trail, B.C., 1904-1925*

Year	Fine oz.	Year	Fine oz.
1904	4,336	1915	17,813
1905	8,602	1916	23,608
1906	9,993	1917	49,661
1907	10,395	1918	61,212
1908	15,346	1919	47,283
1909	18,241	1920	42,636
1910	13,298	1921	56,297
1911	15,270	1922	18,940
1912	12,118	1923	11,113
1913	11,977	1924	23,412
1914	11,088	1925	18,441

*Includes some gold derived from imported ores and from occasional shipments from Ontario, Manitoba, Alberta, and the Yukon.

Table 53.—Receipts of Gold Bullion at the Royal Mint, Ottawa, Ont., 1908-1925

Year	From Canadian Sources		From Foreign Countries	
	Oz. gross	Value gold content	Oz. gross	Value gold content
		$		$
1908	219·19	3,823.03	.....	.....
1909	5,741·43	94,864.81	38·25	673.98
1910	65,009·35	1,079,223.42	.....	.....
1911	89,433·11	1,469,087.43	511·24	9,128.55
1912	104,825·29	1,676,371.78	742·79	12,451.33
1913	212,076·41	3,363,870.30	633·23	11,609.84
1914	29,762·24	471,042.90	4,750·19	98,062.84
1915	89,231·47	1,402,605.19	871,693·79	15,838,222·01
1916	49,195·39	780,074.19	6,687,758·41	121,513,083.93
1917	55,779·96	840,265.33	8,196,151·04	148,919,793.48
1918	302,785·96	4,982,743.81	3,728,224·05	67,739,887.68
1919	654,906·28	10,865,770.57	8,917·02	134,756.38
1920	724,083·34	11,530,413.82	.....	.....
1921	1,054,277·01	16,914,211.58	53·00	826.87
1922	1,376,863·35	22,469,160.42	345·22	5,387.93
1923	779,466·92	12,682,163.78	295·53	4,935.16
1924	169,239·28	2,297,170.32	90·53	1,395.41
1925	167,375·64	2,505,264.66	192·35	2,900.59

Table 54.—Receipts by Provinces of Gold Bullion at the Royal Mint, Ottawa, Canada 1924 and 1925

Source	1924			1925		
	Gross weight	Precious metal content		Gross weight	Precious metal content	
		Fine gold	Fine silver		Fine gold	Fine silver
	Ozs.	Ozs.	Ozs.	Ozs.	Ozs.	Ozs.
Nova Scotia	681·13	594·456	43·49	1,817·56	1,626·429	85·97
New Brunswick	2·16	1·392	0·43	.....	.....	.....
Quebec	.....	.....	.....	8·61	8·596	.....
Ontario	59,227·40	28,052·613	4,693·12	139,130·21	105,888·118	19,129·98
Manitoba	985·34	826·239	103·38	5,448·61	4,651·355	576·81
Saskatchewan	.....	.....	.....	46·49	37·578	5·20
Alberta	6·88	5·219	0·69	.....	.....	.....
British Columbia	5·74	5·029	0·51	2·09	1·553	0·17
Dominion of Canada Assay Office, Vancouver*	90,865·54	74,785·025	11,493·15	.....	.....	.....
Yukon	.....	.....	.....	.....	.....	.....
Jewellery and scrap, various sources	17,465·09	6,855·644	2,653·30	20,922·07	8,217·515	3,203·42
Foreign	90·53	67·503	20·10	192·35	138·863	43·75
Total	**169,329·81**	**111,193·120**	**19,008·17**	**167,567·99**	**120,570·007**	**23,045·30**

*Gold from the Assay Office was shipped to the United States in 1925 instead of to the Royal Mint, Ottawa, as in former years.

Table 55.—Receipt at Dominion Assay Office, Vancouver, B.C., 1908-1925

Year	Weight before melting	Weight after melting	Net value	Year	Weight before melting	Weight after melting	Net value
	Ounces	Ounces	$		Ounces	Ounces	$
1908 (a)	90,175·48	89,117·76	1,478,894·00	1917	191,626·04	187,884·48	3,257,220·71
1909	48,478·58	47,576·27	789,267·94	1918	241,762·77	238,245·07	4,099,595·80
1910	46,064·31	45,228·92	746,101·92	1919	209,026·14	205,947·57	3,547,524·93
1911	39,784·70	39,069·31	647,416·38	1920	150,869·17	147,718·25	2,499,174·41
1912	59,068·82	57,951·98	974,077·14	1921	163,070·56	160,803·48	2,834,499·61
1913 (b)	111,479·94	109,920·49	1,448,625·37	1922	129,891·63	125,758·41	2,105,989·64
1914	166,148·83	163,523·61	2,029,251·31	1923	129,043·63	124,546·48	2,051,369·65
1915	183,924·49	179,751·68	2,736,302·31	1924	114,041·96	107,569·15	1,850,373·74
1916	180,292·83	175,393·10	2,828,239·65	1925	140,691·78	123,202·39	2,065,217·00

(a) For 9 months only. (b) The removal of the assay charge in January 1913, accounts for the large increase.

Table 56.—Receipts of Gold Bullion and Dental and Jewellery Scrap Received at Dominion of Canada Assay Office, Vancouver, B.C., 1925

——	No. of deposits	Weight before melting and assaying	Weight after melting and assaying	Net value of deposits
		Troy ounces	Troy ounces	$
BAR, NUGGET AND DUST, AMALGAM, ETC.—				
British Columbia	571	71,917·30	56,461·02	1,026,873·97
Yukon Territory	422	61,096·43	59,784·75	977,624·02
Alaska	3	15·40	13·86	245·95
Siberia	3	458·96	458·70	8,648·82
DENTAL AND JEWELLERY SCRAP—				
British Columbia	525	6,090·10	5,540·00	40,393·14
Alberta	120	877·04	754·30	9,117·31
Saskatchewan	34	234·28	187·66	2,281·36
Manitoba	1	2·18	2·09	32·59
Total	**1,679**	**110,691·78**	**123,202·39**	**2,065,217·16**

NOVA SCOTIA

Nova Scotia's gold production has been derived almost entirely from quartz ores but gold also occurs in deposits of arsenical pyrites which are sometimes mined for the recovery of arsenic and gold. Production from all sources in 1925 amounted to 1,626 fine ounces. Gold mining in Nova Scotia reached its peak in 1902 when the output amounted to 30,348 fine ounces. Due partly to exhaustion of the mines and partly to the high cost of supplies and labour, production has steadily declined in recent years, but with the possibility of cheaper power and improved methods of mining and treating the ore, Nova Scotia may again be recognized as one of Canada's gold-producing provinces.

Table 57.—Production of Gold from Nova Scotia Ores, 1862-1925

Year	Fine ounces*	Value	Year	Fine ounces*	Value
		$			$
1862	6,863	141,871	1894	18,834	389,338
1863	13,180	272,448	1895	21,919	453,119
1864	18,883	390,349	1896	23,876	493,568
1865	24,011	496,357	1897	27,195	562,165
1866	23,776	491,491	1898	26,054	538,590
1867	25,763	532,563	1899	29,876	617,604
1868	19,377	400,555	1900	28,955	598,553
1869	16,855	348,427	1901	26,459	546,963
1870	18,740	387,392	1902	30,348	627,357
1871	18,139	374,972	1903	25,533	527,806
1872	12,352	255,349	1904	10,362	214,209
1873	11,180	231,122	1905	13,707	283,353
1874	8,623	178,244	1906	12,223	252,676
1875	10,576	218,629	1907	13,675	282,686
1876	11,300	233,585	1908	11,842	244,799
1877	15,925	329,205	1909	10,193	210,711
1878	11,864	245,253	1910	7,928	163,891
1879	12,980	268,328	1911	7,781	160,854
1880	12,472	257,823	1912	4,385	90,638
1881	10,147	209,755	1913	2,174	44,935
1882	13,307	275,090	1914	2,904	60,031
1883	14,571	301,207	1915	6,636	137,180
1884	15,168	313,554	1916	4,562	94,305
1885	20,945	432,971	1917	2,210	45,685
1886	22,038	455,564	1918	1,176	24,310
1887	20,009	413,631	1919	850	17,571
1888	21,137	436,939	1920	690	14,263
1889	24,673	510,029	1921	439	9,075
1890	22,978	474,990	1922	1,042	21,540
1891	21,841	451,503	1923	655	13,540
1892	18,865	389,965	1924	1,047	21,643
1893	18,436	381,095	1925	1,626	33,612
			Total	**914,130**	**18,896,826**

*Calculated from the value: one dollar=0·048375 ounces.

Quebec

Gold produced from ores mined in the province of Quebec during 1925 totalled 1,602 fine ounces. This was the amount of recoverable gold in silver-lead-zinc ores exported to the United States for treatment. To the end of the year 1925, Quebec was credited with having produced 29,986 fine ounces of gold valued at $619,828.

Table 58.—Production of Gold from Quebec Ores, 1877-1925

Year	Fine ounces*	Value	Year	Fine ounces*	Value	Year	Fine ounces*	Value
		$			$			$
1877	583	12,057	1894	1,412	29,196	1911	613	12,672
1878	868	17,937	1895	62	1,281	1912	642	13,270
1879	1,160	23,972	1896	145	3,000	1913	701	14,491
1880	1,605	33,174	1897	44	900	1914	1,292	26,708
1881	2,741	56,661	1898	295	6,089	1915	1,099	22,720
1882	827	17,093	1899	238	4,916	1916	1,034	21,375
1883	860	17,787	1900	.....	.....	1917	1,511	31,235
1884	422	8,720	1901	145	3,000	1918	1,939	40,083
1885	103	2,120	1902	391	8,073	1919	1,470	30,388
1886	193	3,981	1903	180	3,712	1920	955	19,742
1887	78	1,604	1904	140	2,900	1921	635	13,127
1888	181	3,740	1905	191	3,940	1922	.....	.....
1889	58	1,207	1906	165	3,412	1923	667	13,788
1890	65	1,350	1907	.....	.....	1924	883	18,253
1891	87	1,800	1908	.....	.....	1925	1,602	33,116
1892	628	12,987	1909	193	3,990			
1893	759	15,696	1910	124	2,565	**Total**	**29,986**	**619,828**

*Calculated from the value: one dollar=0·048375 ounces.

Ontario

Ontario's gold production in 1925 exceeded the total for any previous year. For the third time, production rose above one million ounces, the other years being 1922 and 1924. In 1923, the output was slightly less. From present indications there is little doubt that the record established in 1925 will be exceeded in the years to come. Since 1914, Ontario has become by far the largest producer of gold among the provinces of the Dominion; this remarkable increase was brought about by the successful development of the Porcupine and Kirkland Lake districts and by the extension of milling facilities in these camps. The falling-off in production during 1917-1918 was due to the abnormal conditions created by the war; high costs both of materials and labour restricted development programs; lack of adequate transportation facilities at reasonable rates and other factors hampered production. Gold was paid for in New York funds, because of government limitations on export, and the exchange premium received by the producers proved an important feature of gold-marketing from the close of the war until the end of 1921. The gradual recovery in the value of the Canadian dollar in the United States exchanges has greatly reduced the premiums paid to the Canadian gold mine operators. In 1920, the United States dollar had an average exchange value in Canadian funds of $1.12270; the average exchange value in 1923 was $1.0197, and in 1924 it stood at $1.0131, while in 1925 it was $1.003.

Table 59.—Production of Gold from Ontario Ores, 1887-1925

Year	Fine ounces*	Value	Year	Fine ounces*	Value	Year	Fine ounces*	Value
		$			$			$
1887	327	6,760	1900	14,391	297,495	1913	219,801	4,543,690
1888			1901	11,844	244,837	1914	268,264	5,545,509
1889			1902	11,118	229,828	1915	406,577	8,404,693
1890			1903	9,096	188,036	1916	492,481	10,180,485
1891	97	2,000	1904	1,935	40,000	1917	423,261	8,749,581
1892	344	7,118	1905	4,402	91,000	1918	411,976	8,518,299
1893	708	14,637	1906	3,202	66,193	1919	505,739	10,454,553
1894	1,917	39,624	1907	3,212	66,398	1920	564,995	11,679,483
1895	3,015	62,320	1908	3,212	66,398	1921	708,213	14,640,062
1896	5,563	115,000	1909	1,569	32,425	1922	1,000,340	20,678,862
1897	9,157	189,294	1910	3,089	63,849	1923	971,704	20,086,904
1898	12,863	265,889	1911	2,062	42,625	1924	1,241,728	25,668,795
1899	20,394	421,591	1912	86,523	1,788,596	1925	1,461,039	30,202,357
						Total	**8,886,158**	**183,693,178**

*Calculated from the value: one dollar=0·048375 ounces.

Manitoba

Manitoba mines produced 4,424 fine ounces of gold during 1925, having a value of $91,452, as against 1,180 fine ounces in 1924. During 1917 and 1918 shipments of gold-bearing copper ores were made from The Pas district in northern Manitoba to Trail, but because of the drop in the price of copper, and also because of inadequate transportation facilities in the copper-mining district of the province, there has been no production of gold from this source in recent years from 1918 until 1924. There is much of interest in the gold area stretching eastward from lake Winnipeg along Wanipigou and Manigotagan rivers to the Ontario boundary. A considerable amount of prospecting has been done in this district and the indications are that Manitoba will produce gold in quantity in the near future.

Table 60.—Production of Gold from Manitoba Ores 1917-1925

Year	Fine ounces*	Value	Year	Fine ounces*	Value
		$			$
1917	440	9,095	1922	156	3,225
1918	1,926	39,814	1923	31	641
1919	724	14,966	1924	1,180	24,393
1920	781	16,145	1925	4,424	91,452
1921	207	4,279			
			Total	**9,868**	**204,010**

*Calculated from the value: one dollar=0·048375 ounces.

Saskatchewan and Alberta

No production of gold was reported from these two provinces in 1925. Occasionally, small quantities of gold have been recovered by prospectors in Alberta from the gravels of the Saskatchewan river. To date, the grand total of gold produced by Alberta has amounted to 15,109 fine ounces valued at $312,333.

Table 61.—Production of Gold from Alberta, 1887-1925

Year	Fine ounces*	Value	Year	Fine ounces*	Value	Year	Fine ounces*	Value
		$			$			$
1887	102	2,100	1900	242	5,000	1913	.....	.....
1888	58	1,200	1901	726	15,000	1914	48	992
1889	967	20,000	1902	484	10,000	1915	195	4,026
1890	193	4,000	1903	48	1,000	1916	82	1,695
1891	266	5,500	1904	24	500	1917	.....	.....
1892	508	10,500	1905	121	2,500	1918	27	558
1893	466	9,640	1906	39	800	1919	24	500
1894	726	15,000	1907	33	675	1920	.....	.....
1895	2,419	50,000	1908	50	1,037	1921	49	1,013
1896	2,661	55,000	1909	25	525	1922	.....	.....
1897	2,419	50,000	1910	89	1,850	1923	.....	.....
1898	1,209	25,000	1911	10	207	1924	.....	.....
1899	726	15,000	1912	73	1,509	1925	.....	.....
						Total	**15,109**	**312,333**

*Calculated from the value: one dollar =0·048,375 ounces.

British Columbia

The production of gold in British Columbia during 1925 totalled 219,227 fine ounces valued at $4,531,824 as against 245,719 fine ounces valued at $5,079,462 in 1924. This was a decrease of 11 per cent and was due largely to the fact that the mines of the Rossland district curtailed operations considerably during 1925. Production by the Granby smelter was larger than in 1924. A new dredge was built and sent in to the Cariboo district in 1924 and in 1925 it was successfully operated from May until December. Production in 1925 included (*a*) alluvial gold 13,181 fine ounces or 6.02 per cent of the total for the province; (*b*) bullion from milling ores, 19,407 fine ounces or 8.85 per cent; (*c*) smelter recoveries 42,426 fine ounces or 19.37 per cent; and (*d*) the estimated recoveries from ores and concentrates exported 144,213 fine ounces or 65.76 per cent. The corresponding quantities for 1924 were (*a*) 21,037 fine ounces or 8.56 per cent; (*b*) 15,361 fine ounces or 6.25 per cent; (*c*) 41,657 fine ounces or 16.95 per cent and (*d*) 167,664 fine ounces or 68.24 per cent.

In the statistics reported by the Provincial Bureau of Mines for 1925 the quantity given for gold production is based on the metal content of ores shipped, and is somewhat higher than the records of smelter recoveries used by Dominion Bureau of Statistics.

Table 62.—Production of Gold from British Columbia Ores, 1858-1925

Year	Fine ounces*	Value	Year	Fine ounces*	Value	Year	Fine ounces*	Value
		$			$			$
1858	34,104	705,000	1881	50,636	1,046,737	1904	275,975	5,704,908
1859	78,129	1,615,072	1882	46,154	954,085	1905	285,529	5,902,402
1860	107,806	2,228,543	1883	38,422	794,252	1906	269,886	5,579,039
1861	128,973	2,666,118	1884	35,612	736,165	1907	236,216	4,883,020
1862	128,528	2,656,903	1885	34,527	713,738	1908	286,858	5,929,880
1863	189,318	3,913,563	1886	43,714	903,651	1909	250,320	5,174,579
1864	180,722	3,735,850	1887	33,558	693,709	1910	261,386	5,403,318
1865	168,887	3,491,205	1888	29,834	616,721	1911	238,496	4,930,145
1866	128,779	2,662,104	1889	28,489	588,923	1912	251,815	5,205,485
1867	120,012	2,480,868	1890	23,918	494,436	1913	297,459	6,149,027
1868	114,792	2,372,972	1891	20,792	429,811	1914	252,730	5,224,393
1869	85,865	1,774,978	1892	19,327	399,525	1915	273,376	5,651,184
1870	64,675	1,336,956	1893	18,360	379,545	1916	219,633	4,540,216
1871	87,018	1,799,440	1894	25,664	530,530	1917	133,742	2,764,693
1872	77,931	1,610,972	1895	61,289	1,266,954	1918	180,163	3,724,300
1873	63,166	1,305,749	1896	86,504	1,788,205	1919	167,252	3,457,406
1874	89,233	1,844,618	1897	131,805	2,724,657	1920	124,808	2,580,010
1875	119,724	2,474,904	1898	142,215	2,939,852	1921	150,792	3,117,147
1876	86,429	1,786,648	1899	203,295	4,202,473	1922	207,370	4,286,718
1877	77,796	1,608,182	1900	228,916	4,732,105	1923	200,140	4,137,261
1878	61,688	1,275,204	1901	257,292	5,318,703	1924	245,719	5,079,462
1879	62,407	1,290,058	1902	288,383	5,961,409	1925	219,227	4,531,824
1880	49,044	1,013,827	1903	284,108	5,873,036			
						Total	**9,466,762**	**195,695,376**

* Calculated from the value: one dollar=0·048375 ounces.

Table 63.—Production of Gold in British Columbia by Districts, 1924 and 1925
(From Annual Report of the Minister of Mines for British Columbia)

District and Divisions	1924				1925			
	Gold placer		Gold lode		Gold placer		Gold lode	
	Ounces	Value	Ounces	Value	Ounces	Value	Ounces	Value
		$		$		$		$
Northwestern District (No. 1)—								
Atlin	8,647	147,000	5	103	2,896	49,229	1,878	38,822
Stikine					41	700		
Liard	196	3,325			441	7,500		
Nass River			6,323	130,696			7,484	154,708
Portland Canal			139,462	2,882,680			118,469	2,448,967
Skeena			34,673	716,691			35,086	725,291
Queen Charlotte					4	70		
Bella Coola								
Northeastern District (No. 2)—								
Cariboo	3,530	60,000			8,919	151,627		
Quesnel	10,588	180,000			2,995	50,911		
Omineca	294	5,000	329	6,800	269	4,560	121	2,501
Peace River	294	5,000			177	3,000		
Central District (No. 3)—								
Nicola			2	41				
Vernon					4	60		
Yale	59	1,000	9	186	29	500	37	765
Ashcroft	29	500	2	41				
Kamloops	29	500	125	2,584	78	1,320		
Lillooet	249	4,225			83	1,415	3,531	72,992
Clinton	206	3,500			95	1,620		
Southern District (No. 4.)—								
Grand Forks			302	6,242				
Greenwood			168	3,473			53	1,096
Osoyoos			19,119	395,435			19,426	401,570
Similkameen	238	4,000			146	2,482	242	5,002
Eastern District (No. 5.)—								
Fort Steele	305	5,200			262	4,449		
Windermere								
Golden					2	40		
Ainsworth			24	496			16	331
Slocan			365	7,545			310	6,408
Slocan City								
Nelson			84	1,736			722	14,946
Arrow Lake			14	290				
Trail Creek			42,620	880,956			14,112	291,720
Revelstoke	44	750			29	500		
Trout Lake	15	250						
Lardeau								
Southwestern District (No. 6)—								
Nanaimo								
Alberni								
Clayoquot								
Quatsino	18	300						
Victoria	12	200			6	109		
New Westminster								
Vancouver			4,090	84,540			8,231	170,150
Totals	**24,750**	**420,750**	**247,716**	**5,120,535**	**16,476**	**280,092**	**209,719**	**4,335,269**

YUKON

Yukon's gold production in 1925, derived from alluvial sands of the Dawson and White Horse districts showed an increase over 1924. The output for 1925 amounted to 47,817 fine ounces valued at $988,465 as against 34,825 fine ounces valued at $719,897 in 1924. Royalty was paid on 59,771.47 crude ounces which included 47,817 fine ounces of gold valued at $988,465 and 10,759 fine ounces of silver valued at $7,431, the total value being $995,896. For 1924 the corresponding figures were 43,530.79 crude ounces containing 34,825 fine ounces of gold valued at $719,897 and 7,853 fine ounces of silver valued at $5,244, the total value being $725,141..

The following table shows statistics of gold produced in the Yukon during the past 40 years. Between the years 1896 and 1906 the figures were based upon receipts of gold at United States mints and receiving offices, credited to the Canadian Yukon.

Since 1902 a royalty of two and one-half per cent of all gold produced has been collected by the Canadian Government which places a nominal value of $15 on each crude ounce recovered. The statistics shown for these years are based on the returns supplied by the *Mining Lands and Yukon Branch* of the Department of the Interior, and the fine gold is

estimated as 80 per cent of all crude gold, fine silver as 18 per cent, and the remaining 2 per cent is regarded as worthless base metal.

The Vancouver Assay Office, operated by the Department of Mines, Ottawa, receives and melts a considerable portion of the placer gold from the Yukon. During 1925 there was deposited from this Territory 61,096.43 troy ounces of gold bullion which weighed after melting 59,784.75 troy ounces and was valued, after all charges had been deducted, at $977,624 or $16 per ounce as against 44,365.96 ounces valued at $717,156 or $16.17 per ounce in 1924.

Table 64.—Production of Gold from the Yukon, 1885-1925

Year	Fine ounces (*)	Value	Year	Fine ounces (*)	Value	Year	Fine ounces (*)	Value
		$			$			$
1885	4,837	100,000	1899	774,000	16,000,000	1913	282,838	5,846,780
1886			1900	1,077,553	22,275,000	1914	247,940	5,125,374
1887	3,386	70,000	1901	870,750	18,000,000	1915	230,173	4,758,098
1888	1,935	40,000	1902	701,437	14,500,000	1916	212,700	4,396,900
1889	8,466	175,000	1903	592,594	12,250,000	1917	177,667	3,672,703
1890	8,466	175,000	1904	507,938	10,500,000	1918	102,474	2,118,325
1891	1,953	40,000	1905	381,001	7,876,000	1919	90,705	1,875,039
1892	4,233	87,500	1906	270,900	5,600,000	1920	72,778	1,504,455
1893	8,514	176,000	1907	152,381	3,150,000	1921	65,994	1,364,217
1894	6,047	125,000	1908	174,150	3,600,000	1922	54,456	1,125,705
1895	12,094	250,000	1909	191,565	3,960,000	1923	60,144	1,243,287
1896	14,513	300,000	1910 (a)	221,091	4,570,362	1924	34,825	719,897
1897	120,937	2,500,000	1911	224,197	4,634,574	1925	47,817	988,465
1898	483,750	10,000,000	1912	268,447	5,549,296			
						Total	**8,767,646**	**181,242,9**

(*) Calculated from the value: one dollar=0·048375 ounces.
(a) Including a small production from lode mines, from 1910 to 1923 inclusive.

Table 65.—Receipts from the Yukon, at the Dominion Government Assay Office, Vancouver, B.C., 1908-1925

Year	Weight before melting	Net value	Average value	Year	Weight before melting	Net value	Average value
	Ounces	$	$		Ounces	$	$
1908 (a)	60,132·00	1,000,296	16·63	1917	79,532·35	1,262,207	15·87
1909	5,003·12	83,871	16·75	1918	121,310·37	1,921,198	15·84
1910	3,594·87	62,904	17·27	1919	111,138·65	1,813,883	16·32
1911	2,073·61	34,944	16·88	1920	74,456·01	1,206,579	16·21
1912	2,211·88	36,481	16·41	1921	82,219·92	1,340,225	16·30
1913 (b)	15,235·29	247,189	16·22	1922	69,161·19	1,126,702	16·29
1914	56,564·83	915,914	16·21	1923	73,360·82	1,201,133	16·37
1915	87,040·87	1,418,497	16·28	1924	44,365·96	717,156	16·17
1916	95,005·82	1,525,724	16·06	1925	61,096·43	977,624	16·00

(a) For nine months only.
(b) The removal in 1913 of the assay charge accounts for the great increase.

Table 66.—Production of Crude Gold in the Yukon by Months, 1923, 1924 and 1925

(Gross weight of dust, nuggets, and bullion in ounces)

Month	1923	1924	1925
January	969·26	1,381·51	1,483·60
February	1,040·36	52·07	999·38
March	2·39	1,468·51	30·50
April	.....	100·10	0·00
May	.....	129·66	0·00
June	10,352·94	8,651·62	4,988·62
July	9,176·99	6,831·51	10,052·62
August	9,953·42	6,225·10	5,051·47
September	11,924·54	4,971·71	27,166·78
October	24,881·87	9,108·36	7,626·72
November	4,794·17	3,080·63	413·70
December	1,771·87	1,470·01	1,958·08
Total	**74,867·81**	**43,530·79**	**59,771·47**

From 1898 to March 31, 1926, royalties to the extent of $4,900,955.02 were collected on the gold production of the Yukon. The yearly amounts collected, as well as the annual production of gold, as ascertained by the *Department of the Interior*, are shown below. The difference between these figures and those shown in the table of annual production, which are based on mint receipts of Yukon gold, is probably due to three factors: (1) the fixing of the value of the gold for royalty purposes at $15 per ounce, (2) the probability that, in the earlier years of royalty collection, considerable quantities of gold dust left the camps unrecorded and escaped royalty payments, and (3) the fact that in the last few years, there has been a small production from lode mines.

Table 67.—Gold Production in the Yukon and the Royalty Collected, 1898-1926

(Supplied by Controller H. H. Rowatt, of the Mining Lands Branch of the Department of the Interior.)

Fiscal year	Total gold production	Total exemption	Royalty collected on	Royalty paid
	$	$	$	$
Ending June, 1898	3,072,773	339,845	2,732,928	273,292·82
Ending June, 1899	7,582,283	1,699,657	5,882,626	588,262·37
Ending June, 1900	9,809,464	2,501,744	7,307,720	730,771·99
Ending June, 1901	9,162,082	1,927,666	7,234,416	592,660·98
Ending June, 1902	9,566,340	1,199,144	8,367,226	331,436·79
Ending June, 1903	12,113,015	.....	12,113,015	302,893·48
Ending June, 1904	10,790,663	.....	10,790,663	372,217·96
Ending June, 1905	8,222,054	.....	8,222,054	206,760·87
Ending June, 1906	6,540,007	.....	6,540,007	163,963·25
Ending March, 1907	3,304,791	.....	3,301,791	82,622·42
Ending March, 1908	2,820,162	.....	2,820,162	70,504·65
Ending March, 1909	3,260,282	.....	3,260,282	81,507·07
Ending March, 1910	3,594,251	.....	3,594,251	89,844·10
Ending March, 1911	4,126,728	.....	4,126,728	103,168·19
Ending March, 1912	4,024,237	.....	4,024,237	100,606·29
Ending March, 1913	5,018,412	.....	5,018,412	125,460·52
Ending March, 1914	5,301,508	.....	5,301,508	132,537·69
Ending March, 1915	4,649,634	.....	4,649,634	116,241·04
Ending March, 1916	4,458,278	.....	4,458,278	111,457·19
Ending March, 1917	3,960,207	.....	3,960,207	99,007·92
Ending March, 1918	3,266,019	.....	3,266,019	81,650·55
Eaging March, 1919	1,947,082	.....	1,947,082	48,677·07
Ending March, 1920	1,660,450	.....	1,660,450	41,501·12
Ending March, 1921	1,246,486	.....	1,246,486	31,273·76
Ending March, 1922	1,230,987	.....	1,230,987	30,774·68
Ending March, 1923	1,032,762	.....	1,032,762	25,819·04
Ending March, 1924	1,136,368	.....	1,136,368	28,409·23
Ending March, 1925	625,450	.....	625,459	15,636·48
Ending March, 1926	879,819	.....	879,819	21,995·50
Total	**134,402,663**	.....	**126,734,577**	**4,900,955·02**

Table 68.—Imports into Canada and Exports of Gold, 1923, 1924 and 1925

—	1923	1924	1915
	$	$	$
IMPORTS—			
Gold—			
Fringe	42,283	40,468	27,215
Coin and bullion—			
Gold coin	.....	3,315,228	49,477,383
Gold bullion	.....	924,644	1,031,597
Manufactures of gold and silver—			
Leaf	81,252	69,495	76,364
Sweepings	4,849	5,508	2,282
Manufactures, n.o.p.	125,582	142,008	147,839
Electroplated ware	509,131	604,500	707,726
EXPORTS—			
Gold-bearing quartz, dust, nuggets and bullion obtained direct from mining operations	12,541,745	28,358,449	31,432,657
Gold bullion	.....	6,988,633	333,090

Table 69.—World's Production of Gold, (a) 1913 and 1921-1925

(From the *Year Book of the American Bureau of Metal Statistics*, 1925)

(Fine ounces)

—	1913	1921	1922	1923	1924	1925
NORTH AMERICA—						
United States	4,299,784	2,422,006	2,363,075	2,502,632	2,528,900	2,376,514
Canada	802,973	926,329	1,263,364	1,233,341	1,525,382	†1,740,386
Mexico	829,783	684,634	748,291	776,808	792,401	755,000
Total North America	**5,932,540**	**4,032,969**	**4,374,730**	**4,512,781**	**4,846,683**	**4,871,900**
Central America and West Indies	**131,661**	**120,937**	**120,937**	**96,750**	**87,075**	**75,000**
SOUTH AMERICA—						
Bolivia } Chili }	8,467	290	407	407	964	.....
		45,139	79,828	105,549	112,011	.....
Brazil	109,072	134,482	146,668	144,675	135,000	.....
Colombia	143,757	290,250	275,737	275,738	266,063	.....
Ecuador	19,665	36,259	42,456	42,456	38,700	.....
Peru	23,813	77,385	81,436	120,372	120,372	.....
Guiana—British	65,475	12,828	10,876	7,267	7,187	.....
Dutch	22,757	11,285	11,992	12,731	10,352	.....
French	147,571	48,375	48,772	44,624	63,496	.....
Venezuela	21,517	30,253	17,361	17,361	17,361	.....
Other countries	1,572	3,967	3,967	3,881	3,882	.....
Total South America	**563,666**	**699,513**	**719,500**	**775,056**	**775,388**	***780,000**
EUROPE—						
Austria-Hungary	105,425	161	546	739	1,961	.....
Czecho-Slovakia	.....	11,413	8,294	3,344	9,002	.....
France	102,912	8,906	16,493	16,943	19,804	.....
Great Britain	864	.....	.....	.....	.....	.....
Roumania	.....	41,409	42,984	48,225	42,149	.....
Russia and Siberia	1,282,313	43,177	146,700	250,673	572,877	.....
Other countries	24,290	8,231	9,744	11,351	26,849	.....
Total Europe	**1,515,804**	**113,297**	**224,761**	**331,275**	**673,642**	***1,000,000**
AUSTRALASIA—						
New South Wales	149,657	51,173	25,222	18,833	18,685	19,422
Queensland	265,735	40,376	80,584	88,726	98,841	44,332
South Australia	6,556	2,660	1,000	950	787	780
Victoria	434,932	104,512	106,872	95,403	67,167	47,296
West Australia	1,314,043	553,731	538,245	504,511	485,118	440,818
New Zealand	343,595	135,720	144,117	164,408	129,900	*125,000
Tasmania	33,400	5,340	3,431	3,684	4,625	3,524
Other countries	21,393	9,779	12,260	12,741	12,224	*10,000
Total Australasia	**2,569,311**	**903,291**	**911,731**	**889,256**	**817,347**	**691,172**
ASIA—						
British India	589,109	432,723	438,015	382,697	396,349	392,400
China	176,999	100,000	100,000	89,500	107,300	*100,000
Chosen (Korea)	173,306	130,893	127,892	121,433	120,000	*125,000
British East Indies	65,402	24,188	29,025	29,025	24,187	*24,000
Dutch East Indies	163,852	94,168	104,295	115,547	124,388	*124,500
Formosa	39,406	28,455	21,958	21,958	8,503	*8,500
Japan	174,846	237,106	241,993	247,266	244,340	271,000
Other countries	24,596	30,637	20,924	16,405	22,023	*22,000
Total Asia	**1,407,516**	**1,078,170**	**1,084,102**	**1,024,831**	**1,047,090**	**1,067,400**
AFRICA—						
Belgian Congo	44,334	65,715	68,251	91,306	118,119	109,500
Madagascar	60,769	14,660	18,582	16,686	10,802	*11,000
Rhodesia	690,541	586,908	655,296	649,082	628,974	582,752
British West Africa	384,836	203,606	213,395	200,565	233,910	*235,000
Transvaal, Cape Colony and Natal	8,798,713	8,128,722	7,009,858	9,149,073	9,575,040	9,599,702
Other countries	45,623	44,984	43,587	49,810	38,362	*38,500
Total Africa	**10,024,816**	**9,044,595**	**8,009,069**	**10,156,522**	**10,605,207**	**10,576,454**
Grand Total	**22,145,314**	**15,983,772**	**15,444,830**	**17,786,471**	**18,852,432**	**19,061,926**

(a) 1913-1922, as reported by the Director of the Mint, with some changes. 1924, as compiled by *American Bureau of Metal Statistics*, conjectural figures (*) based on the 1924 outputs being inserted where necessary. Production of the Philippine Islands is included with the United States.

†Preliminary Dominion Bureau of Statistics's figures.

IRON ORE

Canada

Shipments of iron ore totalling 3,978 tons and having a value of $11,934, were made from Canadian mines during 1925, as compared with 1,480 tons valued at $3,936 shipped during 1924. This includes 72 tons valued at $165 used in Canadian blast furnaces for the manufacture of pig-iron, which production is given under the item pig-iron from Canadian ores. The production for 1925 consisted of shipments from the Baie St. Paul Titanic Iron Co. to Niagara Falls, N.Y.

Nova Scotia did not produce any iron ore, but during the year the British Empire Steel Corporation brought in from their mines at Wabana, Newfoundland, 384,795 tons valued at $1,188,742. This company also exported to Europe 883,056 tons valued at $3,746,823 making the total of shipments for the year, 1,267,851 tons, valued at $4,935,565. Shipments from Newfoundland in 1924 amounted to 1,094,570 tons valued at $2,405,735, of which 174,602 tons worth $371,622 were shipped to Nova Scotia and the balance to Europe.

Table 70.—Shipments of Iron Ore from Canadian Mines, by Provinces, 1886-1925

(Short tons)

Year	Nova Scotia	New Brunswick	Quebec	Ontario	British Columbia	Canada
1886	44,388	.....	.....	16,032	3,941	64,361
1887	43,532	.....	13,404	16,598	2,796	76,330
1888	42,611	.....	10,710	16,894	8,372	78,587
1889	54,161	.....	14,533	.....	15,487	84,181
1890	49,206	.....	22,305	5,000	.....	76,511
1891	53,649	.....	14,380	.....	950	68,979
1892	78,258	.....	22,690	.....	2,300	103,248
1893	102,201	.....	22,076	.....	1,325	125,602
1894	89,379	.....	19,492	.....	1,120	109,991
1895	83,792	.....	17,783	.....	1,222	102,797
1896	58,810	.....	17,630	15,270	196	91,906
1897	23,400	.....	22,436	2,770	2,099	50,705
1898	19,079	.....	17,873	21,111	280	58,343
1899	28,000	.....	19,420	25,126	2,071	74,617
1900	18,940	.....	19,000	82,950	1,110	122,000
1901	18,619	.....	15,489	272,538	7,000	313,646
1902	16,172	.....	18,524	359,288	10,019	404,003
1903	40,335	.....	12,035	209,634	2,290	264,294
1904	61,293	.....	16,152	141,601	.....	219,046
1905	84,952	.....	12,681	193,464	.....	291,097
1906	97,820	.....	9,933	141,078	.....	248,831
1907	89,839	.....	12,748	207,769	2,500	312,856
1908	11,802	.....	10,103	216,177	.....	238,082
1909	.....	.....	4,150	263,893	.....	268,043
1910	18,134	5,336	4,503	231,445	.....	259,418
1911	22	31,120	3,616	175,586	.....	210,344
1912	30,857	71,520	1,185	112,321	.....	215,883
1913	20,436	86,416	5,102	195,680	.....	307,634
1914	.....	4,775	.....	240,079	.....	244,854
1915	.....	3,683	.....	394,429	.....	398,112
1916	.....	.....	3,209	271,967	.....	275,176
1917	.....	.....	17,150	198,152	.....	215,302
1918	120	.....	8,159	201,119	2,200	211,608
1919	.....	.....	321	195,649	1,200	197,170
1920	.....	.....	960	126,912	1,200	129,072
1921	.....	.....	.....	58,499	1,010	59,509
1922	.....	.....	526	16,190	1,255	17,971
1923	.....	.....	69	30,447	243	30,759
1924	.....	.....	1,408	44	28	1,480
1925	.....	.....	3,978	.....	.....	3,978
Total	1,279,817	292,856	415,733	4,655,712	72,214	6,628,326

Table 71.—Shipments of Iron Ore from Wabana Mines, Newfoundland, 1895-1925

Year	To Nova Scotia	To United States	To Great Britain and Europe	Total shipments
	Short tons	Short tons	Short tons	Short tons
1895	2,686	.....	.....	2,686
1896	17,410	22,798	.....	40,208
1897	12,143	33,039	5,651	50,833
1898	34,622	.....	78,640	113,262
1899	26,311	98,485	214,322	339,118
1900	195,507	153,867	14,776	364,150
1901	457,064	84,292	279,102	820,458
1902	376,322	96,762	341,421	814,445
1903	273,283	90,711	287,793	651,787
1904	342,710	6,025	298,694	647,429
1905	506,819	6,490	255,846	769,155
1906	628,152	141,854	213,867	983,873
1907	672,561	123,972	167,074	963,607
1908	713,772	59,532	200,033	973,337
1909	697,068	241,207	171,722	1,109,997
1910	808,762	247,336	203,528	1,259,626
1911	737,261	207,193	237,009	1,181,463
1912	956,458	191,779	183,673	1,331,910
1913	1,048,433	229,402	328,086	1,605,921
1914	417,409	43,513	172,998	633,920
1915	802,128	.....	66,323	868,451
1916	1,012,060	.....	.....	1,012,060
1917	883,346	.....	.....	883,316
1918	848,574	.....	.....	848,574
1919	499,972	.....	.....	499,972
1920	624,596	.....	36,708	661,304
1921	178,519	.....	206,010	384,529
1922	311,482	.....	811,845	1,123,327
1923	451,483	.....	356,753	808,236
1924	174,602	.....	919,968	1,094,570
1925	384,795	.....	883,056	1,267,851
Total	**15,096,310**	**2,078,197**	**6,934,898**	**24,109,405**

PIG IRON

Production of pig iron in Canada amounted to 639,258 short tons in 1925, marking a slight recession from the 664,215 short tons of 1924. In 1923 the production amounted to 985,401 short tons, and in 1922 to 428,923 short tons.

About 35 per cent of this production or 225,346 short tons was sold for $4,393,941; at the same average selling value per ton the total value of the 1925 output would be $12,465,531 as compared with a computed value of $13,343,603 for 1924. The unsold tonnage in each year consisted mostly of basic iron and was produced for the further use of the makers. By grades, the production included 458,741 short tons of basic iron, 114,204 short tons of foundry iron and 66,313 short tons of malleable iron. Taking the population of Canada at 9,364,200 persons in 1925, the per capita production of pig iron was 136 pounds as against 144 pounds in the preceding year, 216 pounds in 1923, an average of 96 pounds in 1922 and 151 pounds in 1921.

In 1925, Ontario produced 65 per cent of the Canadian output as against 70 per cent of the total in 1924; Nova Scotia accounted for the balance in each year. During January, Ontario furnaces produced 22,400 short tons of pig iron and maintained this rate of output in February; in March, large rail orders caused an increase in output to 45,920 short tons which was also fairly well maintained during the next two succeeding months; in June, production fell to 29,120 short tons and in July to 23,520 short tons, and, in October, further rail orders caused an increase to 53,760 short tons, the maximum monthly output for the year, after which production declined to 44,800 short tons in November and to 34,720 short tons in December.

Production in Nova Scotia showed a somewhat similar trend. In January, the output stood at 8,960 short tons but rose to 25,760 short tons in March and continued at this level until the furnaces were banked about the end of June; in July, there was no production from these furnaces but, in August, they were started up again to produce 4,480 short tons; the maximum output of 32,480 short tons was reached in November, while in the closing month of the year production declined to 26,880 short tons.

Blast furnaces for the production of pig iron were operated in conjunction with steel furnaces and rolling mills at Sydney, N.S., and in Ontario at Hamilton and Sault Ste. Marie. In addition to these, there are also blast furnaces standing at Port Colborne, Midland, Port Arthur, Parry Sound and Deseronto, with two others, unfinished, at Ojibway near Windsor.

To the furnaces located at the three first-mentioned places the following materials for making pig iron were charged: 1,160,363 short tons of foreign ore valued at $4,222,448; 592 short tons of pyritic cinders at $1,777; 47,509 short tons of mill cinders, slag, etc., at $91,430; 35,781 short tons of scrap at $390,675; 327,479 short tons of limestone at $461,890; 249,972 tons of coke made from Canadian coal at $1,302,848, and 386,418 tons of coke made from imported coal at $2,508,819.

A review of the price trend during 1925 shows that iron and its products fluctuated within narrower limits, but at considerably lower levels, than in 1924. Based on 1913 prices as 100, the Bureau index was 158.4 in January and 147.3 in December, a decline of about 11 points over the twelve-month period. February at 158.5 marked the high point for the year and November at 147.1 the low point. In 1924, the prices ranged from 168.5 in January to 154.8 in November.

Electric furnaces for the production of ferro-alloys were operated at Hamilton, Niagara Falls and Welland. The output in 1925 amounted to 28,794 short tons as against 29,568 short tons in 1924 and 32,436 short tons in 1923.

Table 72.—Summary of Iron and Steel Statistics, 1923, 1924 and 1925

—	—	1923	1924	1925
	Short tons			
Iron ore shipped from mines	"	30,759	1,480	.....
Canadian iron ore charged to blast furnaces	"	37,812	.....	.....
Imported iron ore charged to blast furnaces	"	1,759,466	1,184,575	1,160,363
Iron ore charged to steel furnaces	"	58,120	34,810	41,548
Pig-iron made in blast furnaces	"	985,401	664,215	639,258
Pig-iron exported	"	60,799	16,740	7,093
Pig-iron imported	"	37,955	34,386	28,992
Ferro-alloys made	"	32,436	29,568	28,794
Ferro-alloys imported	"	9,326	8,763	4,604
Ferro-alloys exported	"	23,981	30,030	27,768
Pig-iron used in steel furnaces	"	594,810	420,924	484,886
Steel ingots and castings made	"	990,942	738,939	842,803
Steel rails made	"	231,684	224,795	227,895
Coke from Canadian coal used in iron blast furnaces	"	336,369	219,870	249,972
Coke made in Canada from imported coal used in iron blast furnaces	"	552,995	438,323	386,418
Number of blast furnaces	No.	15	15	15
Number of men employed at blast furnaces	"	778	591	501
Wages paid at blast furnaces	$	1,231,740	759,235	676,955
Value of pig-iron produced	$	21,355,595	13,343,603	12,465,553
Value of iron and steel goods exported	$	67,035,808	58,621,047	69,481,468
Value of iron and steel goods imported	$	173,720,299	137,979,471	166,573,076

LEAD

Production of lead from Canadian ores in 1925 amounted to 253,590,578 pounds (126,795.3 tons) which at the average market price at Montreal for the year of 9.20 cents per pound, was valued at $23,127,460, as against 175,485,499 pounds (87,742.8 tons) valued at $14,221,345 in 1924 when the average price was 8.104 cents per pound. The increase amounted to about 45 per cent in quantity and 63 per cent in value.

Production in 1925 included 242,454,502 pounds from British Columbia, the greater part of which was from the famous Sullivan mine in East Kootenay; 7,209,534 pounds from Ontario, nearly all of which was in the form of pig lead, produced at Galetta, Carleton county, but including a small amount contained in silver-lead-bismuth bullion exported from south Ontario smelters; and 3,926,542 pounds estimated as recoverable from ores exported from Quebec and the Yukon Territory.

Previous to 1904, lead ores mined in Canada were either exported as ore or smelted in Canadian furnaces and exported in the form of base bullion for refining. A lead refinery employing the Betts electrolytic process has been in operation at Trail, B.C., since 1904, treating the product from lead blast furnaces.

The production of refined lead at Trail in 1925 amounted to 103,036 tons as against 62,726 tons in 1924 and 47,971 tons in 1923, a total of 39,276 tons in 1922 and 28,820 tons in 1921.

The Kingdon Mining, Smelting and Manufacturing Company, Limited, which is now smelting ores from the Kingdon mine at Galetta, Ontario, has been in operation since early in 1919 producing a high-grade pig lead.

Table 73.—Production* of Lead from Canadian Ores, 1887-1925

Year	Pounds	Value	Cents per pound	Year	Pounds	Value	Cents per pound
		$				$	
1887	204,800	9,216	5·400	1907	47,738,703	2,542,086	5·325
1888	674,500	29,812	4·420	1908	43,195,733	1,814,221	4·200
1889	165,100	6,488	3·930	1909	45,857,424	1,692,139	3·690
1890	105,000	4,704	4·480	1910	32,987,508	1,216,249	3·687
1891	88,665	3,857	4·350	1911	23,784,969	827,717	3·480
1892	808,420	33,064	4·090	1912	35,763,476	1,597,554	4·467
1893	2,135,023	79,636	3·730	1913	37,662,703	1,754,705	4·659
1894	5,703,222	187,636	3·290	1914	36,337,765	1,627,568	4·479
1895	16,461,794	531,716	3·230	1915	46,316,450	2,593,721	5·600
1896	24,199,977	721,159	2·980	1916	41,497,615	3,532,692	8·513
1897	39,018,219	1,396,853	3·580	1917	32,576,281	3,628,020	11·137
1898	31,915,319	1,206,399	3·780	1918	51,398,002	4,754,315	9·250
1899	21,862,436	977,250	4·470	1919	43,827,699	3,053,037	6·966
1900	63,169,821	2,760,521	4·370	1920	35,953,717	3,214,262	8·940
1901	51,900,958	2,249,387	4·334	1921	66,679,592	3,828,742	5·742
1902	22,956,381	934,095	4·069	1922	93,307,171	5,817,702	6·235
1903	18,139,283	768,562	4·237	1923	111,234,466	7,985,522	7·179
1904	37,531,244	1,617,221	4·309	1924	175,485,499	14,221,345	8·104
1905	56,864,915	2,676,632	4·707	1925	253,590,578	23,127,460	9·120
1906	54,608,217	3,089,187	5·657				
				Total	1,703,708,645	108,112,452	

* Previous to 1913 the figures reported show the metal content of the shipments and are somewhat in excess of the actual amount recovered. Since 1912 the data given represent the quantity of lead produced in Canada from domestic ores, together with the estimated lead recovery from lead ores and concentrates exported. From 1887 to 1908, average prices at New York; 1909 and 1910, average prices at Toronto; from 1911 to 1919, average prices in Montreal were used in making up the values shown; since 1920 the quotations used have been furnished by the Consolidated Mining and Smelting Co., Montreal, Que.

Table 74.—Shipments of Lead Ores and Concentrates from Canadian Mines in 1925

—	Lead ores	Lead concentrates	Dry ores
Tons shipped	34,568	173,011	1,009
Reported value of shipments $	1,981,247	13,424,748	14,761
Metal content of shipments—			
Gold ... fine ounces	306	1,236	.....
Silver ... " "	1,280,163	4,714,798	29,252
Lead ... pounds	19,689,518	217,981,793	4,000
Zinc ... "	3,228,064	20,192,926	42

Table 75.—Refined Lead Produced in Canada,* 1904-1925

Year	Pounds of refined lead produced	Year	Pounds of refined lead produced	Year	Pounds of refined lead produced
1904	7,510,440	1912	35,893,190	1920	28,720,030
1905	15,804,509	1913	37,923,043	1921	60,949,793
1906	20,471,314	1914	36,443,705	1922	81,412,716
1907	26,607,461	1915	43,518,618	1923	101,096,312
1908	36,549,274	1916	33,087,474	1924	130,471,208
1909	41,883,614	1917	39,115,114	1925	213,217,605
1910	32,987,508	1918	31,571,112		
1911	23,525,050	1919	34,336,920	Total	1,106,099,011

*Includes the electrolytic lead produced from Canadian and foreign ores at Trail, B.C., and also the pig-lead from Galetta, Ont.

Quebec

Lead production in the province of Quebec dates from the year 1915 when some 40,000 pounds were produced, all of which was derived from the lead-zinc deposits of Notre Dame des Anges. The maximum output of 2.28 million pounds was made in 1919 due to the

demands for lead during the war. During 1922 there was no production from these mines. In 1923 shipping was resumed and it was estimated that 520,041 pounds were recovered from ores exported during that year. In 1925, the output stood at 2,051,100 pounds as against 1,058,983 in 1924.

Ontario

Many years ago, two lead mines were operated in Frontenac county but it was not until 1913 that any statistical record of production was kept. During that year the deposits in Carleton county were opened up and some 33,000 pounds of lead were recovered. This property has been rapidly developed until at the present time the shaft is down to the 1,000-foot level and in 1925 production amounted to 7,146,591 pounds, which constituted a record for the Kingdon property. At the lower levels, zinc also occurs; the zinc is separated from the lead in the mill and stored until a sufficient supply is obtained to make an export shipment.

Small quantities of lead are recovered from the silver-lead-bismuth bullion exported by the south Ontario smelters which handle the ores of the Cobalt district. In 1925, this recovery amounted to 62,943 pounds. The sum of the production from these two sources made a total of 7,209,534 pounds for the province.

British Columbia

Lead is derived from the zinc-lead ores of the East and West Kootenays in British Columbia. During 1925 the production from British Columbia ores amounted to 242,454,502 pounds valued at $22,111,850. This included the lead recovered in the lead smelter bullion at Trail and the lead estimated as recoverable, from ores exported. Compared with 1924 output when the production amounted to 168,467,628 pounds valued at $13,652,617 there was an increase of 44 per cent in quantity and 62 per cent in value.

Table 76.—Production of Lead from Canadian Ores, by Provinces, 1887-1925

Year	Quebec		Ontario		British Columbia		Yukon	
	Pounds	Value	Pounds	Value	Pounds	Value	Pounds	Value
		$		$		$		$
1887					204,800	9,216		
1888					674,500	29,813		
1889					165,100	6,488		
1890	105,000	4,704						
1891	88,665	3,857						
1892					808,420	33,064		
1893	3,931	146			2,131,092	79,490		
1894					5,703,222	187,636		
1895					16,461,794	531,716		
1896					24,199,977	721,159		
1897	177,084	6,340			38,841,135	1,390,513		
1898	221,760	8,382			31,693,559	1,198,017		
1899					21,862,436	977,250		
1900	11,200	490			63,158,621	2,760,031		
1901	318,052	13,784			51,582,906	2,235,663		
1902	420,000	17,090			22,536,381	917,005		
1903			50,000	2,119	18,089,283	766,443		
1904			885,000	38,125	36,646,244	1,579,086		
1905			284,212	13,378	56,580,703	2,663,254		
1906			2,200,000	124,454	52,408,217	2,964,733		
1907					47,738,703	2,542,086		
1908					43,195,733	1,814,221		
1909					45,857,424	1,692,139		
1910					32,987,508	1,216,249		
1911					23,784,969	827,717		
1912					35,763,476	1,597,554		
1913			33,000	1,537	37,626,899	1,753,037	2,804	131
1914					36,289,845	1,625,422	47,920	2,146
1915	40,401	2,262	88,985	4,983	45,377,064	2,541,116	810,000	45,360
1916	698,760	59,485	685,932	58,393	39,157,701	3,333,496	955,222	81,318
1917	1,378,001	153,468	1,586,711	176,712	29,483,725	3,283,602	127,844	14,238
1918	2,110,059	195,180	1,684,366	155,804	47,594,328	4,402,475	9,249	856
1919	2,280,000	158,825	1,487,586	103,625	40,060,113	2,790,587		
1920	905,472	80,949	2,255,520	201,643	32,792,725	2,931,670		
1921	595,881	34,215	3,312,493	190,203	60,298,603	3,462,346	2,472,645	141,978
1922			2,890,397	180,216	87,093,266	5,430,265	3,323,508	207,221
1923	520,041	37,324	4,401,494	315,983	99,541,818	7,146,107	6,771,113	486,008
1924	1,058,983	85,820	5,055,368	409,687	168,467,628	13,652,617	903,520	73,221
1925	2,051,100	187,060	7,209,534	657,510	242,454,502	22,111,850	1,875,442	171,040
Total	**12,984,390**	**1,049,391**	**34,110,598**	**2,634,382**	**1,639,314,420**	**103,205,073**	**17,299,237**	**1,223,607**

Table 77.—Imports into Canada and Exports of Lead, 1923, 1924 and 1925

—	1923		1924		1925	
	Pounds	Value	Pounds	Value	Pounds	Value
		$		$		$
IMPORTS—						
Old and scrap, pig and block	2,751,455	145,094	693,244	50,847	505,555	50,606
Bars and sheets	407,840	31,321	115,836	12,682	104,814	10,554
Litharge	1,672,100	160,928	956,700	89,731	1,515,300	159,576
Acetate and nitrate of lead	179,881	17,727	207,364	19,115	222,535	20,516
Other manufactures	.....	199,793	.....	234,372	.....	237,717
Pipe lead	85,351	6,568	48,961	4,183	42,592	4,099
Shots and bullets	10,705	1,255	10,529	1,324	6,040	923
Tea lead	215,345	19,622	203,324	22,080	131,402	16,260
Lead pigments:—						
Dry white lead	49,579	4,273	193,843	17,778	47,549	4,749
White lead, ground in oil	117,034	9,518	205,824	19,050	127,016	14,795
Dry red lead and orange mineral	867,759	76,510	704,282	64,719	628,648	68,509
Total	.....	**672,609**	.....	**535,881**	.....	**588,304**
EXPORTS—						
Lead in ore	7,948,100	535,937	13,152,400	784,750	37,504,500	2,341,679
Pig-lead	47,144,500	2,496,207	108,709,600	6,866,220	160,130,800	11,809,305
Total	**55,092,600**	**3,032,144**	**121,862,000**	**7,650,970**	**197,635,300**	**14,150,984**

Imports and Exports.—Imports into Canada of lead and lead manufacturers were valued at $588,304 in 1925 as against $535,881 in 1924 and $672,609 in 1923. Exports increased in value to nearly double the 1924 figures. In 1925, pig lead in ores amounting to 197,635,300 pounds with a value of $14,150,984 were exported as compared with an export of 121,862,000 pounds valued at $7,650,970 in 1924. These figures in themselves show the results of the operations of the lead properties that are being developed on such a large scale.

Prices.—During 1925 the highest point for the price of lead was reached in January when the price stood at 10.169 cents per pound on the New York market. In May of the same year the price quoted was 7.985 cents, the low price for the year. From then there was a gradual increase until 9.739 cents was reached in November after which the price declined slightly to 9.310 cents per pound in December. The rise in the price of lead has been caused by the increased use of the metal in industry.

Table 78.—Monthly Average Prices of Lead in Montreal, New York and London, 1923, 1924 and 1925

Month	(a) Montreal—cents per pound			(b) New York—cents per pound			(b) London—in £ Sterling per ton of 2,240 pounds		
	1923	1924	1925	1923	1924	1925	1923	1924	1925
							£ s. d.	£ s. d.	£ s. d.
January	7·245	7·84	10·04	7·633	7·972	10·169	27 2 4	31 10 7	41 8 10
February	7·561	8·38	9·56	8·050	8·554	9·428	28 10 4	34 11 9	37 18 10
March	7·798	8·79	9·29	8·252	9·013	8·914	28 16 3	37 3 3	36 16 1
April	7·243	7·84	8·29	8·101	8·263	8·005	26 19 1	32 16 5	32 15 10
May	6·841	7·04	8·14	7·306	7·269	7·985	25 12 3	29 8 6	32 5 8
June	6·760	7·32	8·46	7·146	7·020	8·321	25 8 7	32 2 9	33 9 7
July	6·480	7·49	8·74	6·237	7·117	8·151	24 3 9	32 18 4	34 13 11
August	6·593	7·64	9·40	6·582	7·827	9·192	24 4 5	32 14 7	38 3 9
September	6·865	7·74	9·53	6·856	8·000	9·508	25 13 9	33 0 5	38 17 8
October	7·205	8·23	9·55	6·831	8·235	9·513	27 16 3	35 14 4	39 0 4
November	7·682	9·20	9·40	6·846	8·689	9·739	30 7 0	39 8 6	36 17 5
December	7·870	9·86	9·02	7·369	9·207	9·310	31 0 10	41 11 8	34 14 9
Average	**7·179**	**8·10**	**9·12**	**7·267**	**8·097**	**9·020**	**27 2 11**	**34 8 5**	**36 8 7**

(a) Prices furnished by Consolidated Mining & Smelting Co. of Canada, Trail, B.C.
(b) Quoted from the *Engineering and Mining Journal*.

Table 79.—World's Production of Lead, 1913 and 1921-1925

(From the *Year Book of the American Bureau of Metal Statistics*, 1925)

(Short tons)

Country	1913	1921	1922	1923	1924	1925
NORTH AMERICA—						
United States	435,665	402,479	470,000	530,000	590,000	662,500
Canada*	18,822	34,381	45,842	53,899	86,583	126,994
Mexico	68,324	66,851	133,180	184,242	177,697	205,159
Total North America	**522,811**	**503,711**	**649,022**	**768,141**	**854,280**	**994,653**
SOUTH AMERICA—						
Argentina	.....	2,756	3,986	4,000	5,000	8,488
Other South America	2,729	2,385	2,561	1,600	10,700	14,500
Total South America	**2,729**	**5,141**	**6,547**	**5,600**	**15,700**	**22,988**
EUROPE—						
Austria	26,558	3,689	4,106	4,690	5,494	5,961
Belgium	59,056	32,793	48,032	56,328	64,286	73,082
France	31,756	17,058	15,370	19,194	20,811	22,046
Germany (including Upper Silesia)	207,176	82,676	81,090	53,034	66,915	78,619
Greece	20,177	6,140	4,853	4,667	5,628	5,073
Italy	23,885	13,763	11,960	18,885	24,318	17,961
Czecho-Slovakia and Jugo-Slavia	.....	7,954	11,821	12,909	15,158	14,165
Poland (Upper Silesia excluded)	2,976	1,113	110	.....	.....	.....
Russia	1,678	.....	.....	.....	709	1,067
Spain	219,110	149,760	131,394	140,559	147,708	152,338
Sweden	1,361	616	418	338	740	799
United Kingdom	20,304	2,727	5,551	7,512	5,938	5,303
Total Europe	**614,037**	**318,289**	**314,765**	**318,116**	**357,705**	**376,414**
ASIA—						
Turkey	15,318	9,199	5,952	1,543	5,626	5,622
India (Burma)	6,535	37,737	43,919	51,239	57,969	52,945
Japan	4,162	3,459	3,570	2,976	3,242	3,307
Total Asia	**26,015**	**50,395**	**53,441**	**55,758**	**66,837**	**61,874**
Australia	**126,207**	**63,071**	**118,064**	**137,364**	**140,645**	**165,634**
AFRICA—						
Rhodesia	.....	19,808	22,962	12,343	6,613	3,280
Tunis	.....	13,911	14,457	15,754	17,345	15,102
Total Africa	.....	**33,719**	**37,419**	**28,097**	**23,958**	**18,382**
Grand Total	**1,291,799**	**974,326**	**1,179,198**	**1,313,076**	**1,459,125**	**1,639,945**

*Dominion Bureau of Statistics reports the Canadian production of lead as follows: 1913—18,831 tons; 1921—33,340 tons 1922—46,653 tons; 1923— 55,617 tons; 1924—87,743 tons; 1925—126,795 tons.

MANGANESE

There was no production of manganese in Canada during 1925. In 1924 there were 584 tons valued at $4,088 reported as being shipped from the province of New Brunswick. Deposits of manganese are known to occur in Lunenburg County, Nova Scotia, and in British Columbia near the town of Kaslo.

MERCURY

There has been no production of mercury recorded since 1897. The small production reported in 1895, 1896 and 1897, was derived from the deposits at the western end of Kamloops Lake, B.C. and in 1925 some development work was reported in this district. These deposits consist of quartz veins containing pockets of cinnabar, in a zone of decomposed tertiary volcanic rocks.

Mercury has also been reported as occuring in the ores of the Cobalt district, and in the neighbourhood of Field, B.C., and Sechart, on the west coast of Vancouver Island.

The imports of mercury during 1925 were 146,435 pounds, valued at $118,697, as compared with 85,459 pounds valued at $60,675 in 1924.

Table 80.—Production of Mercury in Canada, 1895-1925

Year	Flasks	Price per flask	Value
		$	$
1895	71	33·00	2,343
1896	58	33·44	1,940
1897	9	36·00	324
1898-1925	.....	.....	.....

Table 81.—Imports into Canada of Mercury, 1921-1925

Year	Pounds	Value
		$
1921	30,894	20,570
1922	59,296	47,742
1923	135,953	95,922
1924	85,459	60,675
1925	146,435	118,697

Table 82.—Monthly Average Price of Mercury, 1923, 1924 and 1925

(At New York, per flask of 75 pounds)

Month	1923	1924	1925
	$	$	$
January	72·731	59·500	81·596
February	70·636	59·565	79·386
March	70·808	64·269	80·481
April	69·200	74·308	82·327
May	68·000	76·962	81·360
June	67·769	73·720	83·154
July	66·980	72·173	83·077
August	65·212	72·096	82·317
September	63·000	72·423	81·730
October	61·769	70·654	83·856
November	61·917	68·708	88·250
December	60·000	72·750	90·000
Average	**66·502**	**69·761**	**83·128**

MOLYBDENUM

Molybdenite deposits are known to occur in Nova Scotia, Quebec, Ontario, Manitoba and British Columbia but the principal production so far has come from the Quyon mine in Pontiac county, Quebec.

The Moss mine at Quyon, Quebec, reported a production of 30,764 pounds of molybdenum concentrates containing 72.65 per cent MoS_2, or 22,350 pounds of molybdenum sulphide which at 50 cents per pound, was worth $11,176. During 1924 production from the same property amounted 20,452 pounds of molybdenum concentrates containing 91.62% MoS_2 or 18,739 pounds of molybdenum sulphide valued at $9,370. All the molybdenite ore produced in Canada has been concentrated in Canadian mills erected for the purpose.

The war stimulated the demand for molybdenum ores to an appreciable extent but with the cessation of hostilities, the producers were left with considerable stocks on hand for which there was no immediate market, owing to the limited uses of the metal. The ore produced was mostly low-grade material carrying less than 2 per cent MoS_2, but there was some which ran from 2 to 15 per cent MoS_2, and some higher grade hand-picked material produced.

The market price for molybdenum ore, 85 per cent MoS_2, varied from 60-70 cents per pound throughout the year.

Table 83.—Production of Molybdenite in Canada, 1902-1925

Year	Ores mined	Ores treated	Ores and concentrates shipped		MoS_2 content of shipments	MoS_2 production (probable recovery)	
	Tons	Tons	Tons	Value (a) $	Pounds	Pounds	Value (b) $
1902	3	.....	3·3	400	(c)	(c)	(c)
1903	600	.....	85·0	1,275	(c)	(c)	(c)
1904-1913	.....	.....	.....	.....	.....	.....	.....
1914	166	.....	16·5	2,063	3,814	3,814	2,063
1915	2,242	216	39·0	28,920	29,210	29,210	28,450
1916	13,522	9,100	610·0	188,316	156,461	156,461	156,461
1917	26,871	22,605	1,554·3	320,006	330,316	288,705	288,705
1918	34,030	33,935	461·3	428,807	378,482	378,029	434,733
1919	7,280	6,783	46·0	69,203	83,002	83,002	69,203
1920-1923	.....	.....	.....	.....	.....	.....	.....
1924	700	668	10·0	9,370	18,739	18,739	9,370
1925	3,000	2,779	15·3	11,176	22,350	22,350	11,176

(a) Value as given by the operators. (b) Estimated at the average market value of molybdenite.
(c) No figures available.

NICKEL

Computed on the same basis as in previous reports published by the Bureau of Statistics, nickel production in 1925 totalled 73,770,842 pounds valued at $25,082,086 as compared with 69,536,350 pounds worth $19,470,178 in 1924. But a change in method of compilation was made during the year. The foregoing figures represent the nickel content of matte made in the smelters of the Sudbury area with small amounts of nickel from south Ontario smelters, the whole valued at the average New York price for virgin nickel.

Prior to this year there has always been a difference between the nickel production figures as reported by Ontario Department of Mines and as publishd by the Dominion Bureau of Statistics. As a result of a conference held during the past year, it was agreed to adopt the same way of making nickel totals in both offices and in this report the necessary changes in method have been made. Computed on the agreed plan, nickel production in 1925 totalled 73,857,114 pounds valued at $15,946,672 as compared with 61,356,451 pounds worth $13,126,739 in 1924. These figures include nickel in matte exported by the Mond Nickel Company and the International Nickel Company of Canada valued at 18 cents a pound; refined and electrolytic nickel produced at Port Colborne, valued at the average price obtained for such products sold during the year; nickel in nickel oxide sold from Port Colborne and Deloro, at its total selling value as oxide; and nickel contained in speiss residues exported, valued at 18 cents a pound.

It will be observed that the change in method makes comparatively little difference in the quantity data, but that the new basis of valuation reduces the aggregate value of the nickel output very considerably. But it must be borne in mind that nickel matte must be subjected to a considerable amount of treatment at an appreciable extra cost, before the virgin metal can be obtained. When this extra labour is done in another country, in a plant not included among Canada's industrial organizations, and by men whose earnings are outside Canadian pay-rolls, the force of the argument against the valuation of nickel in matte at refined nickel prices, becomes more pronounced, and the improvement in method adopted herein becomes more apparent.

Table 84.—Production of Nickel from Canadian Ores, 1889-1925

Year	Pounds of nickel	Cents per pound	Value	Year	Pounds of nickel	Cents per pound	Value
			$				$
1889	830,477	60	498,286	1908	19,143,111	43	8,231,538
1890	1,435,742	65	933,232	1909	26,282,991	36	9,461,877
1891	4,035,347	60	2,421,208	1910	37,271,033	30	11,181,310
1892	2,413,717	58	1,399,956	1911	34,098,744	30	10,229,623
1893	3,982,982	52	2,071,151	1912	44,841,542	30	13,452,463
1894	4,907,430	38½	1,870,918	1913	49,676,772	30	14,903,032
1895	3,888,525	35	1,360,984	1914	45,517,937	30	13,655,381
1896	3,397,113	35	1,188,990	1915	68,308,657	30	20,492,597
1897	3,997,647	35	1,399,176	1916	82,958,564	35	29,035,497
1898	5,517,690	33	1,820,838	1917	84,330,280	40	33,732,112
1899	5,744,000	36	2,067,840	1918	92,507,293	40	37,002,917
1900	7,080,227	47	3,327,707	1919	44,544,883	40	17,817,953
1901	9,189,047	50	4,594,523	1920	61,335,706	40	24,534,282
1902	10,693,410	47	5,025,903	1921	19,293,060	35	6,752,571
1903	12,505,510	40	5,002,204	1922	17,597,123	35	6,158,993
1904	10,547,883	40	4,219,153	1923	62,453,843	29·353	18,332,077
1905	18,876,315	40	7,550,526	1924	69,536,350	28	19,470,178
1906	21,490,955	42	8,948,834	1925	73,857,114	34	15,946,672
1907	21,189,793	45	9,535,407				
				Total	**1,085,278,813**	.....	**375,627,919**

Table 85.—Production in Canada of Nickel, 1924 and 1925

—	1924		1925	
	Quantity	Value	Quantity	Value
	Pounds	$	Pounds	$
PRODUCTION—				
(a) *As computed in previous reports:*				
Nickel contained in matte made	69,276,313	.....	73,191,262	.....
Nickel from cobalt ores	260,037	.....	579,580	.....
Total	**69,536,350**	**19,470,178**	**73,770,842**	**25,082,086**
(b) *As computed by agreement with the Ontario Dept. of Mines:*				
Nickel in matte and speiss exported	26,374,882	5,747,479	32,787,846	5,901,812
Refined and electrolytic nickel produced	25,448,882	5,313,587	31,976,310	7,315,701
Nickel in oxides and salts sold	9,532,687	2,065,673	9,092,958	2,729 159
Total	**61,356,451**	**13,126,739**	**73,857,114**	**15,946,672**

In (a) {for 1924, the price of nickel was taken as 28 cents per lb.
for 1925, the price of nickel was taken as 34 cents per lb.

Table 86.—Proportion of Nickel and Copper in Sudbury Matte, 1912-1925

Year	Percentage		
	Nickel	Copper	**Total**
1912	53·5	26·3	**79·8**
1913	52·7	27·4	**80·1**
1914	49·0	31·1	**80·1**
1915	50·3	29·0	**79·3**
1916	51·6	28·0	**79·6**
1917	50·6	26·9	**77·5**
1918	52·6	26·0	**78·6**
1919	51·6	28·3	**79·9**
1920	52·7	27·6	**80·3**
1921	49·4	32·4	**81·8**
1922	50·1	31·3	**81·4**
1923	53·4	27·2	**80·6**
1924	52·6	27·9	**80·5**
1925	52·1	27·9	**80·0**

Table 87.—Sales of Nickel from the Silver-Cobalt-Nickel Smelters of Southern Ontario 1912-1925

Year	Metallic Nickel		Nickel Oxides (a)	
	Pounds	Value	Pounds	Value
		$		$
1912	.....	.....	91,377	9,137
1913	.....	.....	268,304	30,122
1914	.....	.....	392,512	34,883
1915	55,325	22,130	(b) 282,025	31,262
1916	79,360	31,538	(b) 555,868	101,358
1917	265,896	108,334	(b) 657,549	122,903
1918	243,186	88,720	(b) 962,309	215,277
1919	397,884	137,435	(b) 340,389	32,862
1920	204,537	71,287	(b) 24,112	6,312
1921	10,973	3,442	(b) 105,535	4,034
1922	106,318	31,035	(b) 37,317	3,952
1923	33,593	10,075	(b) 71,484	9,246
1924	14	4	(b) 60,662	9,414
1925	210,985	52,746	(b) 444,496	38,716

(a) Does not include mixed oxides of cobalt and nickel. See Table 38.
(b) Nickel-salts included with nickel oxides.

Table 88.—Imports into Canada and Exports of Nickel 1923, 1924 and 1925

—	1923		1924		1925	
	Pounds	Value	Pounds	Value	Pounds	Value
		$		$		$
IMPORTS—						
Nickel, nickel silver and German silver, in ingots or blocks, n.o.p.	35,045	12,410	21,761	8,591	6,758	1,398
Nickel in bars and rods, strips, sheets and plates	492,177	153,564	624,173	111,827	832,775	150,167
Nickel silver and German silver, in bars, rods, strips, sheets, plates or anodes	298,902	82,407	229,182	59,609	220,429	60,144
German, Nevada and nickel silver, manufactures of, not plated	.....	207,242	.....	193,283	.....	224,984
Nickel-plated household hollow-ware	.....	32,656	.....	39,345	.....	22,907
Nickel-plated ware, n.o.p.	.....	1,240,762	.....	1,219,515	.....	1,371,161
Total nickel and its products	.....	**1,729,041**	.....	**1,632,170**	.....	**1,830,761**
EXPORTS—						
Nickel, fine, contained in ore, matte or speiss	28,971,000	4,077,000	36,712,200	5,176,907	40,207,900	6,693,805
Nickel, fine	22,897,900	4,649,251	25,985,800	5,090,059	30,116,400	5,980,920
Total	**51,868,900**	**8,726,251**	**62,698,000**	**10,266,966**	**70,324,300**	**12,674,725**

Prices.—The average price of electrolytic nickel in New York during 1921 according to quotations published by the *Engineering and Mining Journal* was 44 cents per pound for ingots and 41 cents for shot. These quotations were merely nominal owing to the depressed condition of the market. During 1922 new uses were being developed for nickel. Whereas, prior to and during the war a very large proportion of the metal was consumed by armament manufacturing, the cessation of war activities followed by the Washington conference on the limitations of armaments, led producers to investigate new outlets for nickel. These have been found in part in the adaptability of nickel for the cooking-utensil trade, and in the manufacture of resistance wires in electric heating appliances, as a material for coinage, as a constituent of numerous alloys and in the growing use of the metal in the motor car industry. This increased consumption and the lower prices prevailing, have been the important factors in the renewed activity. The average price was 35 cents per pound in 1922; 29.3 cents per pound in 1923, 28 cents per pound in 1924, and 34 cents in 1925.

Table 89.—World's Production of Nickel, 1922-1925

(In terms of metal)

(Short tons)

(From *The Mineral Industry of the British Empire and Foreign Countries*, 1921-1923)

Country	1922	1923	1924	1925
Canada	8,799	31,226	34,768	36,929
Germany (Russia)	.....	(a) 3	.....	.....
Italy	(b)	49	.....	.....
Norway	102	68	.....	.....
United States (c)	208	100	.....	.....
New Caledonia (d)	3,906	2,939	(e) 4,005	(f) 3,703
Total	**13,015**	**34,385**	**38,773**	**40,632**

(a) Ore, nickel content not stated.
(b) Less than ½ ton.
(c) Nickel content of salts and nickel produced as a by-product in the electrolytic refining of copper.
(d) Exports.
(e) From *The Mineral Industry*, 1925.
(f) For eleven months only taken from *Mineral Industry*, 1925.

PLATINUM AND PALLADIUM

The most important sources of the metals of the platinum group in Canada are the nickel-copper ores of Sudbury, Ontario, but due to the fact that the precious metals occur in very small quantities through the ore and also because their recovery can only be made in the refining of the copper and nickel, most of the platinum from these ores has been recovered by the refineries operating in foreign countries. It was not until 1918, when the International Nickel Company of Canada built its refinery at Port Colborne, that platinum group metals were recovered in Canada. The British America Nickel Corporation, Limited, opened its refinery at Deschenes, Quebec, in the following year. In both these plants, the precious metals were recovered as residues to be exported for further treatment. During July 1923 the British America Nickel Corporation went into liquidation. In the years 1924 and 1925 the Mond Nickel Company reported their production of the rare metals recovered at their refinery in Swansea, Wales. No record of recoveries at this plant had been obtained in previous years. For this reason statistics on platinum and palladium production during 1924 and 1925 showed an apparently great increase.

For many years, metals of the platinum group have been recovered at the New Jersey plant of the International Nickel Company from residues obtained in the refining of the Sudbury nickel-copper mattes; but as residues from other sources were treated with those of Canadian ores, the total recovery could not be regarded as of Canadian origin; nevertheless, it is believed that the Sudbury mattes have been the source of by far the greater part of the platinum group metals there recovered. This New Jersey plant operated only for a month or two during 1922 and was then dismantled.

Platinum is also found in the alluvial sands of British Columbia, but the output which up to the present has been won by individual placer operators, is of small importance.

Table 90.—Summary of Platinum Statistics, 1924 and 1925

Source		1924			1925	
		Platinum	Palladium	Rhodium, etc.	Platinum	Palladium, Rhodium, etc.
Produced by refineries in Canada or elsewhere, from Canadian mattes and residues	Fine oz.	9,181	8,923	(a) 593	8,692	8,288
	Value	$1,090,858	$811,993	$51,120	$1,027,477	$648,969
British Columbia placers	Fine oz.	5	.....	.....	6	.....
	Value	$569	.....	.....	$715	.....
Canada	**Fine oz.**	**9,186**	**8,923**	(b) **593**	**8,698**	**8,288**
	Value	**$1,091,427**	**$811,993**	**$51,120**	**$1,028,192**	**$648,969**

(a) 367 oz. Rhodium valued at $27,500,—69 oz. Osmium valued at $4,924,—78 oz. Ruthenium valued at $2,106 and 79 oz. Iridium valued at $16,590.

Table 91.—Production of Platinum in Canada from Alluvial Sands, 1887-1925

Year	Value	Year	Value	Year	Fine ounces	Value
	$		$			$
1887	5,600	1897	1,600	1913	18	489
1888	6,000	1898	1,500	1914	.....	.....
1889	3,500	1899	825	1915	23	1,063
1890	4,500	1900	.....	1916	15	600
1891	10,000	1901	457	1917	57	3,823
1892	3,500	1902	190	1918	39	2,506
1893	1,800	1903	.....	1919	25	2,105
1894	950	1904	420	1920	17	791
1895	3,800	1905	500	1921	23	1,558
1896	750	1906	.....	1922	12	1,154
		1907-1912	.....	1923	7	816
				1924	5	569
				1925	6	715

Table 92.—Recovery at the International Nickel Company's Works*—New Jersey, U.S.A., 1907-1922

Year	Matte treated	Gold	Silver	Platinum	Palladium	Rhodium	Others
	Tons	Ounces	Ounces	Ounces	Ounces	Ounces	Ounces
1907	17·840	993·572	63,400·70	226·800	607·300	(a)	.....
1908	18·839	5,238·181	139,329·29	172·316	328·287	(a)	.....
1909	18·407	2,113·669	63,138·66	546·627	1,270·598	(a)	
1910	24·309	2,649·799	60,256·83	258·325	522·804	(a)	.....
1911	26·840	2,203·052	70,954·38	655·552	753·363	(a)	.....
1912	27·652	2,476·558	62,169·66	496·850	680·130	(a)	.....
1913	38·733	2,336·405	77,924·03	192·863	207·713	191·067	.....
1914	40·267	2,695·957	75,928·18	748·440	756·360	515·801	.....
1915	31·428	3,444·785	101,793·17	452·430	543·240	57·475	.....
1916	56·405	3,495·123	110,285·21	1,016·581	1,344·915	257·070	.....
1917	59·209	1,954·934	92,963·67	970·695	1,354·459	325·407	.....
1918	62·250	1,968·703	107,076·78	649·737	786·654	472·579	.....
1919	19·528	634·043	35,689·79	616·716	762·217	227·294	(b) 76·613
1920	30·740	613·338	81,882·78	488·901	739·158	390·336	(b) 102·363
1921	(c) 2,217·000	6·901	1,242·74	281·582	382·626	256·110	(b) 10·655
1922	(c) 3,112·000	206·542	12,211·66	137·882	300·839	103·874	(b) 20·563

*Plant dismantled during 1922.
(a) Figures not given separately.
(b) Includes Osmium, Iridium and Ruthenium.
(c) These quantities bear no relation to the amounts of precious metals recovered.

Platinum is also recovered in a small way at the Royal Mint in the form of platinum black, a dull black powder of metallic platinum, which is obtained from the treatment of dental and old jewellery scrap. The following table shows the recoveries since 1919.

Table 93.—Recovery of Platinum Black, Iridium Precipitate, and Palladium at the Royal Mint, Ottawa, 1919-1925

Year	Platinum		Iridium		Palladium	
	Ozs. gross	Value	Ozs. gross	Value	Ozs. gross	Value
1919	29·281	$ 2,711·59	20·782	$ 2,268·12	0·696	$ 87·00
1920	7·220	$ 400·56	.....	.....	.....	.....
1921	18·843	$ 1,160·73	.....	.....	.....	.....
1922	12·386	$ 1,102·35	.....	.....	.....	.....
1923	4·520	$ 393·47	.....	.....	.....	.....
1924	16·186	$ 1,408·99	.....	.....	.....	.....
1925	9·500	*	.....	.....	.....	.....

* No sale made.

Table 94.—Imports into Canada and Exports of Platinum, 1923, 1924 and 1925

—	1923		1924		1925	
	Ounces	Value	Ounces	Value	Ounces	Value
		$		$		$
IMPORTS—						
Crucibles	.....	10,177	.....	11,567	.....	39,685
Wire and bars, strips, sheets or plates	.....	117,607	.....	167,225	.....	157,914
Retorts, pans, condensers, etc	.....	40,471	.....	579	.....	41,006
Total	.....	**168,255**	.....	**179,371**	.....	**238,605**
EXPORTS—						
Jewellers' sweepings	.....	274,467	.....	344,074	.....	322,295
Ores and co centrates	349	33,838	467	47,723	404	42,489
Old and scrap	126	8,988	237	24,372	655	76,423
Total	.....	**317,293**	.....	**416,169**	.....	**441,207**

Table 95.—Monthly Average Prices of Platinum, 1923, 1924 and 1925

(From *The Engineering and Mining Journal*, 1925)

(In dollars per fine ounces)

Month	1923	1924	1925
	$	$	$
January	112·462	122·115	117·000
February	113·273	124·739	117·000
March	110·846	121·692	117·000
April	116·840	115·577	118·269
May	115·007	115·731	119·850
June	115·615	116·000	120·000
July	116·000	118·231	120·000
August	116·000	120·000	120·000
September	116·000	118·923	120·000
October	116·923	118·000	120·000
November	124·479	117·792	120·000
December	125·000	117·000	120·000
Average	**116·537**	**118·817**	**119·093**

Table 96.—Platinum Metals Consumed in the United States as Reported by Refiners and by Industries, 1924-1925

(From the *Mineral Industry*, 1925)

(In Troy ounces)

Industry	Platinum	Iridium	Palladium	Others	**Total**	Percentage of total
1924						
Chemical	10,507	122	436	403	**11,468**	7
Electrical	16,588	1,269	3,099	.....	**20,956**	13
Dental	11,092	131	10,049	.....	**21,272**	13
Jewellery	87,151	2,204	12,480	746	**102,581**	62
Miscellaneous	5,012	634	2,122	973	**8,741**	5
Total	**130,350**	**4,360**	**28,186**	**2,122**	**165,018**	**100**
1925						
Chemical	12,558	71	383	685	**13,697**	7·75
Electrical	18,845	1,579	3,157	111	**23,692**	13·40
Dental	9,293	95	14,952	.....	**24,340**	13·78
Jewellery	93,293	2,840	10,950	2,280	**109,363**	61·95
Miscellaneous	3,356	220	520	1,414	**5,510**	3·12
Total	**137,345**	**4,805**	**29,962**	**4,490**	**176,602**	**100·00**

Table 97.—*World's Production of Platinum 1912-1925

(In troy ounces, fine platinum)

From *The Mineral Industry* 1925

Year	Australia	Canada (b)	Colombia	Russia	United States (b)	Total
1912	463	497	(d) 27,071	(c) 250,000	1,005	279,036
1913	335	311	(d) 17,635	(c) 210,000	1,034	229,315
1914	185	.....	(d) 16,264	(c) 202,000	1,484	219,933
1915	43	475	(d) 18,749	(c) 104,000	(e) 1,190	134,457
1916	62	1,040	(d) 25,592	(c) 53,000	(e) 2,780	82,474
1917	197	1,036	(d) 26,421	(c) 42,000	(e) 6,280	75,934
1918	461	705	(d) 34,266	(c) 21,000	(e) 9,740	66,172
1919	102	690	(d) 32,236	(c) 25,000	(e) 10,460	68,558
1920	640	4,345	(c) 33,500	9,230	(e) 11,500	59,215
1921	189	5,412	(c) 34,000	5,500	2,899	48,000
1922	61	4,802	(d) 43,574	18,680	1,998	69,115
1923	445	6,810	(d) 40,676	31,700	2,111	81,745
1924	490	9,181	(d) 46,533	(e) 40,000	3,523	100,764
1925	.....	8,692	(e) 45,000	(e) 40,000	4,560	(e) 100,000

(*)Estimated content of fine platinum contained in crude platinum output. There has been a small production in some years from India, Borneo, Japan and other countries, but none of importance. (b)Platinum of domestic source recovered by refiners. (c)Estimated by J. M. Hill, U.S. Geol. Surv. (d)Exports. (e)Estimated.

SILVER

Canada

Production of silver from Canadian ores during 1925 amounted to 20,228,988 fine ounces which at the average price for the year of 69.065 cents per ounce, was valued at $13,971,150 as against 19,736,323 fine ounces valued at $13,180,113, when the average price was 66.781 cents per ounce. This was an increase of 2.4 per cent in quantity and 6 per cent in value over the totals for 1924.

The production in 1925 included (*a*) silver contained in silver and gold bullion 10,219,359 fine ounces or 50.5 per cent of the total for Canada; (*b*) silver contained in blister copper and lead bullion, 6,179,238 fine ounces or 30.5 per cent and (*c*) silver estimated to have been recovered from ores, concentrates, etc., exported 3,830,391 fine ounces or 19 per cent. The corresponding figures for 1924 were (*a*) 10,120,311 fine ounces or 51.3 per cent; (*b*) 5,074,010 fine ounces or 25.6 per cent and (*c*) 4,542,002 fine ounces or 23.1 per cent.

Although no official statistics of the production of silver had been published prior to 1887, the annual reports of the operating companies showed that from 1869 to 1885 the total production amounted to about four million ounces of silver with a probable value of $4,800,000. The producing mines were situated in the Port Arthur district in Ontario. From 1887 to 1893 the production ranged in value between $300,000 and $400,000 and was derived chiefly from Ontario and Quebec. The next three years saw a rapid increase in production due to the development of the silver-lead deposits of British Columbia, and in 1897 a production valued at over $3,000,000 was recorded. From that year until 1905 the production varied between $2,000,000 and $3,500,000 rising rapidly during the next six years to $17,580,455 in 1910, as a result of the discovery of the rich ores of the Cobalt district. Since then there has been a falling-off in quantity, but owing to the higher price of the metal, the value of the annual production increased to a maximum of $20,693,704 in 1918. It will be noticed in the table of production that the output for 1919 though only 50 per cent of that of 1910 or 1911, when the production was at its maximum, was more than equal in value.

Ontario has been the main producer of silver in Canada since 1906, its contribution increasing from 41 per cent of the total for Canada in 1905 to a maximum of 94 per cent in 1911. By 1914 it had fallen to 88.4 per cent and it then gradually decreased each year until 1921 when it stood at 25 per cent. It rose again in 1922 to 48.2 per cent, excluding the corrective figures included in that year. In 1923 it amounted to 56.6 per cent; in 1924 to 57.1 per cent, and in 1925 to 52.2 per cent.

The production of silver from British Columbia was greater in 1925 than in any other year on record and exceeded the output for 1924 by about one-half million ounces. This

province contributed 42.4 per cent of the total Canadian production during the year. The balance of the production, about 5.6 per cent, was made up from small quantities contained in the gold bullion recovered from Nova Scotia and Manitoba gold ores; the silver in pyritic and lead-zinc ores exported from Quebec; the silver estimated as recoverable from the lead ores exported from the Keno Hill district of the Yukon Territory; and the silver associated with the placer gold recovered from the same Territory.

Table 98.—Production of Silver in Canada, 1887-1925

Year	Ounces	Value	Cents per ounce	Year	Ounces	Value	Cents per ounce
		$				$	
1887	355,083	347,271	98·00	1907	12,779,799	8,348,659	65·33
1888	437,232	410,998	94·00	1908	22,106,233	11,686,239	52·86
1889	383,318	358,785	93·60	1909	27,529,473	14,178,504	51·50
1890	400,687	419,118	104·60	1910	32,869,264	17,580,455	53·49
1891	414,523	409,549	98·00	1911	32,559,044	17,355,272	53·30
1892	310,651	272,130	86·00	1912	31,955,560	19,440,165	60·83
1893	428,738	330,128	77·00	1913	31,845,803	19,040,924	59·79
1894	847,697	534,049	63·00	1914	28,449,821	15,593,631	54·81
1895	1,578,275	1,030,209	65·28	1915	26,625,960	13,228,842	49·68
1896	3,205,343	2,149,503	67·06	1916	25,459,741	16,717,121	65·66
1897	5,558,416	3,323,395	59·79	1917	22,221,274	18,091,895	81·417
1898	4,452,333	2,593,929	58·26	1918	21,383,979	20,693,704	96·772
1899	3,411,644	2,032,658	59·58	1919	16,020,657	17,802,474	111·122
1900	4,468,225	2,740,362	61·33	1920	13,330,357	13,450,330	100·900
1901	5,539,192	3,265,354	58·95	1921	13,543,198	8,485,355	62·654
1902	4,291,317	2,238,351	52·16	1922	18,626,439	12,576,758	67·521
1903	3,198,581	1,709,612	53·45	1923	18,601,744	12,067,509	64·873
1904	3,577,526	2,047,095	57·22	1924	19,736,323	13,180,113	66·781
1905	6,000,023	3,621,133	60·35	1925	20,228,988	13,971,150	69·065
1906	8,473,379	5,659,455	66·79				
				Total	493,205,870	318,982,304	

Table 99.—Production of Silver from Canadian Ores,* by Provinces, 1887-1925

Year	Quebec		Ontario		British Columbia		Yukon Territory	
	Fine ounces	Value	Fine ounces	Value	Fine ounces	Value	Fine ounces	Value
		$		$		$		$
1887	146,898	143,666	190,495	186,304	17,690	17,301	.....	.....
1888	149,388	140,425	208,064	195,580	79,780	74,993	.....	.....
1889	148,517	139,012	181,609	169,986	53,192	49,787	.....	.....
1890	171,545	179,436	158,715	166,066	70,427	73,666	.....	.....
1891	185,584	183,357	225,633	222,926	3,306	3,266	.....	.....
1892	191,910	168,113	41,581	36,425	77,160	67,592	.....	.....
1893	164,207	126,439	11,284	8,689	253,247	195,000	.....	.....
1894	101,318	63,830	.....	.....	746,379	470,219	.....	.....
1895	81,753	53,369	.....	.....	1,496,522	976,930	.....	.....
1896	70,000	46,942	.....	.....	3,135,343	2,102,561	.....	.....
1897	80,475	48,116	5,000	2,990	5,472,973	3,272,289	.....	.....
1898	74,932	43,655	85,000	49,521	4,292,401	2,500,753	.....	.....
1899	40,231	23,970	202,000	120,352	2,939,413	1,751,302	230,000	137,034
1900	58,400	35,817	161,650	99,140	3,958,175	2,427,548	290,000	177,857
1901	41,459	24,440	151,400	89,250	5,151,333	3,036,711	195,000	114,953
1902	42,500	22,168	145,000	75,632	3,917,917	2,043,586	185,900	96,985
1903	28,600	15,287	17,777	9,502	2,996,204	1,601,471	156,000	83,362
1904	15,000	8,583	206,875	118,376	3,222,481	1,843,935	133,170	76,201
1905	19,620	11,841	2,451,356	1,479,449	3,439,417	2,075,757	89,630	54,093
1906	17,686	11,813	5,401,766	3,607,894	2,990,262	1,997,226	63,665	42,522
1907	16,000	10,452	9,982,363	6,521,178	2,745,448	1,793,519	35,988	23,510
1908	13,299	7,030	19,398,545	10,254,847	2,631,389	1,391,058	63,000	33,304
1909	13,233	6,815	24,822,099	12,784,126	2,649,141	1,364,387	45,000	23,176
1910	7,593	4,061	30,366,366	16,241,755	2,407,887	1,287,883	87,418	46,756
1911	18,435	9,827	30,540,754	16,279,443	1,887,147	1,005,924	112,708	60,078
1912	9,465	5,758	29,214,025	17,772,352	2,651,002	1,612,737	81,068	49,318
1913	34,573	20,672	28,411,261	16,987,377	3,312,343	1,980,483	87,626	52,392
1914	57,737	31,646	25,139,214	13,779,055	3,159,897	1,731,971	92,973	50,959
1915	63,450	31,524	22,748,699	11,302,419	3,565,852	1,771,658	248,049	123,241
1916	98,610	64,748	21,608,158	14,188,333	3,392,872	2,227,794	360,101	236,446
1917	136,194	110,885	19,301,835	15,714,975	2,655,994	2,162,430	119,605	97,379
1918	178,675	172,907	17,198,737	16,643,562	3,921,336	3,794,755	71,915	69,594
1919	140,926	156,600	12,117,878	13,465,628	3,713,537	4,126,556	27,556	30,621
1920	61,003	61,552	9,907,626	9,996,795	3,327,028	3,356,971	19,190	19,363
1921	38,084	23,861	9,761,607	6,116,037	3,359,357	2,099,133	393,092	246,288
1922	.....	.....	10,811,903	7,390,305	7,159,937	4,828,384	663,493	447,997
1923	33,006	20,412	10,540,913	6,838,226	6,113,327	3,965,899	1,914,438	1,241,953
1924	83,814	55,972	11,272,567	7,527,933	8,153,003	5,444,657	226,755	151,429
1925	214,943	148,451	10,529,131	7,271,944	8,579,458	5,925,403	904,893	624,964
Total	3,049,063	2,434,452	383,518,826	233,624,165	119,681,575	78,453,495	6,898,233	4,411,775

*Does not include small productions from New Brunswick, Alberta, and Manitoba in 1907, from Manitoba from 1918 to 1925, and from Nova Scotia in 1923, 1924 and 1925.

Quebec

During 1925 the production of silver in Quebec was derived chiefly from the lead-zinc ores and to a less extent from pyritic ores that were sent out of the country for treatment in foreign smelters. The total credited to the province for the year under review was 214,943 fine ounces valued at $148,451, the greatest of any year on record.

Ontario

The production of silver in Ontario in 1925 was 10,529,131 fine ounces valued at $7,271,944 as against 11,272,567 fine ounces valued at $7,527,933 in 1924. The total for 1925 included (*a*) 6,079,142 ounces bullion made in the Cobalt district or 57.7 per cent of the total Ontario production; (*b*) 2,813,071 ounces or 26.7 per cent recovered by the smelters of southern Ontario; and (*c*) 383,138 ounces or 3.6 per cent contained in gold bullion, and nuggets sold for exhibition purposes and in products from the nickel refineries; and (*d*) the balance of 1,253,780 ounces or 12.0 per cent was recovered from Ontario ores, slags and matte treated in the United States and Europe. The corresponding figures for the year 1924 were (*a*) 5,577,875 fine ounces or 49.6 per cent; (*b*) 4,309,595 ounces or 38.2 per cent; (*c*) 282,208 ounces or 2.4 per cent and (*d*) 1,102,889 ounces or 9.8 per cent.

As indicated above, practically the whole of Ontario's silver production was derived from the Cobalt ores with small quantities obtained from the products of the nickel refineries and from gold bullion. Recovery during the year from these sources was as follows:—silver contained in gold bullion, 247,838 ounces as against 208,562 ounces in 1924; silver produced by the refineries of the International Nickel Company, and Mond Nickel Company, 134,390 ounces as against 122,889 ounces in 1924.

The following table shows the percentage of production from the Cobalt camp, from the Ontario smelters, and from ores exported to the United States.

Table 100.—Percentage of Silver Production Credited to each Group Treating Ontario Ores, 1917-1925

Group	1917	1918	1919	1920	1921	1922	1923	1924	1925
	%	%	%	%	%	%	%	%	%
Cobalt district	51·1	55·0	48·7	58·6	51·8	74·4	60·8	51·2	60·1*
Ontario smelters	33·9	29·0	36·4	33·7	41·1	19·3	30·5	39·4	26·7
Total for Ontario	85·0	84·0	85·1	92·3	92·9	93·7	91·3	90·6	86·8
Foreign smelters	15·0	16·0	14·9	7·7	7·1	6·3	8·7	9·4	13·2
Total	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**

*Includes a small amount of silver from Ontario gold ores exported.

Manitoba

Silver production in Manitoba was very small in 1925, there being only about 477 ounces recorded as having been recovered from the gold bullion produced by the Manitoba Metals Corporation, Limited. Copper deposits were developed during the war and from 1918 to 1920 shipments of copper ore containing silver were sent to Trail; in the three years, production from this source amounted to about 50,000 ounces. Owing to the drop in the price of copper and to the high cost of freight rates, practically no shipments of copper ores have been made in recent years.

Table 101.—Production of Silver in Manitoba, 1919-1925

Year	Fine ounces	Value
		$
1919	20,700	23,060
1920	15,510	15,649
1921	33	20
1922	20	14
1923	5	3
1924	140	93
1925	477	329

British Columbia

The chief sources of silver in British Columbia have been the silver-lead-zinc ores of the East and West Kootenay districts supplemented by the silver contained in the gold-copper ores of Rossland and the Boundary and Coast districts, with that in the rich ores from the Premier mine near Stewart.

Silver production in 1925 amounted to 8,579,458 fine ounces valued at $5,925,403 as against 8,153,003 fine ounces valued at $5,444,657 fine ounces in 1924. Production in 1925 included (*a*) silver contained in blister copper, 801,809 ounces or 9.3 per cent; (*b*) silver in lead and gold bullion 5,314,072 ounces or 62 per cent; (*c*) silver in lead and zinc ores and concentrates exported 309,065 ounces or 3.6 per cent, and (*d*) silver in gold, silver and copper ores exported, 2,154,512 ounces or 25.1 per cent. Corresponding figures for 1924 were (*a*) 848,142 ounces or 10.4 per cent; (*b*) 4,168,464 ounces or 51.3 per cent; (*c*) 379,254 ounces or 4.6 per cent; (*d*) 2,757,143 ounces or 33.7 per cent.

Yukon Territory

The production of silver from the Yukon Territory in 1925 amounted to 904,893 fine ounces derived chiefly from the silver-lead ores exported. In the mining of the silver in the Keno Hill district, ores mined late in one season are hauled down by tractor and piled on the river banks there to await the spring break-up when they can be taken to the customs smelter in the United States. A concentrator was built in 1925 by the Treadwell-Yukon Company which is of much assistance to small operators in the district who are able to get the returns from their operations earlier, also enabling them to realize on lower grade ore that would not stand the cost of shipping outside to a smelter.

The total quantity of silver obtained from placer gold is decreasing. In 1922 only 12,333 fine ounces were recovered as against 14,831 fine ounces in 1921. In 1923 the yield amounted to 13,476 fine ounces, but in 1924 only 7,853 ounces were recovered; in 1925 the total recovery amounted to 10,759 fine ounces.

The following table gives the percentages of recovery from the several sources during the years 1916 to 1925.

Table 102.—Percentage of the Silver Output in the Yukon won from Lode and Placer Mining, 1916-1925

Year	From lode mining	From placer mining
	%	%
1916	87·0	13·0
1917	66·8	33·2
1918	68·2	31·8
1919	26·0	74·0
1920	14·6	85·4
1921	96·2	3·8
1922	98·2	1·8
1923	99·3	0·7
1924	96·5	3·5
1925	98·9	1·1

Table 103.—Imports into Canada and Exports of Silver, 1923, 1924 and 1925

—	1923	1924	1925
	$	$	$
IMPORTS—			
Silver—			
Bullion in bars and blocks	723,040	665,280	1,025,109
Coins	.....	1,275	61
Sterling	234,047	209,430	210,384
Manufacture of gold and silver—			
Leaf	81,252	69,495	76,364
Sweepings	4,849	5,508	2,282
Manufactures, n.o.p.	125,582	142,008	147,839
Electroplated ware	509,131	604,500	707,726
EXPORTS—			
In ore, concentrates, bullion	11,137,724	12,082,954	12,882,637
Silver coin	1,000	50	2,089

Prices.—During 1925, the monthly average New York price for silver stood at 68.447 cents per fine ounce in January and 68.472 cents in February, declined to 66.899 cents in April and then gradually rose until the high point for the year of 71.570 cents per ounce was reached in September. The average price for the whole year was 69.065 cents.

In order of importance, the chief silver-producing countries in the world are: Mexico, United States, Canada and Peru. In 1923, these accounted for 82.0 per cent of the total world's production.

Table 104.—Monthly Average Prices of Silver, 1923, 1924 and 1925

From the *Engineering and Mining Journal.*

Month	New York (Cents per fine ounce)			London (Pence per standard ounce)		
	1923	1924	1925	1923	1924	1925
January	65·668	63·447	68·447	31·928	33·549	32·197
February	64·313	64·359	68·472	30·875	33·565	32·245
March	67·556	63·957	67·808	32·310	33·483	31·935
April	66·855	64·139	66·899	32·346	33·065	31·372
May	67·043	65·524	67·580	32·611	33·870	31·276
June	64·861	66·690	69·106	31·611	34·758	31·863
July	63·015	67·159	69·442	30·942	34·509	31·954
August	62·793	68·519	70·240	30·952	34·213	32·268
September	64·203	69·350	71·570	31·698	34·832	32·983
October	63·649	70·827	71·106	31·718	35·387	32·972
November	63·818	69·299	69·223	32·774	33·775	32·155
December	64·705	68·096	68·889	33·375	32·620	31·835
Average	**64·873**	**66·781**	**69·065**	**31·929**	**33·969**	**32·088**

Table 105.—World's Production of Silver, 1913 and 1921-1925

From the *Year Book of the American Bureau of Metal Statistics.*

(Fine ounces)

Country	1913	1921	1922	1923	1924	1925
NORTH AMERICA—						
United States	66,801,500	53,052,441	56,240,048	66,163,338	64,221,655	61,377,977
Canada	31,524,708	13,543,198	18,626,439	18,601,744	19,736,323	20,003,970
Mexico	55,486,431	64,465,347	81,076,899	90,810,855	91,437,944	92,885,176
Total North America	**153,812,639**	**131,060,986**	**155,943,386**	**175,575,937**	**175,395,922**	**174,267,123**
Central America and West Indies	**2,135,641**	**2,000,000**	**2,500,000**	**3,000,000**	**3,000,000**	**3,000,000**
SOUTH AMERICA—						
Argentina	35,271	25,000	25,000	.....	.....	.....
Bolivia and Chile	3,932,594	5,000,000	8,082,700	8,550,317	7,892,469	8,500,000
Brazil	28,364	33,000	25,720	28,613	28,613	30,000*
Colombia	587,683	500,000	3,150	3,150	2,900	3,000*
Ecuador	22,642	75,000	75,000	75,000	70,000	70,000*
Peru	9,617,094	9,853,910	13,169,765	18,654,362	18,800,000	21,253,000
Other countries	51,111	13,700	16,850	11,200	11,400	11,000*
Total South America	**14,274,759**	**15,500,610**	**21,398,185**	**27,322,642**	**26,805,382**	**29,867,000**
EUROPE—						
Austria-Hungary	2,104,107	15,000	8,583	14,178	28,678	.....
France	1,005,266	392,873	347,220	213,025	147,858	.....
Czecho-Slovakia	.....	703,056	875,187	702,317	732,538	.....
Great Britain	128,543	12,229	29,885	34,625	33,688	.....
Germany (including Silesia)	6,182,445	3,387,420	3,615,525	3,883,945	4,787,521	.....
Greece	803,750	192,900	184,123	195,000	160,750	.....
Italy	423,888	219,392	215,405	385,806	427,595	.....
Norway	300,602	202,115	205,760	298,995	424,380	.....
Rumania	205,822	96,450	62,821	64,300	72,209	.....
Russia	.....	40,000	150,000	192,900	200,000	.....
Serbia	28,758	15,946	26,813	24,562	31,250	.....
Spain and Portugal	4,031,417	2,679,349	2,778,210	2,842,060	2,879,965	.....
Sweden	33,339	13,342	9,645	15,046	60,667	.....
Turkey	1,509,133	100,000	8,037	8,037	219,906	.....
Total Europe	**16,757,670**	**8,070,072**	**8,517,214**	**8,874,796**	**10,207,005**	**10,500,000***
OCEANIA—						
New South Wales	14,504,889	4,241,890	9,912,927	12,067,954	9,256,671	.....
Queensland	604,979	195,328	273,036	469,302	276,651	.....
Victoria	16,195	5,204	6,978	6,304	4,216	.....
New Zealand	975,616	454,000	376,000	527,491	470,472	.....
Tasmania	765,187	348,658	794,585	638,602	642,158	.....
Other states	190,680	117,600	121,208	109,048	89,146	.....
Total Oceania	**17,057,546**	**5,362,680**	**11,484,734**	**13,818,701**	**10,739,314**	**11,100,000**
ASIA—						
India	125,209	3,587,587	4,244,304	4,863,066	5,309,203	5,200,000
China	.....	40,000	100,000	100,000	110,000	100,000*
Chosen (Korea)	15,048	2,958	10,835	39,281	50,000	50,000*
Dutch East Indies	465,980	1,021,994	1,109,657	1,408,973	2,083,256	2,000,000*
Japan	4,700,390	4,185,501	3,886,301	3,597,264	3,542,255	4,022,000
Other countries	51,763	29,062	23,890	23,437	11,008	10,000*
Total Asia	**5,358,390**	**8,868,005**	**9,374,987**	**10,032,021**	**11,145,722**	**11,382,000**
AFRICA—						
Algeria	.....	.....	.....	.....	.....	.....
Belgian Congo	1,454	5,819	6,559	8,745	.....	.....
Rhodesia	121,537	161,383	179,399	161,492	401,277	157,971
Transvaal, Cape Colony and Natal	952,928	830,329	1,115,676	1,373,930	1,396,943	1,300,000
Other countries	.....	13,362	13,362	1,000	733	1,000*
Total Africa	**1,075,919**	**1,010,893**	**1,314,996**	**1,545,167**	**1,798,953**	**1,458,971**
Grand Total	**210,471,964**	**171,873,246**	**210,533,502**	**240,169,264**	**239,052,298**	**241,575,094**

[1]Note—The basis of this table is the information published by the Director of the Mint. However revisions and additions have been made so that the totals do not agree with the Mint figures. For 1925 the figures are based on actual reports or reliable estimates, except where the asterisk is used indicating that the figure is conjectural.

(2) Dominion Bureau of Statistics reports the Canadian production of silver as follows: 1913—31,845,803 fine ounces: 1921—13, 43,198 fine ounces: 1922—18,626,439 fine ounces: 1923—18,601,744 fine ounces: 1924—19,736,323 fine ounces, and 1925—20,228,988 fine ounces.

TIN

The occurrence of tin ore has been reported from several localities, one of the most important, perhaps, being the discovery of cassiterite, near New Ross, Lunenburg county, N.S. Reports upon it may be found in the Summary Reports of the Geological Survey Branch of the Department of Mines for 1907, 1908, 1910, 1911 and 1912.

Cassiterite occurs in a few scattered crystals in pegmatite dykes in the drainage basin of McDougal creek, Lardeau division, B.C., and it has been found also in black sands in the Atlin district, B.C., and in the alluvial sands of Dublin gulch, Mayo district, Y.T. Small amounts of tin are also contained in the ores of the Sullivan mine of British Columbia.

The occurrence of tin has been noted in some bodies of sulphide minerals found in the vicinity of West Hawk and Star lakes, near the boundary line between Ontario and Manitoba. Attention is called to these occurrences not on account of their commercial importance, but for the interesting manner of occurrence and their mineral associations.

Ores of tin were formerly imported from South America and reduced in Canada by the Electro Tin Products Company of Brantford, Ontario. The plant consisted of roasting furnaces, electric smelting and slag-cleaning furnaces, but it was only operated for a short time and has been out of commission now for some years.

Table 106.—Imports of Tin into Canada 1923, 1924 and 1925

Item	1923		1924		1925	
	Pounds	Value	Pound	Value	Pounds	Value
		$		$		$
Tin in blocks, pigs and bars	4,220,100	1,746,720	4,003,600	1,971,035	4,396,100	2,459,830
Tin foil	1,296,143	377,073	1,318,168	402,370	558,997	222,657
Strip waste	12,577	370	49,973	74	1,000	38
Collapsible tubes	.....	18,880	.....	19,844	.....	27,500
Dairy tin	.....	25,098	.....	38,246	.....	64,990
Tinware, etc. (a)	.....	536,488	.....	626,846	.....	593,079
Tin cans and containers	.....	584,378	.....	545,646	.....	678,718
Tin crystals or bichloride of tin	138,238	19,790	90,749	23,060	149,301	46,671
Total	.....	**3,308,797**	.....	**3,627,121**	.....	**4,094,983**

(a) Tinware, plain, japanned or lithographed, and all manufactures of tin, n.e.s.

ZINC

The production of zinc from Canadian ores during 1925 totalled 109,268,511 pounds which at the average St. Louis price for the year of 7.622 cents per pound was worth $8,328,446 as against 98,909,077 pounds valued at $6,274,791 in 1924 when the average price was 6.344 cents per pound. The increase amounted to 10.4 per cent in quantity and 32.7 per cent in value.

In 1925, production included 76,924,000 pounds of refined zinc produced at Trail, B.C.; 9,936,000 pounds estimated as recoverable from the zinc-lead ores exported from Quebec; 22,228,966 pounds estimated as recoverable from ores and concentrates shipped from British Columbia; and a small amount estimated as recoverable from zinc concentrates shipped from the lead mine at Galetta, Ontario. The major part of the total Canadian production was credited to the Sullivan mine in British Columbia, owned and operated by the Consolidated Mining and Smelting Company at Trail, B.C. Ores on this property, although known for some time, are very complex and several years of research were spent in the development of a satisfactory process for the separation of the lead and the zinc. When this

was accomplished, the Sullivan concentrator at Kimberley was built. Progress has been highly satisfactory, and the production of the concentrator has exceeded expectations. At first the output was in excess of the refinery capacity of the Trail smelter and large quantities of zinc concentrates had to be exported for treatment, but now the Trail smelter and refinery capacity have been considerably enlarged so that the zinc concentrates exported from British Columbia during 1925 were reduced to only about two-thirds the tonnage exported in 1924.

The Stirling zinc mine situated on Cape Breton Island is being developed by a large American company. The silver-lead-zinc property at Notre Dame des Anges, Quebec, is also a source of some commercial zinc. Old dumps have been worked over and concentrates have been made and exported with the result that during 1925 recoveries from this district totalled about 10 million pounds. This was an increase of about 7 million pounds over the amount recorded in 1924.

Table 107.—Production of Zinc in Canada, 1911-1925

Year	*Pounds	Total Value	Average price per pound
		$	Cents
1911	1,877,479	108,105	5·758
1912	4,283,760	297,421	6·943
1913	5,640,195	318,558	5·648
1914	7,246,063	377,737	5·213
1915	9,771,651	1,292,789	13·230
1916	23,364,760	2,991,623	12·804
1917	29,668,764	2,640,817	8·901
1918	35,083,175	2,862,436	8·159
1919	32,194,707	2,362,448	7·338
1920	39,863,912	3,057,961	7·671
1921	53,089,356	2,471,310	4·655
1922	56,290,000	3,217,536	5·716
1923	60,416,240	3,991,701	6·607
1924	98,909,077	6,274,791	6·344
1925	109,268,511	8,328,446	7·622

*Estimated smelter recoveries, including for years 1916 to 1925 the actual zinc recovered at Trail, B.C.

Table 108.—Production of Refined Zinc at Trail, B.C., 1916-1925

Year	Short tons
1916	2,974
1917	9,985
1918	12,574
1919	12,326
1920	18,517
1921	26,494
1922	28,145
1923	30,025
1924	27,444
1925	38,462

Imports and Exports.—In 1920, imports of zinc and zinc products into Canada reached a total value of $2,555,166; in the following year the value dropped to $1,309,272 but in 1922 it rose again to $1,839,373. In 1923, the value of zinc and its products imported amounted to $1,716,741; in 1924 it was slightly less at $1,656,088 and in 1925 the total value stood at $1,686,071.

Exports of zinc in ore and as spelter in 1925 were valued at $5,559,030 as against $4,145,786 in 1924 and a total of $2,519,073 in 1923.

Table 109.—Imports into Canada and Exports of Zinc and Brass, 1923, 1924 and 1925

—	1923		1924		1925	
	Pounds	Value	Pounds	Value	Pounds	Value
IMPORTS		$		$		$
Zinc and Zinc Products—						
Zinc, in blocks, pigs and sheets	3,201,082	288,128	3,073,644	259,847	4,322,335	407,236
Zinc, as spelter	685,356	54,408	1,230,251	84,486	1,265,510	100,736
Zinc white (80% Zn)	18,976,437	1,206,560	16,264,059	1,063,370	13,301,222	923,755
Zinc dust (90% Zn)	394,378	41,167	359,219	30,668	315,440	28,664
Zinc, sulphate and chloride of (44% Zn)	661,630	21,991	941,039	41,153	1,070,595	47,450
Zinc, manufactures of	.....	104,487	.....	176,564	.....	178,230
Total	.....	**1,716,741**	.....	**1,656,088**	.....	**1,686,071**
Brass and Brass Products—						
Brass, in blocks, pigs and ingots (30% Zn)	125,500	17,418	313,200	38,291	267,000	30,461
Brass, old and scrap (30% Zn)	1,724,600	177,198	3,002,400	272,307	3,604,900	344,303
Brass, tubing (30% Zn)	1,714,819	474,279	1,699,613	396,074	1,966,480	485,961
Brass, plain wire (30% Zn)	495,444	132,635	424,525	99,332	366,032	87,724
Brass, bars and rods	1,260,700	235,003	727,800	115,231	685,300	131,182
Brass, strips, sheets or plates	1,588,100	330,014	815,100	162,493	948,400	155,089
Brass, wire cloth, n.o.p.	.....	246,126	.....	154,796	.....	125,752
Brass, cup for manufacture of shells	.....	125,417	.....	119,993	.....	106,373
Brass, caps for electric batteries	.....	5,097	.....	12,870	.....	16,522
Brass, hand-pumps	.....	21,394	.....	16,970	.....	15,739
Brass, nails, tacks, etc.	.....	2,248	.....	3,467	.....	4,503
Brass and copper rivets, burrs and washers	.....	24,203	.....	26,634	.....	45,334
Brass, valves	.....	226,485	.....	159,187	.....	206,540
Brass, other manufactures, n.o.p.	.....	2,075,433	.....	1,828,039	.....	2,194,641
Carburettors of brass	.....	344,188	.....	237,482	.....	252,521
Total	.....	**4,437,138**	.....	**3,643,166**	.....	**4,202,645**
EXPORTS	Tons		Tons		Tons	
Zinc—						
Ore	531	5,310	63,931	1,626,031	48,340	1,778,019
Spelter	19,258	2,513,763	20,016	2,519,755	24,913	3,781,011
Total	.....	**2,519,073**	.....	**4,145,786**	.....	**5,559,030**
	Pounds		Pounds		Pounds	
Brass—						
Old and scrap	6,760,100	563,730	6,000,200	429,704	9,819,600	838,908
Rods, sheets and tubing	1,000	302	5,800	1,134	49,400	10,663
Valves	.....	190,060	.....	177,883	.....	160,727
Mfrs. of brass, n.o.p.	.....	49,633	.....	54,837	.....	114,676
Total	.....	**803,725**	.....	**663,558**	.....	**1,124,974**

Prices.—The price of zinc on the St. Louis market in 1925 averaged 7.622 cents per pound as against 6.344 cents in 1924. The highest quotation during 1925 was in the month of November when 8.614 cents was reached, and the lowest was in the month of May when the figure stood at 6.951 cents. The Canadian market is centred in Montreal and Toronto to which points the Consolidated Mining and Smelting Company is the most important shipper. The average yearly Montreal quotation for zinc was 9.06 cents per pound and the fluctuations correspond closely to price changes in the United States markets.

Table 110.—Monthly Average Prices of Zinc (Spelter), 1923, 1924 and 1925

Month	(a) Montreal (In cents per pound)			(b) St. Louis (In cents per pound)			Ordinary Brands, in London, (Per long ton)		
	1923	1924	1925	1923	1924	1925	1923	1924	1925
							£ s. d.	£ s. d.	£ s. d.
January	8·544	8·024	9·22	6·815	6·426	7·738	35 14 8	34 15 3	37 18 4
February	8·840	8·38	8·93	7·152	6·756	7·480	35 12 3	36 10 4	36 10 6
March	9·412	8·162	8·75	7·706	6·488	7·319	36 14 5	35 5 11	35 14 9
April	8·879	7·72	8·44	7·197	6·121	6·985	34 5 6	32 11 9	34 12 10
May	8·013	7·33	8·40	6·625	5·793	6·951	31 1 2	30 12 11	34 4 5
June	7·650	7·30	8·45	6·031	5·792	6·990	29 10 11	31 15 9	34 2 11
July	7·740	7·40	8·65	6·089	5·898	7·206	29 6 8	32 3 10	34 17 10
August	8·086	7·64	9·01	6·325	6·175	7·576	32 7 8	32 10 10	36 13 9
September	8·190	7·65	9·18	6·438	6·181	7·753	33 9 4	32 18 6	37 8 8
October	7·992	7·79	9·71	6·293	6·324	8·282	32 19 11	33 10 3	39 17 8
November	8·014	8·25	10·10	6·347	6·796	8·614	32 18 11	35 0 5	39 0 9
December	7·850	8·84	9·91	6·260	7·374	8·565	32 12 2	36 18 8	38 6 6
Average	**8·267**	**7·873**	**9·06**	**6·687**	**6·344**	**7·622**	**33 1 2**	**33 14 7**	**36 12 6**

(a) Supplied by Consolidated Mining and Smelting Co. of Canada, Trail, B.C.
(b) Quoted from the *Engineering and Mining Journal.*

Table 111.—World's Production of Zinc, 1913, and 1921-1925 (a)

(From the 1925 *Year Book of the American Bureau of Metal Statistics.*)

(Short tons)

Country	1913	1921	1922	1923	1924	1925
United States	352,952	215,614	373,678	531,202	535,846	590,928
Mexico	.....	.....	.....	.....	.....	1,406
Canada[1]	.....	26,494	27,782	30,025	27,443	38,481
Belgium	225,050	72,917	123,777	162,082	178,242	189,473
France	74,815	26,640	43,779	54,381	63,614	77,161
Germany (including Silesia)	307,238	99,207	121,705	127,892	131,513	172,790
Great Britain	73,000	6,515	20,529	35,033	43,098	42,726
Italy	.....	427	2,901	4,060	6,569	7,098
Austria-Hungary	23,921	.....	.....	.....	661	.....
Jugo-Slavia and Czecho-Slovakia	.....	6,613	9,920	11,019	9,946	6,283
Netherlands	26,804	7,000	14,327	18,126	20,051	23,277
Norway	10,234	2,205	2,039	4,170	5,538	6,393
Poland (excluding Silesia)	8,398	7,745	10,031	13,546	16,986	17,850
Soviet Union	.....	.....	.....	.....	661	1,653
Spain	3,650	7,427	6,910	12,039	14,084	15,983
Sweden	2,204	3,858	1,757	1,420	3,881	5,181
Australia	4,614	1,883	26,339	46,091	52,205	51,280
Japan	992	11,435	13,806	15,190	15,432	15,542
French Indo-China	.....	.....	.....	.....	143	1,323
Total	**1,113,872**	**496,040**	**799,280**	**1,066,276**	**1,125,252**	**1,264,828**

[1]Dominion Bureau of Statistics reports the Canadian production of Zinc in Canada as follows: 1913—2,820 tons; 1921—26,545 tons; 1922—28,145 tons; 1923—30,208 tons; 1924—49,455 tons; 1925—54,634 tons.
(a) Slab zinc produced in the several countries, unallocated according to the origin of the ore.

NON-METALLICS

ABRASIVES

Corundum.—No production of corundum in Canada was reported during the year 1925. Corundum is found in an area embracing several townships in Renfrew and Hastings counties in the province of Ontario. The industry made its appearance there in 1900, production reaching a maximum of 2,914 tons in 1906. From 1907 to 1913, although the yearly production was smaller, it remained fairly constant. In August, 1918, operations were indefinitely suspended, but during the years 1919, 1920 and 1921 old tailings were treated for the recovery of grain corundum. In 1921, grain corundum amounting to 407 tons valued at $55,965, was exported to the United States, but no shipments have been reported since that time.

Table 112.—Production of Corundum in Canada, 1900-1925

(Short tons)

Year	Corundum-bearing rock treated	Grain corundum graded	Per cent recovery	Shipments of grain corundum				Average price in cents per pound
				Sold in Canada	Exported	Total shipments	Total value	
	Tons	Tons	%	Tons	Tons	Tons	$	
1900	.....	60	.....	3	.....	3	300	5·00
1901	4,134	434	10·7	85	302	387	46,415	5·97
1902	7,996	805	10·1	106	662	768	84,465	5·49
1903	(a) 8,877	839	9·5	85	618	703	77,510	5·51
1904	28,187	1,654	5·9	116	877	993	109,545	5·51
1905	23,571	1,681	7·1	140	1,504	1,644	149,153	4·48
1906	45,719	2,914	6·4	162	2,112	2,274	204,973	4·50
1907	60,532	2,682	4·4	164	1,728	1,892	177,922	4·70
1908	2,678	106	4·0	99	990	1,089	100,398	4·60
1909	35,894	1,579	4·4	129	1,362	1,491	162,492	5·45
1910	37,183	1,686	4·5	106	1,764	1,870	198,680	5·31
1911	41,975	1,641	3·9	92	1,280	1,472	161,873	5·50
1912	36,879	1,620	4·4	63	1,897	1,960	239,091	6·10
1913	12,290	763	6·2	23	1,154	1,177	137,036	5·82
1914	12,111	695	5·7	14	534	548	72,176	6·59
1915	1,724	116	6·7	21	241	262	33,138	6·33
1916	1,864	67	3·6	8	59	67	10,307	7·65
1917	4,659	188	4·0	16	172	188	32,153	8·55
1918	3,184	137	4·3	.....	137	137	26,112	9·90
1919	1,300	26	2·0	.....	.....	.....	.....	.....
1920	(b) 13,025	322	2·5	20	176	196	24,547	6·25
1921	(b) 11,256	407	3·6	.....	403	403	55,965	6·94
1922-1925	.....	.....	.....	.....	.....	.....	.....	.....
Total	**395,138**	**20,422**	.....	**1,452**	**18,072**	**19,524**	**2,194,251**	.....

(a) In addition to this amount which was milled in Canada, 267 tons of ore was mined and shipped to the United States for treatment there.
(b) Tailings only.

Garnets.—A deposit of garnets in Ashby township Ontario, was operated during 1923 and 1,250 tons of garnet concentrates and crude garnets were shipped to Niagara Falls, New York, for use as an abrasive material. In 1924, a shipment of 360 tons of garnets was made but there was no production of this commodity in 1925.

Grinding Pebbles.—Production of grinding pebbles in Canada during 1925 totalled 105 tons valued at $945. These pebbles were gathered along the shore of Lake Superior near Jackfish, Ontario.

Grindstones, Pulpstones and Scythestones.—The production of grindstones, pulpstones and scythestones in Canada in 1925 amounted to 2,562 tons valued at $124,165 as compared with the 1924 production of 2,691 tons valued at $130,824. Of the year's shipments, Nova Scotia contributed 439 tons valued at $16,723; the production in New Brunswick amounted to 1,642 tons valued at $79,661, and British Columbia reported 481 tons valued at $27,781.

Table 113.—Production of Grindstones, Pulpstones and Scythestones, in Canada, 1923, 1924 and 1925

Province	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
Nova Scotia	256	7,906	338	12,525	439	16,723
New Brunswick	1,758	72,177	2,113	99,299	1,642	79,661
British Columbia	.....	.....	240	19,000	481	27,781
Total	**2,014**	**80,083**	**2,691**	**130,824**	**2,562**	**124,165**

Table 114.—Production of Grindstones, etc., in Canada, 1886-1925

Year	Tons	Value	Year	Tons	Value
		$			$
1886	4,020	46,545	1906	5,363	59,814
1887	5,292	64,008	1907	5,414	60,376
1888	5,764	51,129	1908	3,843	48,128
1889	3,404	30,863	1909	4,275	54,664
1890	4,884	42,340	1910	3,973	47,196
1891	4,479	42,587	1911	4,566	52,942
1892	5,283	51,187	1912	4,412	52,090
1893	4,600	38,379	1913	4,837	51,375
1894	3,757	32,717	1914	3,976	54,504
1895	3,475	31,932	1915	2,580	35,768
1896	3,713	32,310	1916	3,478	52,782
1897	4,572	42,340	1917	2,523	45,754
1898	4,935	44,775	1918	3,072	83,005
1899	4,511	43,265	1919	2,020	60,516
1900	5,539	53,450	1920	2,444	88,136
1901	4,581	45,690	1921	1,281	64,067
1902	4,633	44,118	1922	1,005	43,742
1903	5,538	48,302	1923	2,014	80,083
1904	4,649	42,782	1924	2,691	130,824
1905	5,540	62,375	1925	2,562	124,165
			Total	**159,498**	**2,181,975**

Tripolite.—There was no production of tripolite reported in 1925, but in 1924, shipments amounting to 33 tons valued at $838 were made. The 1923 production amounted to 130 tons worth $3,250.

Tripolite is a silicious material closely related to quartz and is used extensively as an abrasive. It is usually given a preliminary calcine in rotary furnaces before shipment. The entire Canadian production is derived from a deposit of this commodity at Silica Lake, Colchester county, Nova Scotia.

Table 115.—Production of Tripolite in Canada, 1896-1925

Year	Tons	Value	Year	Tons	Value	Year	Tons	Value
		$			$			$
1896	644	9,960	1906	.....	.....	1916	620	12,139
1897	15	150	1907	30	225	1917	600	18,000
1898	1,017	16,660	1908	30	195	1918	500	12,500
1899	1,000	15,000	1909	.....	.....	1919	565	11,300
1900	336	1,950	1910	22	134	1920	260	8,600
1901	850	15,300	1911	20	122	1921	341	11,268
1902	1,052	16,470	1912	38	230	1922	219	5,781
1903	835	16,700	1913	620	12,138	1923	130	3,250
1904	320	6,400	1914	650	13,000	1924	33	838
1905	300	3,600	1915	317	12,119	1925	.....	.....
						Total	**11,364**	**224,629**

Volcanic Ash.—A deposit of volcanic ash near Waldeck, Saskatchewan, was operated in 1925 and 160 tons worth $1,380 were shipped. In 1924, the production was 245 tons worth $1,103. This material is used as a base in the manufacture of cleansers.

Imports and Exports.—Imports into Canada of grindstones, burrstones, emery and other abrasive materials amounted in value to $2,306,122 in 1925. Exports during the same year were valued at $3,073,356; the greater part of this sum represented sales of the artificial abrasive, carborundum. Grindstones and stone for the manufacture of grindstones exported, were valued at $62,223; natural abrasives, $464; and artificial abrasives, made up into wheels, stones, etc., totalled $32,030 in value.

Table 116.—Imports into Canada and Exports of Abrasives, 1923, 1924 and 1925

—	1923		1924		1925	
	Quantity	Value	Quantity	Value	Quantity	Value
		$		$		$
IMPORTS—						
Grindstones	.....	482,340	.....	593,670	.....	661,352
Burrstones in blocks, etc. ..... No.	519	6,908	145	791	5	584
Emery in bulk, crushed or ground	.....	57,267	.....	53,208	.....	223,598
Emery and carborundum wheels and manufactures	.....	151,065	.....	76,971	.....	258,207
Pumice and pumice stone ground	.....	28,222	.....	28,127	.....	27,581
Iron sand or globules for polishing and sawing	.....	20,855	.....	17,985	.....	11,702
Sandpaper, emery paper, etc	.....	293,965	.....	279,586	.....	305,042
Artificial abrasives	.....	243,408	.....	125,303	.....	123,651
Diamond dust or bort and black diamonds for borers	.....	244,252	.....	399,735	.....	694,405
Total	.....	**1,528,282**	.....	**1,575,376**	.....	**2,306,122**
EXPORTS—						
Grindstones, manufactured	.....	37,101	.....	49,630	.....	61,429
Stone for the manufacture of grindstones ..... Tons	170	1,190	120	1,080	93	794
Abrasives—						
Natural, n.o.p. ..... Cwt.	47,710	115,342	5,756	10,321	464	464
Artificial, crude, including carborundum ..... Cwt	887,343	2,819,558	791,863	2,591,310	955,184	2,978,639
Artificial, made up into wheels, stones, etc	.....	27,127	.....	13,264	.....	32,030
Total	.....	**3,000,318**	.....	**2,665,605**	.....	**3,073,356**

ACTINOLITE

Production of actinolite in Canada has been confined to Elzevir and Kaladar townships in Hastings and Addington counties, Ontario; the centre of the industry being at Actinolite. This material which is calcium-magnesium-iron silicate, is used in the manufacture of coal-tar roofing compounds.

Shipments to the United States from milled stock on hand during 1925, amounted to 40 tons valued at $500 as compared with 90 tons worth $1,225 in 1924.

Table 117.—Production of Actinolite in Canada, 1897-1925

Year	Tons	Value	Year	Tons	Value
		$			$
1897	205	1,845	1915	220	2,420
1898–1900	.....	.....	1916	250	2,750
1901	521	3,126	1917	120	1,320
1902	550	4,400	1918	228	2,508
1903	550	3,108	1919	80	880
1904–1909	.....	.....	1920	100	1,160
1910	30	330	1921	78	975
1911	67	736	1922	50	575
1912	92	1,000	1923	53	583
1913	66	720	1924	90	1,225
1914	119	1,304	1925	40	500
			Total	**3,509**	**31,465**

ASBESTOS

A new high record was established in the Canadian production of asbestos in 1925. Total shipments for the year were 290,389 short tons, valued at $8,988,360, as compared with 225,744 tons at $6,710,830 in 1924. The average price per ton received by the operators was $30.95, while in 1924 receipts averaged $29.73.

Asbestos rock mined and raised during the year amounted to 4,121,258 tons. In the same period the mills handled 3,386,752 tons or 82 per cent of the tonnage raised; the remainder consisted of waste rock and was sent directly to the dumps.

Exports of asbestos (including sand and waste) in 1925, totalled 258,017 tons, or 53,198 tons in excess of the quantity exported in 1924. Shipments to Great Britain amounted to 8,709 tons, to the United States 209,879 tons, and to Germany, 11,120 tons. Exports of asbestos to Australia, Belgium, Italy and the Netherlands increased materially.

Sales of Rhodesian and South African asbestos in 1925 were considerably greater than in the previous year. The Russian output also increased, while the Cyprus production remained at the same level as in 1924. Canada produces about 85 per cent of the total world's supply of asbestos.

Table 118.—Production of Asbestos in Canda, 1880-1925

Year	Short tons	Value	Year	Short tons	Value
		$			$
1880*	380	24,700	1904	48,465	1,226,352
1881*	540	35,100	1905	68,263	1,503,259
1882*	810	52,650	1906	82,185	2,060,143
1883*	955	68,750	1907	90,426	2,505,042
1884*	1,141	75,097	1908	90,773	2,573,335
1885*	2,440	142,441	1909	87,300	2,301,775
1886*	3,458	206,251	1910	102,215	2,573,603
1887	4,619	226,976	1911	127,414	2,943,108
1888	4,404	255,007	1912	136,301	3,137,279
1889	6,113	426,554	1913	161,086	3,849,925
1890	9,860	1,260,240	1914	117,573	2,909,806
1891	9,279	999,878	1915	136,842	3,574,985
1892	6,082	390,462	1916	154,149	5,228,869
1893	6,331	310,156	1917	153,781	7,230,383
1894	7,630	420,825	1918	158,259	8,970,797
1895	8,756	368,175	1919	159,236	10,975,369
1896	12,250	429,856	1920	199,573	14,792,201
1897	30,442	445,368	1921	92,761	4,906,230
1898	23,785	491,197	1922	163,706	5,552,723
1899	25,536	485,849	1923	231,482	7,522,506
1900	29,141	748,431	1924	225,744	6,710,830
1901	40,217	1,259,759	1925	290,389	8,988,360
1902	40,416	1,148,319			
1903	41,677	929,757	**Total**	**3,394,185**	**123,238,678**

*Exports.

Table 119.—Output and Sales of Asbestos in Canada, 1924 and 1925

Classification	1924				1925			
	Total output	Sold or shipped			Total output	Sold or shipped		
		Quantity	Total sales value at mill	Average value per ton		Quantity	Total sales value at mill	Average value per ton
	Tons	Tons	$	$	Tons	Tons	$	$
Crude No. 1	995	980	403,304	411·54	806	1,044	381,926	365·13
Crude No. 2	2,805	3,808	762,166	200·15	2,701	3,777	778,895	206·22
Other crudes	190	71	12,080	170·14	260	348	49,030	140·90
Spinning stocks	8,623	10,205	1,112,796	109·04	13,509	16,070	1,710,379	106·43
Shingle stocks	15,734	19,292	903,775	46·85	25,201	30,010	1,522,980	50·78
Mill board and paper stocks	73,282	70,387	2,208,698	31·38	94,350	93,937	2,915,046	31·03
Fillers, floats and other short fibres	124,840	121,001	1,308,011	10·81	128,382	128,338	1,618,290	12·61
Sand, gravel and crushed rock					16,409	16,865	10,814	0·64
Total	**226,469**	**225,744**	**6,710,830**	**29·73**	**281,718**	**290,389**	**8,988,360**	**30·95**

Table 120.—Imports of Asbestos into Canada, 1923, 1924 and 1925

—	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
Asbestos in any form other than crude, and all manufactures of, n.o.p.	.....	697,319	.....	441,300	.....	350,600
Asbestos packing	84	78,009	111	98,418	111	98,169
Total	.....	**775,328**	.....	**539,718**	.....	**448,769**

Table 121.—Exports of Canadian Asbestos by Countries of Destination 1923, 1924 and 1925

Commodity and Destination	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
ASBESTOS—						
Great Britain	3,459	215,934	6,614	374,680	6,846	608,774
United States	109,025	5,596,569	72,233	3,904,161	94,292	4,979,303
Australia	180	9,900	473	24,130	1,360	94,272
Austria	400	30,000	.....	.....	.....	.....
Belgium	7,223	411,250	2,798	150,065	6,002	370,530
France	5,016	409,410	5,640	452,151	5,484	428,195
Germany	6,289	575,211	9,153	785,703	8,947	737,802
Italy	505	52,882	2,439	151,778	3,730	260,263
Japan	4,936	287,521	9,222	358,596	7,127	273,312
Netherlands	353	28,275	1,068	88,580	2,707	212,855
Spain	.....	.....	.....	.....	130	7,800
Other countries	165	11,825	110	7,075	125	7,000
Total	**137,551**	**7,628,777**	**109,730**	**6,297,819**	**136,759**	**8,090,106**
SAND AND WASTE—						
Great Britain	1,174	18,925	3,100	52,983	1,863	34,490
United States	75,540	892,360	89,652	1,124,031	115,587	1,490,341
Other countries	1,237	19,060	2,337	42,056	3,817	67,455
Total	**77,951**	**931,245**	**95,689**	**1,220,070**	**121,267**	**1,592,286**
ASBESTOS MANUFACTURES INCLUDING ASBESTOS ROOFING—						
Great Britain	.....	2,054	.....	1,007	.....	272
United States	.....	61,160	.....	30,272	.....	32,443
British South Africa	.....	.....	.....	.....	.....	5,855
France	.....	2,631	.....	32	.....	205
New Zealand	.....	193	.....	125	.....	31
Other countries	.....	6,460	.....	12,696	.....	16,766
Total	.....	**72,498**	.....	**44,132**	.....	**55,572**

Table 122.—World's Production of Asbestos, 1913, and 1921-1925

(Long tons)

Country	1913	1921	1922	1923	1924	1925
Canada[1]	118,361	82,822	146,166	208,680	201,557	259,275
Southern Rhodesia[2]	259	17,437	12,722	18,182	23,340	30,609
Union of South Africa[2]	859	4,810	3,919	7,312	6,459	9,078
Australia[2]	.....	1,182	741	217	74	51
Cyprus[2]	(a) 1,168	(a) 897	2,285	2,151	3,903	3,221
India[2]	.....	316	242	247	125	*
China[2]	.....	13	(a) 194	(a) 126	125	213
Finland	.....	750	772	774	1,207	1,700
Italy[4]	172	413	492	1,513	2,125	2,071
Russia[2]	17,218	7,080	5,065	4,801	(a) 8,197	10,000
Spain[2]	.....	19	5	*	*	*
United States[3]	982	742	60	202	(a) 268	1,123
France[2]	.....	500	600	653	*	*
Japan	.....	*	919	369	277	*
Total	**139,019**	**116,981**	**174,182**	**243,227**	**247,657**	**317,401**

*Data not available.

Source—

[1]Dominion Bureau of Statistics, Canada.

[2]Imperial Mineral Resources Bureau (to 1921). Later figures from official reports of the different countries.

[3]Mineral Resources of United States, 1925.

[4]Asbestos.

(a) Exports.

BARYTES

The production of barytes in 1925 decreased quite considerably from the 1924 output. In 1925 the production amounted to 95 tons valued at $2,259 as compared with 151 tons valued at $3,308 in 1924. The total production came from the Johnston mine, Lake Ainslie, Inverness county, Nova Scotia, and was shipped for use in paint manufacture.

Table 123.—Production of Barytes in Canada, 1885-1925

Year	Tons	Value	Year	Tons	Value	Year	Tons	Value
		$			$			$
1885	300	1,500	1899	720	4,402	1913	641	5,410
1886	3,864	19,270	1900	1,337	7,605	1914	612	6,169
1887	400	2,400	1901	653	3,842	1915	550	6,875
1888	1,100	3,850	1902	1,096	3,957	1916	1,368	19,393
1889	.....	.....	1903	1,163	3,931	1917	3,490	54,027
1890	1,842	7,543	1904	1,382	3,702	1918	640	10,165
1891	.....	.....	1905	3,360	7,500	1919	468	8,154
1892	315	1,260	1906	4,000	12,000	1920	751	22,983
1893	.....	.....	1907	1,344	3,000	1921	270	9,567
1894	1,081	2,830	1908	4,312	19,021	1922	289	9,537
1895	.....	.....	1909	179	1,120	1923	409	8,548
1896	145	715	1910	.....	.....	1924	151	3,308
1897	571	3,060	1911	50	400	1925	95	2,259
1898	1,125	5,533	1912	464	5,104			
						Total	**40,537**	**289,940**

Table 124.—Production in Canada and Imports of Barytes, 1923, 1924 and 1925

	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
PRODUCTION	409	8,548	151	3,308	95	2,259
IMPORTS—						
Barium peroxide	60	16,495	37	11,883	31	7,488
Blanc fixe and satin white	1,946	68,502	354	21,742	303	19,343
Barytes	2,420	53,670	2,323	48,693	2,433	50,566

BITUMINOUS SANDS

Shipments of bituminous sands from Alberta deposits during 1925 amounted to 1,148 tons, valued at $4,594. Prior to this year the total production of this commodity was 531 tons, worth $2,127. Practically all the material shipped to date has been used for demonstration and experimental purposes. Deposits are located in the Fort McMurray district of Alberta. The Scientific and Industrial Research Council of Alberta, the Fort McMurray Asphaltum Co., and the Federal Department of Mines, are actively engaged in research work in connection with these sands.

An excerpt from a statement by Dr. K. A. Clarke, of the *Scientific and Industrial Research Council of Alberta,* follows:—

"During the summer of 1925, the Scientific and Industrial Research Council of Alberta operated a semi-commercial experimental plant for separating the bitumen from the bituminous sands found in Northern Alberta. This plant was located at the Dunvegan Yards at Edmonton. It had a capacity for treating fifteen tons of bituminous sand in a ten-hour day. Approximately five hundred tons of bituminous sand were separated in this plant."

Table 125.—Imports of Asphalt into Canda, 1924 and 1925

—	1924		1925	
	Tons	Value	Tons	Value
		$		$
Asphalt, solid	17,070	283,658	12,583	292,218
Asphalt, not solid	.....	10,536	.....	13,288
Asphaltum oil	.....	37,794	.....	12 147
Total	.....	**331,988**	.....	**317,653**

COAL

General Review.—Canada's coal output in 1925 dropped below the total reported in the preceding year, due largely to losses sustained through labour troubles in the maritime provinces in the earlier part of the year. Production amounted to 13,134,968 tons, as compared with 13,638,197 tons mined in 1924. Depression during the first three or four months of the year, always noticeable, carried the output to a lower mark in April than had been reached in several years, but on the other hand, the recovery in 1925 set in earlier than in most other years; from May to November there was an upward trend in the output curve.

Nova Scotia mines, in which the output losses were greatest, produced only 3,842,978 tons of coal in 1925 as compared with a total of 5,557,441 tons in 1924, and yielded first place among the coal-producing provinces to Alberta, its western rival. Distressing conditions prevailed at the Nova Scotia collieries during the earlier months; lack of continuity in employment precipitated labour troubles; strikes and general unrest followed by actual want drove many miners to migrate and created one of the most difficult industrial situations that has occurred in Canada in many years.

Following the provincial election in which the defeat of the party in power was brought about, the coal-mining situation became the chief topic of interest. The new government appointed a Royal Commission giving it wide powers of inquiry; the men returned to work in August on a temporary agreement pending the findings of the Royal Commission, and the output of coal grew steadily until the close of the year.

Western mines made a better showing in 1925 than in the preceding year when labour troubles in District 18 restricted the output. Restoration of coal shipments to Winnipeg and more eastern points marked an advance in marketing over the previous year when much of the advantage won in 1923 was lost. Attempts to ship coal from the western provinces to Ontario in 1925 did not meet with great success; there were some experimental shipments made with a view to determining solid train-load costs of transporting coal from Alberta to Ontario.

Alberta's output of 5,869,031 tons placed that province in the premier position among Canada's coal-producing areas, and marked an increase in output that was very gratifying. In 1924 Alberta mines produced 5,189,729 tons of coal.

British Columbia coal mines operated fairly steadily in the face of considerable difficulties. Fuel oil continues to be a keen competitor with coal produced from the Vancouver Island Mines. In addition, these mines are being affected to some extent by the entry of some coal in the British Columbia markets from the United States, Alberta and Great Britain. In 1925, these mines produced 2,742,252 tons of bituminous coal; in 1924, the output totalled 2,193,667 tons.

New Brunswick contributed 208,012 tons of bituminous coal and Saskatchewan added 471,965 tons of lignite to the total for Canada.

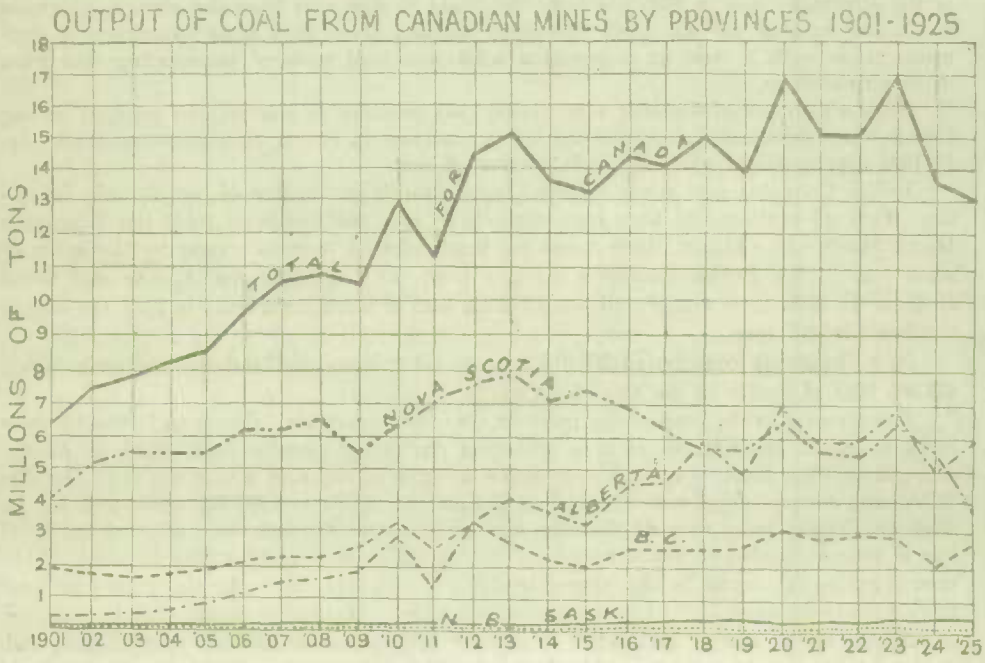
Employment in the coal-mining industry continued uncertain. Owing to labour troubles in Nova Scotia the number of men employed during the months from April to August dropped to a low level. One coal mine strike occurred in the East during the year. In this 11,463 men were involved with a total loss of time amounting to 1,478,727 working days. In Western Canada there were 12 disputes, and while only 4,081 men were affected the total loss of time amounted to 93,132 working days. In all there were 13 strikes in which 15,544 men participated, losing in the aggregate 1,571,859 working days. In the preceding year there were 15 disputes, 21,214 men were affected and the total loss in working time amounted to 1,555,105 days. During 1923, while there were 25 disputes, 20,986 men were affected and the total loss in working time amounted to only 308,430 days. In 1922 the trend in employment in coal mining was much the same as in 1924, the loss of time due to strikes in that year, amounting to 1,222,288 days.

To assist the industry, the Dominion Government made provision for the payment of a subvention of $150,000 in order that domestic coal, particularly from the Maritime Provinces might be marketed in Central Canada.

Table 126.—Output of Coal from Canadian Mines, 1785-1925

Year	Short tons	Value	Average per ton	Year	Short tons	Value	Average per ton
		$	$			$	$
1785-1880	16,426,253	28,190,518	1·72	1903	7,060,364	15,942,833	2·00
1881	1,537,106	2,688,621	1·75	1904	8,254,595	16,592,231	2·01
1882	1,848,148	3,248,446	1·76	1905	8,667,948	17,520,263	2·02
1883	1,818,084	3,109,635	1·71	1906	9,762,604	19,732,019	2·02
1884	1,984,959	3,593,831	1·81	1907	10,511,426	24,381,842	2·32
1885	1,929,977	3,417,807	1·78	1908	10,886,311	25,194,573	2·31
1886	2,116,653	3,739,840	1·77	1909	10,501,475	24,781,236	2·36
1887	2,429,330	4,388,206	1·81	1910	12,909,152	30,989,779	2·39
1888	2,602,552	4,674,140	1·80	1911	11,323,388	26,467,646	2·34
1889	2,658,303	4,894,287	1·84	1912	14,512,829	36,019,014	2·48
1890	3,084,682	5,676,247	1·84	1913	15,012,778	37,334,940	2·49
1891	3,577,749	7,019,425	1·96	1914	13,637,529	33,471,801	2·45
1892	3,287,745	6,363,757	1·94	1915	13,267,023	32,111,182	2·42
1893	3,783,409	7,359,080	1·95	1916	14,483,395	38,817,481	2·68
1894	3,847,070	7,429,468	1·93	1917	14,016,759	43,199,831	3·08
1895	3,478,344	6,759,153	1·94	1918	14,977,926	55,192,896	3·68
1896	3,745,716	7,226,462	1·93	1919*	13,919,096	55,622,670	3·99
1897	3,786,107	7,303,597	1·93	1920*	16,946,764	82,496,538	4·86
1898	4,173,108	8,224,288	1·97	1921*	15,057,493	72,451,656	4·81
1899	4,925,051	10,283,497	2·09	1922*	15,157,431	65,518,497	4·32
1900	5,777,319	13,742,178	2·38	1923*	16,990,571	72,058,986	4·24
1901	6,486,325	12,699,243	1·96	1924*	13,638,197	53,593,988	3·93
1902	7,466,681	15,210,877	2·04	1925*	13,134,968	49,261,951	3·75
				Total	388,321,780	1,105,896,486	

*The tonnage shown is the total output from all mines. Prior to 1919 the tonnage shown includes only sales, colliery consumption, and coal used by the operators.



Tonnage Lost.—Tonnage lost through absenteeism, lack of orders, car shortage, mine disability, and other causes, has been shown in Table 127 for all the coal mines of Canada by provinces during the past three years.

It will be readily understood that in any statement of tonnage lost by operating mines the method of computing the data must be more or less arbitrary. A plan has been worked out by the Bureau which is now being applied in every coal-producing province, and the

following outline of the procedure is given in order that the reader may clearly understand how the data in the "Tonnage Lost" table are obtained.

For each month the actual output and the actual number of days' work done by all employees on the colliery pay-rolls are determined and from these two figures the output per man-day is deduced. The number of individual shifts lost by the men whose names are on the colliery pay-roll for the month is recorded, and the total number of shifts so lost is multiplied by the actual tonnage produced per man-day during the month. This lost tonnage plus the actual output of the mine during the month is regarded as the possible output and the percentages given in the table showing the proportions produced and lost are computed from these figures. The tonnage lost is then analyzed according to the cause of loss and the percentage figures are included in the table.

It is to be noted that this record takes account only of losses incurred during operating periods; no record of tonnage lost is computed in the case of a mine closed down because of a general strike of its employees.

Computed on the foregoing basis the output in 1925 amounted to 75 per cent of the possible production; the losses, or 25 per cent, were due to the following causes: lack of orders, 19·2 per cent; unspecified causes, 2·7 per cent; absenteeism, 1·5 per cent; mine disability, 1.1 per cent; and car shortage, 0.5 per cent. In the preceding calendar year 67 per cent of the possible output was attained and in 1923 a higher record of 74 per cent was reported.

New Brunswick and British Columbia made the best showings in 1925 reporting 86 per cent of their possible outputs. Nova Scotia reported 78 per cent, Alberta 69 per cent, and Saskatchewan 68 per cent.

Table 127.—Tonnage Lost in the Coal Mines of Canada in 1923, 1924 and 1925 Showing by Provinces the Relative Percentages Produced and Lost with an Analysis of the Percentage Lost.

Province		Per cent produced	Per cent lost	Percentage lost through				
				Absenteeism	Lack of orders	Car shortage	Mine disability	Other causes
Nova Scotia	1923	72	28	7·8	9·5	0·8	1·0	8·9
	1924	65	35	3·2	21·7	0·6	1·5	8·0
	1925	78	22	2·7	14·6	—	2·1	2·6
New Brunswick	1923	89	11	8·1	—	0·1	1·0	1·8
	1924	83	17	3·9	10·5	0·1	0·2	2·3
	1925	86	14	2·1	8·5	—	0·1	3·3
Saskatchewan	1923	75	25	0·9	17·8	1·1	1·6	3·6
	1924	65	35	0·3	32·6	0·2	—	1·9
	1925	68	32	—	31·0	—	—	1·0
Alberta	1923	73	27	1·2	18·4	3·2	0·7	3·5
	1924	66	34	0·6	13·9	0·7	0·5	18·3
	1925	69	31	0·7	24·7	0·9	0·9	3·8
British Columbia	1923	81	19	1·9	16·1	0·2	0·1	0·7
	1924	80	20	1·9	14·4	0·3	0·1	3·3
	1925	86	14	2·1	10·7	0·4	0·1	0·7
Canada	**1923**	**74**	**26**	**4·0**	**11·3**	**1·7**	**0·8**	**5·2**
	1924	**67**	**33**	**2·4**	**17·9**	**0·6**	**0·8**	**11·3**
	1925	**75**	**25**	**1·5**	**19·2**	**0·5**	**1·1**	**2·7**

Disposition.—In the disposition tables there are records of the distribution of coal mined in Canada during the past two years. In line with the lowered output figures the items in the disposition tables showed less amounts in every case except in the amounts sold to railroads and used in making coke and briquettes which were slightly greater than in 1924. Considerable reductions were made in the amount of coal used about the mines for the generation of power. Lower prices for coal reduced the average value of the total output from $4.24 per short ton in 1923 to $3.93 in 1924 with a further reduction to $3.75 in 1925

Table 128.—Disposition of Coal from Canadian Mines, 1924 and 1295

(Short tons)

—	1924			1925		
	Total coal	Total value	Average value per ton	Total coal	Total value	Average value per ton
		$	$		$	$
Supplied to employees for domestic consumption	212,422	675,935	3·18	168,713	564,865	3·34
Used for power purposes—						
(a) Shops	5,190	21,296	3·81	3,741	13,704	3·66
(b) Colliery boilers	845,830	2,676,622	3·16	791,209	2,288,501	2·89
(c) Companies' railroads	67,281	269,177	4·00	51,634	193,743	3·75
(d) Harbour tugs and dredges	1,311	5,770	4·40	846	2,730	3·22
Shipped. (See Table 131)—						
(a) Ships' bunkers	600,587			429,362		
(b) Railroads	2,865,911	49,685,456	4·10	3,463,194	45,767,482	3·89
(c) Other	8,649,905			7,862,183		
Used in making coke at the colliery	53,767	271,722	5·05	139,589	500,460	3·58
Used in making briquettes				729	2,991	4·10
Put on bank	892,278	3,145,490	3·53	511,514	1,819,862	3·55
Put on waste heap	277,212	6,710	0·02	262,087	768	0·003
Total Disposition	**14,472,694**	**56,758,178**	**3·92**	**13,684,801**	**51,155,096**	**3·73**
Lifted from bank	833,897	3,164,190	3·79	549,833	1,893,145	3·44
Total Output	**13,638,197**	**53,593,988**	**3·93**	**13,134,968**	**49,261,951**	**3·75**

Table 129.—Disposition of Coal from Canadian Mines by Provinces, 1924

(Short tons)

—	Nova Scotia	New Brunswick	Saskatchewan	Alberta	British Columbia	Yukon	Canada
Supplied to employees for domestic consumption	124,511	3,010	3,972	54,095	26,834	.....	**212,422**
Coal shipped (See Table 131)	4,870,471	211,215	448,7·9	4,851,273	1,734,144	501	**12,116,403**
Used under colliery boilers, etc	458,172	3,346	20,811	196,548	166,933	20	**845,830**
Used by company's railroads	44,648	.....	3,329	5,299	14,005	.....	**67,281**
Used for manufacture of coke at colliery	.....	.....	.....	.....	53,767	.....	**53,767**
Used in shops, etc	5,590	.....	.....	.....	.....	.....	**5,590**
Used by harbour tugs and dredges	1,311	.....	.....	.....	.....	.....	**1,311**
Put on bank	729,760	11,957	2,414	59,671	88,476	.....	**892,278**
Put on waste heap	6,267	73	2,394	74,245	193,633	600	**277,212**
Total Disposition	**6,240,730**	**229,631**	**481,689**	**5,241,131**	**2,277,792**	**1,121**	**14,472,094**
Lifted from bank	683,289	12,510	2,571	51,402	84,125	.....	**833,897**
Total Output	**5,557,441**	**217,121**	**479,118**	**5,189,729**	**2,193,667**	**1,121**	**13,638,197**

Table 130.—Disposition of Coal from Canadian Mines, by Provinces, 1925

(Short tons)

—	Nova Scotia	New Brunswick	Saskatchewan	Alberta	British Columbia	Yukon	Canada
Supplied to employees for domestic consumption	91,873	3,040	3,653	46,730	23,411	6	**168,713**
Coal shipped (See Table 131)	3,418,173	202,179	440,252	5,518,734	2,174,764	637	**11,754,739**
Used under colliery boilers	341,947	2,812	20,105	226,177	200,141	27	**791,209**
Used by companies' railroads	29,369	.....	3,421	6,427	12,417	.....	**51,634**
Used for manufacture of coke at colliery	.....	.....	.....	.....	139,589	.....	**139,589**
Used in making briquettes	.....	.....	.....	729	.....	.....	**729**
Used in shops, etc	3,741	.....	.....	.....	.....	.....	**3,741**
Used by harbour tugs and dredges	846	.....	.....	.....	.....	.....	**846**
Put on bank	340,411	7,834	1,982	55,969	105,318	.....	**511,514**
Put on waste heap	6,747	54	4,605	72,864	177,757	60	**262,087**
Total Disposition	**4,233,107**	**215,919**	**474,018**	**5,927,630**	**2,833,397**	**730**	**13,684,801**
Lifted from bank	390,129	7,907	2,053	58,599	91,145	.....	**549,833**
Total Output	**3,842,978**	**208,012**	**471,965**	**5,869,031**	**2,742,252**	**730**	**13,134,968**

Shipments.—Shipments of coal from Canadian mines during 1925 totalled 11,754,739 short tons, a drop of 0.36 million tons from the total for 1924. Domestic shipments amounted to 7,430,148 tons; railroads and ships' bunkers took 3,892,556 tons and exports to other countries direct from the mines totalled 432,035 tons. About 40 per cent of the coal shipped was run-of-mine; 45 per cent was screened and the balance was slack. Of the shipments to Canadian points, 20 per cent was classed as run-of-mine, 58 per cent screened and the balance slack. Railroad coal and coal for ship's bunkers included 80 per cent run-of-mine, 16 per cent screened and 4 per cent slack. Shipments to points outside of Canada consisted largely of screened coal. Most of the coal shipped direct from the mines to points outside of Canada went to the United States and Newfoundland.

As reported in Table 141, the total consumption of coal by railroad locomotives in Canada in the year under review amounted to 8,822,778 tons including only 12,809 tons of anthracite. Shipments of coal from Canadian mines for railroad use totalled 3,463,194 tons. In 1924, when the railroads used 9,015,516 tons of coal, Canadian coal mines' shipments to railroads totalled 2,865,911 tons.

What may appear to some to be a discrepancy between the figures shown for coal exported directly from the mines, and the records of coal exported from Canada as reported by the *Department of National Revenue*, is due largely to the fact that brokers and other dealers purchase considerable quantities of coal from Canadian mine operators and then dispose of their purchases in the foreign market. Thus, some of the coal reported by the operator as sold by him for delivery to Canadian points may be subsequently exported and so be included in the Customs' records. There is also a difference between the time of shipment and the time of clearing through Customs, so that the tonnage of coal in transit appears in the one record but is excluded from the other.

Analysis of the shipment table shows that approximately 63 per cent of the total coal shipped from Canadian mines in 1925 went to Canadian consumers. In 1924, about 67 per cent of the total coal shipped was used by Canadian consumers. Shipments from the mines to Canadian points in 1925 were about 740,712 tons less than in the preceding year. Supplies for railroads and ships' bunkers increased 426,058 tons over the total for the preceding year and foreign shipments declined 47,010 tons from the tonnage reported in 1924.

Table 131.—Shipments of Coal from Canadian Mines by Grades and Destinations, 1924 and 1925

(Short tons)

Destination	1924				1925			
	Run-of mine	Screened	Slack	Total	Run-of mine	Screened	Slack	Total
Prince Edward Island	7,053	57,780	509	65,342	4,921	51,310	633	56,864
Nova Scotia	290,535	493,627	570,571	1,354,703	435,378	465,148	381,480	1,282,006
New Brunswick	300,948	219,423	88,499	608,870	238,132	197,807	73,854	509,793
Quebec	1,226,932	60,994	367,841	1,655,767	68,937	369,408	373,419	811,764
Ontario	2,740	18,326	7,011	28,077	765	31,285	743	32,793
Manitoba	153,880	510,380	73,817	738,077	142,724	515,274	86,571	744,569
Saskatchewan	247,819	1,051,886	120,237	1,419,942	218,515	1,185,712	116,921	1,521,178
Alberta	253,618	851,974	285,256	1,393,848	260,181	873,849	309,289	1,443,319
British Columbia	67,052	595,102	243,579	905,733	122,476	657,085	247,664	1,027,225
Yukon	.....	501	.....	501	.....	335	302	637
Total domestic shipments	2,550,547	3,862,993	1,757,320	8,170,830	1,492,059	4,347,213	1,590,876	7,430,148
Railroads	2,469,159	237,284	159,468	2,865,911	2,969,508	360,054	133,632	3,463,194
Ships' bunker	268,468	324,539	7,580	600,587	161,711	260,457	7,194	429,362
Total railroads and ships' bunkers	2,737,627	561,823	167,048	3,466,498	3,131,219	620,511	140,826	3,892,556
United States	29,627	156,913	38,481	225,021	41,332	165,285	33,362	239,979
Newfoundland	102,619	139,210	12	241,841	29,384	148,143	9,834	187,361
West Indies	81	.....	.....	81	.....	.....	.....	.....
Other places	3,601	7,605	.....	11,206	1,463	3,232	.....	4,695
Lost at sea	896	.....	.....	896	.....	.....	.....	.....
Total foreign shipments	136,824	303,728	38,493	479,045	72,179	316,660	43,196	432,035
Total	**5,424,998**	**4,728,544**	**1,962,861**	**12,116,403**	**4,695,457**	**5,284,384**	**1,774,898**	**11,754,739**

Imports.—Data regarding imports of anthracite and bituminous coal into Canada are supplied to the Bureau twice a month by the *Department of National Revenue*. The figures show for each custom port of entry the total quantity of each kind of coal imported during the period. These data are not comparable with the imports statistics published in the *Monthly Report on the Trade of Canada*, which report shows only the quantity of coal actually cleared from Customs for consumption in Canada. It oftens happens that large quantities of bituminous coal are brought into Canada but are not cleared from Customs until required for use, owing to the duty of 50 cents per ton collected on all bituminous coal imported,

Canada's great central area comprising Ontario and Quebec provides a very considerable market for United States producers of anthracite coal which is largely used for domestic purposes in central Canada and for bituminous coals used in industrial establishments. So far these two provinces have been largely dependent upon United States producers for their supply of fuel though in recent years increasing quantities of coal have been imported from Great Britain and attempts have been made to extend the use of Canadian coals. Imports of anthracite coal in 1925 totalled 3,798,744 tons including 3,249,497 tons of United States anthracite and 549,247 tons from Great Britain. This total was 384,850 tons lower than the recorded figures for the preceding calendar year and 1,369,137 tons lower than the imports for 1923, but imports in 1923 were above normal owing to the fact that the supply in 1922 had been curtailed by labour troubles. Imports of coal from Great Britain have reached appreciable tonnages in the past three years. Coal obtained from this source in 1925 totalled 606,069 tons, comprising 549,247 tons of anthracite and 56,822 tons of bituminous. In 1922, Canada purchased 179,708 tons of anthracite from Great Britain; in 1923 the total rose to 261,659 tons and in 1924 anthracite importations amounted to 275,277 tons. Most of this coal was burned in eastern and central Canada.

Imports of anthracite from the United States which amounted to 2.5 million tons in 1922 rose to a total of 4.9 million tons in the following year, receded to 3.9 million tons in 1924 and decreased further to 3.2 million tons in 1925. There was an increase in the imports of bituminous coal into Canada during 1925, when 13,033,692 tons were imported as compared with a total of 12,644,984 tons in 1924.

There has been a decided drop in the average value per ton of the bituminous coal imported into Canada in the past five years. In 1921, the total imports into Canada of bituminous coal entered for consumption amounted to 13,748,242 tons valued at $48,631,095, or an average of $3.53 a ton; in 1924, the corresponding totals were 12,546,214 tons and $29,628,643 making an average value of $2.36 per short ton, and in 1925, the total bituminous imports were 12,548,460 tons worth $26,974,340, or an average of $2.15 per ton.

A chart showing the principal coal-importing areas in central Canada has been prepared from carefully collected information. Coal imported through any of the ports listed in the accompanying key is very rarely distributed outside the boundaries of the area in which that port occurs.

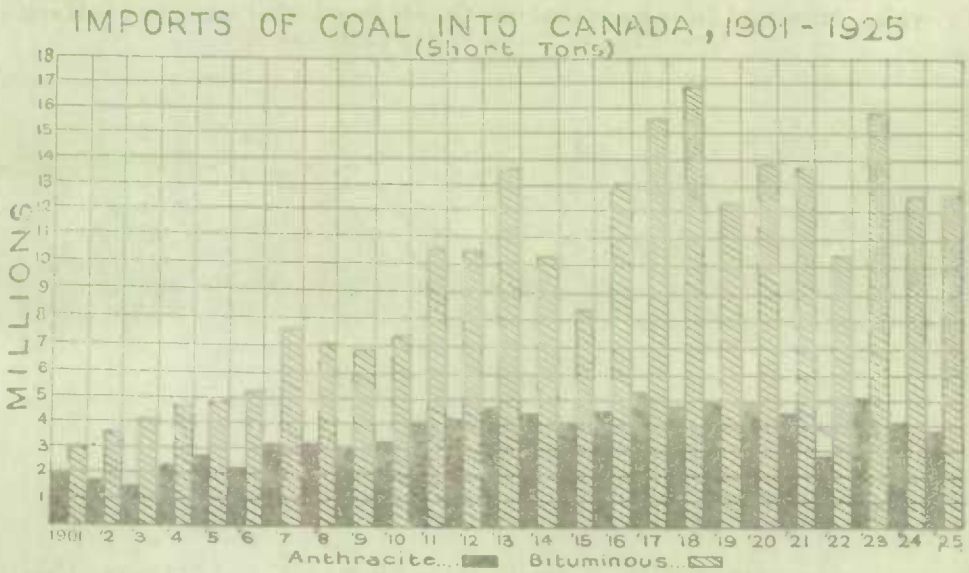


Table 132.—Imports of Coal into Canada from Great Britain, by Kinds and Grades and by Provinces, 1924 and 1925

(Short tons)

Destination	1924				1925		
	Anthracite		Bituminous		Anthracite		Bituminous
	Egg, nut, etc.	Dust	Round and run-of-mine	Slack	Egg, nut, etc.	Dust	All grades*
Prince Edward Island	.....	.....	.....	.....	507	.....	13,436
Nova Scotia	12,461	.....	246	.....	20,679	.....	19
New Brunswick	25,579	.....	15	.....	29,256	.....	5,103
Quebec	229,142	.....	18,708	21,134	474,390	3,833	38,264
Ontario	6,251	1,844	.....	.....	20,564	.....	.....
British Columbia	.....	.....	(a) 1,793	.....	18	.....	(a) 763
Canada	**273,433**	**1,844**	**(b) 20,762**	**21,134**	**545,414**	**3,833**	**(c) 57,585**

*Owing to tariff change in 1925 classification by grades not recorded.
(a) Imported from other countries.
(b) Includes 1,793 tons imported from other countries.
(c) Includes 736 tons imported from other countries.

Table 133.—Imports of Anthracite Coal into Canada from United States by Kinds and Grades and by Provinces, 1923, 1924 and 1925

(Short tons)

Destination	1923		1924		1925	
	Egg, nut, etc.	Dust	Egg, nut, etc.	Dust	Egg, nut, etc.	Dust
Prince Edward Island	4,303	.....	3,571	.....	4,624	.....
Nova Scotia	35,169	.....	37,616	.....	33,393	.....
New Brunswick	54,291	265	58,681	257	45,016	683
Quebec	1,350,735	251,616	933,390	157,181	764,295	132,651
Ontario	2,909,919	142,603	2,615,688	65,310	2,149,016	84,469
Manitoba	54,290	1,566	30,324	3,898	28,182	6,214
Saskatchewan	2,125	166	1,687	33	702	.....
Alberta	.....	.....	.....	.....	30	.....
British Columbia	174	.....	687	.....	221	.....
Canada	**4,510,006**	**396,216**	**3,681,644**	**226,673**	**3,025,486**	**224,017**

Table 134.—Imports of Bituminous Coal into Canada from United States by Kinds and Grades and by Provinces, 1923, 1924 and 1925

(Short tons)

Destination	1923		1924		1925*
	Round and run-of-mine	Slack	Round and run-of-mine	Slack	All grades
Prince Edward Island	1,263	.....	3,597	.....	9,208
Nova Scotia	26,340	18,086	60,209	6,959	(d) 178,995
New Brunswick	50,882	27,960	42,657	29,880	163,982
Quebec	2,187,348	735,643	993,281	532,235	2,530,661
Ontario	11,048,490	3,019,512	8,138,908	2,598,940	9,884,710
Manitoba	34,328	77,806	43,384	100,225	147,758
Saskatchewan	421	1,186	(b) 1,028	1,533	1,732
Alberta	564	546	826	383	1,175
British Columbia	(a) 14,075	6,174	(c) 33,714	15,305	(e) 57,881
Yukon	5	.....	24	.....	4
Canada	**13,363,716**	**3,886,913**	**9,317,628**	**3,285,460**	**12,976,106**

(a) Includes 2,331 tons lignite coal.
(b) Includes 139 tons lignite coal.
(c) Includes 25,763 tones lignite coal.
(d) Includes 10 tons lignite coal.
(e) Includes 18,358 tons lignite coal.
* Owing to tariff change in 1925 classification by grades not recorded.

Table 135.—Average Imports of Coal into Canada by Kinds and Grades and by Provinces for the Five Years 1921-1925

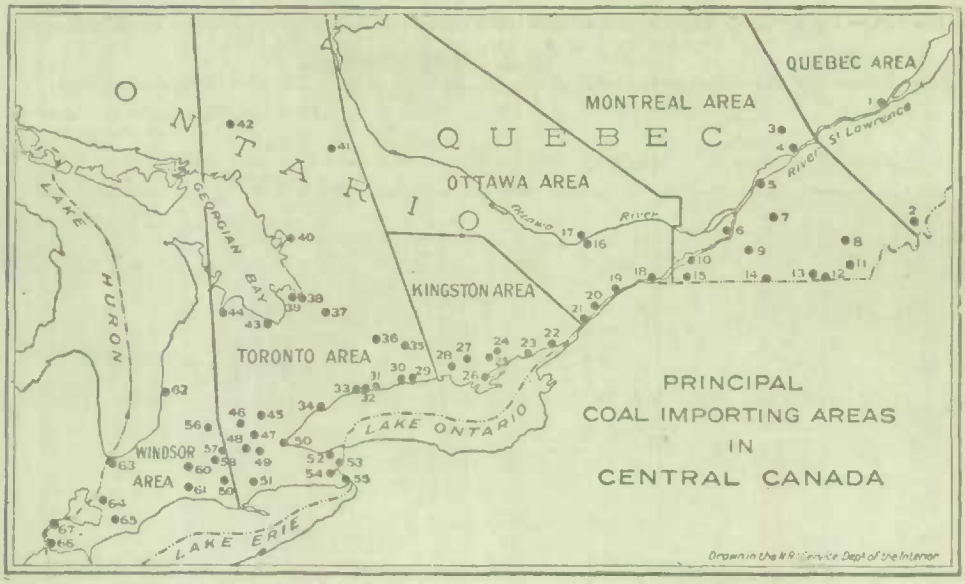
(Short tons)

Destination	Anthracite			Bituminous	Total
	Egg, nut, etc.	Dust	Total	All grades	
Prince Edward Island	4,848	.....	4,848	5,819	**10,667**
Nova Scotia	49,420	19	49,439	62,020	**111,459**
New Brunswick	78,157	240	78,397	93,244	**171,641**
Quebec	1,180,314	172,679	1,352,993	2,381,120	**3,734,113**
Central Ontario	2,371,910	80,401	2,452,311	9,175,555	**11,627,866**
Head of Lakes	106,576	1,630	108,206	1,795,411	**1,903,617**
Total Ontario	2,478,486	82,031	2,560,517	10,970,966	**13,531,483**
Manitoba	30,899	3,633	34,532	111,036	**145,568**
Manitoba and Head of Lakes	137,475	5,263	142,738	1,906,447	**2,049,185**
Saskatchewan	976	64	1,040	1,902	**2,942**
Alberta	19	.....	19	1,294	**1,313**
British Columbia	523	1	524	32,151	**32,675**
Yukon	.....	.....	.....	14	**14**
Canada	**3,823,642**	**258,667**	**4,082,309**	**13,659,566**	**17,741,875**

Table 136.—Average Imports of Coal into Central Canada by Principal Areas for the Five Years 1921-1925

(Short tons)

Area	Anthracite			Total bituminous	Total all grades
	Egg, nut, etc.	Dust	Total		
Quebec	88,938	1,595	**90,533**	**237,867**	**328,400**
Montreal	1,078,914	169,750	**1,248,664**	**2,988,712**	**3,337,376**
Ottawa	255,744	19,543	**275,287**	**702,129**	**977,416**
Kingston	108,820	1,157	**109,977**	**192,752**	**302,729**
Toronto	1,692,896	55,609	**1,748,505**	**4,844,195**	**6,592,700**
Windsor	310,107	5,190	**315,297**	**2,562,186**	**2,877,483**
Total	**3,535,419**	**252,844**	**3,788,263**	**10,627,841**	**14,416,104**



Key to the Ports of Entry Shown on the Map

Quebec Area—
1 Quebec City
2 Megantic

Montreal Area—
3 Shawinigan Falls
4 Three Rivers
5 Sorel
6 Montreal
7 St. Hyacinthe
8 Sherbrooke
9 St. John's
10 Valleyfield
11 Coaticook
12 Beebe Junction
13 Mansonville
14 St. Armand
15 Athelstan

Ottawa Area—
16 Ottawa
17 Hull
18 Cornwall
19 Morrisburg
20 Prescott
21 Brockville

Kingston Area—
22 Gananoque
23 Kingston
24 Napanee
25 Deseronto
26 Picton
27 Belleville
28 Trenton

Toronto Area—
29 Cobourg
30 Port Hope
31 Bowmanville

Toronto Area—Con.
32 Oshawa
33 Whitby
34 Toronto
35 Peterboro
36 Lindsay
37 Orillia
38 Port McNicoll
39 Midland
40 Parry Sound
41 North Bay
42 Sudbury
43 Collingwood
44 Owen Sound
45 Guelph
46 Kitchener
47 Galt
48 Paris
49 Brantford
50 Hamilton

Toronto Area—Con.
51 Simcoe
52 St. Catharines
53 Niagara Falls
54 Welland
55 Bridgeburg

Windsor Area—
56 Stratford
57 Woodstock
58 Ingersoll
59 Tillsonburg
60 London
61 St. Thomas
62 Goderich
63 Sarnia
64 Wallaceburg
65 Chatham
66 Amherstburg
67 Windsor

Exports.—Exports of Canadian coal amounting to 785,910 tons in 1925 were only slightly higher than the total of 773,246 tons recorded in 1924. In previous years, about equal quantities of coal were exported from eastern Canada and from western Canada while in 1925 exportations from the eastern mines amounted to 266,052 tons and from the western collieries, 519,858 tons. Three tables have been prepared on this subject. An historical table showing the tonnages of Canadian coal exported since 1873 has been included in this report. Then, as in previous years, tables showing the exports of coal from eastern and western Canada and exports of Canadian coal by destination in each of the past three years have been prepared. Records of the exports of coal from Canada are supplied twice-a-month to the Bureau by the *Department of National Revenue* and while the coal operators show on their monthly reports the quantity of coal sold for export, the data given in this report on coal exported from Canada are all compiled from Customs' figures. The coal reported by operators as having been sold for export is shown in the tables of "Shipments". In reporting the exports of Canadian coal, it has been found advisable not to show the data by provinces as the Customs' records show the total quantity of coal exported from Canada through each port of exit without regard to the origin of the coal. For example, practically all the Alberta coal sold for export is usually cleared through the ports of Fernie and Cranbrook in British Columbia. Similarly, Nova Scotia coal is sometimes exported through New Brunswick ports. In the table showing the exports of coal by destination, the extent of Canada's foreign markets for coal is shown in detail.

Table 137.—Exports of Canadian Coal, 1873-1925

(Compiled in the *External Trade Branch*)

(Short tons)

Calendar year	Short tons	Value	Calendar year	Short tons	Value
		$			$
1873	420,683	.....	1900	1,787,777	.....
1874	310,988	.....	1901	1,573,661	.....
1875	250,348	.....	1902	2,090,268	.....
1876	248,638	.....	1903	1,954,629	.....
1877	301,317	.....	1904	1,557,412	.....
1878	327,959	.....	1905	1,635,287	.....
1879	306,648	.....	1906	1,835,041	.....
1880	432,188	.....	1907	1,894,074	.....
1881	395,382	.....	1908	1,729,833	.....
1882	412,682	.....	1909	1,588,099	.....
1883	486,811	.....	1910	2,377,049	.....
1884	474,405	.....	1911	1,500,639	.....
1885	427,937	.....	1912	2,127,133	.....
1886	520,703	.....	1913	1,562,020	3,951,351
1887	580,905	.....	1914	1,423,126	3,780,175
1888	588,627	.....	1915	1,766,543	5,406,058
1889	665,315	.....	1916	2,135,359	7,099,387
1890	724,486	.....	1917	1,733,156	7,387,192
1891	971,259	.....	1918	1,817,195	9,405,423
1892	823,733	.....	1919	2,070,050	12,438,885
1893	960,312	.....	1920	2,558,174	18,014,890
1894	1,103,694	.....	1921	1,987,251	13,896,370
1895	1,011,235	.....	1922	1,818,582	11,159,060
1896	1,106,661	.....	1923	1,654,406	10,661,399
1897	986,130	.....	1924	773,246	4,836,848
1898	1,150,029	.....	1925	785,910	4,329,173
1899	1,293,169	.....			

Table 138.—Exports of Canadian Coal from Eastern and Western Canada, 1923-1925

(Short tons)

	1923	1924	1925
Eastern Canada	796,015	381,331	266,052
Western Canada	858,391	391,915	519,858
Total	**1,654,406**	**773,246**	**785,910**

Table 139.—Exports of Canadian Coal by Destination, 1923-1925

(Compiled in the *External Trade Branch*)

(Short tons)

Destination	1923		1924		1925	
	Short tons	Value	Short tons	Value	Short tons	Value
		$		$		$
United Kingdom	65,260	489,759	21,335	153,912	23,224	172,138
Irish Free State	.....	.....	1,788	10,725	1,688	10,325
British South Africa	668	4,676	3,289	22,005	7,736	46,159
British West Africa	.....	.....	2,903	16,548	.....	.....
Bermuda	9,972	78,432	10,511	67,862	4,182	30,321
British Guiana	21,029	177,307	3,837	32,309	4,651	38,110
British West Indies—						
Barbados	1,858	13,176	4,287	24,650	651	5,371
Jamaica	745	6,155	.....	.....	.....	.....
Other B.W.I.	749	6,817	649	5,354	8,451	50,712
Egypt and Sudan	.....	.....	.....	.....	351	2,913
Gibraltar	4,509	31,566	5,411	34,179	2,197	13,185
Malta	450	3,150	.....	.....	.....	.....
Newfoundland	258,294	1,760,537	248,140	1,457,872	183,245	1,071,624
Australia	18,645	150,476	12,415	97,666	13,688	117,653
Fiji	1,417	11,761	.....	.....	.....	.....
New Zealand	3,537	24,174	978	8,117	6,127	36,762
Total British Empire	387,133	2,757,986	315,543	1,931,199	256,191	1,595,273
Argentine	.....	.....	675	4,053	.....	.....
Belgium	1,913	13,787	1,528	9,904	2,707	16,627
China	6,682	53,413	3,160	21,158	.....	.....
Cuba	1,178	10,205	378	3,142	1,073	6,038
Denmark	381	2,667	1,362	9,335	1,197	7,309
France	12,097	92,677	9,751	67,745	525	3,467
French Possessions—						
French Africa	265	1,855	737	4,422	296	1,776
French West Indies	.....	.....	439	2,784	.....	.....
St. Pierre and Miquelon	12,366	86,428	7,047	45,511	5,239	31,069
Germany	308	2,849	1,538	9,231	1,508	9,048
Greece	914	6,398	6,098	37,154	.....	.....
Italy	10,427	73,623	14,985	92,342	4,566	27,396
Japan	18,413	146,651	40,047	309,546	6,325	42,986
Mexico	.....	.....	.....	.....	5,500	45,650
Netherlands	71,966	450,849	14,862	90,132	1,081	6,486
Norway	3,811	26,677	405	2,430	.....	.....
Panama	683	4,610	1,551	9,306	4,238	35,024
Portugal	416	2,912	.....	.....	.....	.....
Azores and Madeira	.....	.....	.....	.....	231	1,383
Portuguese Africa	.....	.....	.....	.....	1,209	10,035
Russia	396	3,649	.....	.....	.....	.....
Spain	.....	.....	.....	.....	234	1,401
Sweden	240	1,680	2,560	15,390	.....	.....
United States	1,072,011	6,486,977	308,448	1,853,991	451,082	2,148,933
Alaska	31,162	255,831	22,585	160,473	30,728	237,673
Philippines	21,644	179,662	19,547	157,300	11,980	109,999
Total foreign countries	1,267,273	7,903,413	457,703	2,905,349	529,719	2,733,900
Grand total	**1,654,406**	**10,661,399**	**773,246**	**4,836,548**	**785,910**	**4,329,173**

Consumption.—Summary statistics have been prepared in the following tables to show the output, exports, interprovincial shipments, imports and coal made available for consumption in Canada by provinces in each of the past five years.

In these tables the output figures are those reported by the companies operating producing mines; data on interprovincial shipments were compiled from the monthly statements sent in by the coal operators; import and export items were assembled from data supplied by the quantity of coal imported during the year which is a different sum from the coal imported and *Department of National Revenue*, and in the case of imports the figures given show the total cleared through Customs for consumption. In these tables, also, the tonnage of imported coal dumped at the ports of Fort William and Port Arthur has been included with the quantities cleared from Customs in the ports of Manitoba since most of the coal unloaded at the Canadian ports at the head of the lakes finds its way westward to points in Manitoba.

From the tables, it appears that in 1925 Canada produced 13.13 million tons, exported 0.79 million tons, imported from the United States 16.23 million tons and from Great Britain 0.61 million tons and thus had available for consumption a total of 29.18 million tons of coal, including 3.80 million tons of anthracite, 21.17 million tons of bituminous, 0.57 million tons of sub-bituminous coal and 3.64 million tons of lignite. Perusal of the table on the annual consumption of coal following the summary tables shows that Canada actually used 28.46 million tons of coal during the year or an average of 3.039 tons per capita. The consupmption of coal by locomotives has been compiled from the records of the *Transportation Branch*.

Table 140.—Annual Consumption of Coal in Canada, 1903-1925

Calendar year	Canadian †		Imported coal "entered for consumption"				Total	Per capital
			From U.S.A.	From Great Britain	Total*		Short tons	
	Short tons	%	Short tons	Short tons	Short tons	%		
1903	6,005,735	47·3	6,520,931	184,593	6,678,450	52·7	**12,684,185**	2·212
1904	6,697,183	47·9	7,238,869	85,687	7,297,482	52·1	**13,994,665**	2·412
1905	7,032,661	49·4	7,233,738	68,500	7,215,446	50·6	**14,249,107**	2·341
1906	7,927,560	50·5	7,787,338	67,014	7,758,325	49·5	**15,685,885**	2·481
1907	8,617,352	45·0	10,588,697	54,325	10,549,503	55·0	**19,166,855**	2·947
1908	9,156,478	47·3	10,203,335	97,514	10,195,424	52·7	**19,351,902**	2·820
1909	8,913,376	47·9	9,805,253	67,671	9,711,826	52·1	**18,625,202**	2·682
1910	10,532,103	50·2	10,545,441	51,541	10,438,123	49·8	**20,970,226**	2·960
1911	9,822,749	40·5	14,510,129	48,963	14,424,949	59·5	**24,247,698**	3·365
1912	12,385,696	46·0	14,557,124	38,668	14,549,104	54·0	**26,934,800**	3·657
1913	13,459,158	42·6	18,145,769	37,825	18,132,387	57·4	**31,582,545**	4·196
1914	12,214,403	45·5	14,687,853	33,101	14,637,920	54·5	**26,852,323**	3·490
1915	11,500,480	48·1	12,450,796	15,098	12,406,212	51·9	**23,906,692**	3·041
1916	12,348,036	41·3	17,576,202	4,401	17,517,820	58·7	**29,865,856**	3·717
1917	12,313,603	37·2	20,848,009	9,451	20,810,132	62·8	**33,123,735**	4·049
1918	13,160,731	37·8	21,674,826	3,764	21,611,101	62·2	**34,771,832**	4·175
1919	11,611,168	40·3	17,292,913	344	17,236,269	59·7	**28,847,437**	3·402
1920	14,025,566	42·9	18,752,981	.....	18,668,741	57·1	**32,694,307**	3·788
1921	12,715,734	41·0	18,300,081	1,591	18,258,387	58·9	**30,974,121**	3·524
1922	13,044,352	50·2	12,255,555	765,980	12,962,189	49·8	**25,006,541**	2·909
1923	15,070,962	41·8	20,417,239	572,570	20,967,971	58·2	**36,038,933**	3·958
1924	12,529,358	42·8	16,405,344	317,112	16,714,143	57·2	**29,243,501**	3·170
1925	12,125,290	42·6	15,744,957	604,117	16,331,971	57·4	**28,457,261**	3·039

† The sum of Canadian coal mine sales, colliery consumption, coal supplied to employees, and coal used in making coke, etc., less the tonnage of coal exported.

* Includes small tonnages from countries other than Great Britain and United States and deductions have been made to take account of foreign coal re-exported from Canada.

Table 141.—Annual Consumption of Coal by Railroad Locomotives in Canada, 1915-1925

(Compiled in the *Transportation Branch*)

Year	Anthracite		Bituminous		Total	
	Short tons	Value	Short tons	Value	Short tons	Value
		$		$		$
Year ended June 30, 1915	3,691	.....	6,673,845	.....	**6,677,536**	.....
" 30, 1916	4,899	.....	8,672,455	.....	**8,677,354**	.....
" 30, 1917	4,900	.....	9,783,524	.....	**9,788,424**	.....
" 30, 1918	3,283	.....	9,836,623	.....	**9,839,906**	.....
" 30, 1919	4,430	.....	9,136,593	.....	**9,141,023**	.....
Calendar Year, 1920	4,270	.....	10,372,687	.....	**10,376,957**	.....
" 1921	9,681	.....	8,784,607	.....	**8,794,288**	.....
" 1922	8,721	70,523	9,032,366	57,636,011	**9,041,087**	**57,706,534**
" 1923	15,184	97,243	9,925,792	58,489,294	**9,940,976**	**58,586,537**
" 1924	12,400	69,496	9,003,116	49,592,428	**9,015,516**	**49,661,924**
" 1925	12,809	61,066	8,809,969	44,954,692	**8,822,778**	**45,015,758**

Table 142.—Summary Statistics for 1925—Output, Exports, Interprovincial Shipments, Imports and Coal made Available for Consumption in Canada, by Provinces

(Short tons)

Province	Canadian coal				Imported from U.S.A.	Imported from Great Britain	Coal available for consumption
	Output	Received from other provinces	Shipped to other provinces	Exported			
Prince Edward Island—							
Anthracite	.....	.....	.....	.....	4,624	507	5,131
Bituminous	.....	56,864	.....	.....	9,208	13,436	79,508
Total	.....	56,864	.....	.....	13,832	13,943	84,639
Nova Scotia—							
Anthracite	.....	.....	.....	.....	33,393	20,679	54,072
Bituminous	3,842,978	.....	1,215,959	240,539	178,985	19	2,565,484
Lignite	.....	.....	.....	.....	10	.....	10
Total	3,842,978	.....	1,215,959	240,539	212,388	20,698	2,619,566
New Brunswick—							
Anthracite	.....	.....	.....	.....	45,693	29,256	74,949
Bituminous	208,012	348,389	4,568	25,502	163,982	5,103	695,416
Total	208,012	348,389	4,568	25,502	209,675	34,359	770,365
Quebec—							
Anthracite	.....	.....	.....	.....	896,946	478,223	1,375,169
Bituminous	.....	811,764	.....	11	2,530,661	38,264	3,380,678
Total	.....	811,764	.....	11	3,427,607	516,487	4,755,847
Central Ontario—							
Anthracite	.....	.....	.....	.....	2,182,717	20,564	2,203,281
Bituminous	.....	3,510	.....	.....	9,100,462	.....	9,103,972
Lignite	.....	*26,483	.....	.....	.....	.....	*26,483
Sub-bituminous	.....	* 2,800	.....	.....	.....	.....	*2,800
Total	.....	32,793	.....	.....	11,283,179	20,564	11,336,536
Manitoba and Head of Lakes—							
Anthracite	.....	.....	.....	.....	85,164	.....	85,164
Bituminous	.....	24,548	.....	3,971	932,006	.....	952,583
Lignite	.....	635,715	.....	.....	.....	.....	635,715
Sub-bituminous	.....	84,306	.....	.....	.....	.....	84,306
Total	.....	744,569	.....	3,971	1,017,170	.....	1,757,768
Saskatchewan—							
Anthracite	.....	.....	.....	.....	702	.....	702
Bituminous	.....	93,342	.....	7,418	1,732	.....	87,656
Lignite	471,965	1,180,128	230,811	.....	.....	.....	1,421,282
Sub-bituminous	.....	63,187	.....	.....	.....	.....	63,187
Total	471,965	1,336,657	230,811	7,418	2,434	.....	1,572,827
Alberta—							
Anthracite	.....	.....	.....	.....	30	.....	30
Bituminous	2,145,635	34,425	108,163	926	1,175	.....	2,072,146
Lignite	3,152,742	128	1,683,168	.....	.....	.....	1,469,702
Sub-bituminous	570,654	.....	165,408	.....	.....	.....	405,246
Total	5,869,031	34,553	1,956,739	926	1,205	.....	3,947,124
British Columbia—							
Anthracite	.....	.....	.....	.....	228	18	246
Bituminous	2,742,252	34,362	78,514	507,543	39,550	(a) 736	2,230,843
Lignite	.....	71,525	.....	.....	18,358	.....	89,883
Sub-bituminous	.....	15,115	.....	.....	.....	.....	15,115
Total	2,742,252	121,002	78,514	507,543	58,136	754	2,336,087
Yukon—							
Anthracite	.....	.....	.....	.....	.....	.....	.....
Bituminous	730	.....	.....	.....	4	.....	734
Total	730	.....	.....	.....	4	.....	734
Canada—							
Anthracite	.....	.....	.....	.....	3,249,497	549,247	3,798,744
Bituminous	8,920,607	1,407,204	1,407,204	785,910	12,957,738	(a) 57,585	21,169,020
Lignite	3,624,707	1,913,979	1,913,979	.....	18,368	.....	3,643,075
Sub-bituminous	570,654	165,408	165,408	.....	.....	.....	570,654
Total	**13,134,968**	**3,486,591**	**3,486,591**	**785,910**	**16,225,603**	**606,832**	**29,181,493**

*Includes all coal shipped to any point in Ontario from Western Mines.
(a) Includes 736 tons imported from other countries.

Table 143.—World's Production of Coal[1], 1922-1925

(In metric tons)

Country	1922	1923	1924	1925
North America:				
Canada: Coal	10,587,011	12,103,804	9,139,042	8,626,197
Lignite	3,162,907	3,249,605	3,233,530	3,284,795
Greenland	2,100	2,117	2,500	(a)
Mexico	949,677	1,261,541	(a)	(a)
U.S.: Anthracite	49,607,344	84,675,282	79,765,491	56,082,505
Bituminous, Lignite	383,073,174	512,161,770	438,790,754	474,425,000
South America—				
Argentina	(a)	(a)	(a)	(a)
Brazil	400,000	324,154	268,157	(a)
Chile	1,053,001	1,164,028	1,522,228	1,473,000
Colombia	(a)	(a)	(a)	(a)
Peru	294,492	298,000	(a)	(a)
Venezuela	20,782	18,050	(a)	(a)
Europe—				
Austria: Coal	165,727	158,183	172,043	(a)
Lignite	3,135,902	2,658,907	2,776,946	(a)
Belgium	21,208,500	22,922,340	23,359,790	23,133,160
Bulgaria	1,021,327	1,063,562	1,224,961	(a)
Czecho-Slovakia: Coal	10,464,990	12,347,251	15,178,942	12,550,323
Lignite	19,174,296	16,265,530	20,459,690	18,041,040
France: Coal	31,163,032	37,682,235	44,011,240	48,033,564
Lignite	777,813	861,435	944,080	(a)
Germany: Coal (b)	141,204,597	71,345,820	133,160,764	132,729,097
Lignite	137,207,125	118,248,235	124,359,829	139,789,714
Greece	131,515	118,880	110,750	(a)
Hungary	7,117,610	7,704,765	7,202,026	6,325,779
Italy: Coal (c)	195,352	168,922	22,100	(a)
Lignite	745,402	938,229	1,015,600	(a)
Jugo-Slavia	3,726,508	4,001,265	4,183,600	(a)
Netherlands: Coal (d)	4,866,371	5,595,478	6,160,615	6,850,000
Lignite	28,919	51,185	(a)	(a)
Poland	24,194,797	36,296,032	32,224,680	28,862,000
Portugal	158,500	145,300	136,160	(a)
Roumania	2,116,221	2,366,068	2,775,985	(a)
Russia	8,914,600 (h)	14,504,300	16,189,000	19,000,000
Spain: Coal	4,435,843	5,971,446	6,102,391	5,852,000
Lignite	329,680	394,368	371,488	400,000
Spitzbergen (e)	316,009	340,942	451,914	(a)
Sweden	378,861	410,569	437,856	(a)
Switzerland	3,380	(a)	(a)	(a)
United Kingdom	253,613,054	280,430,369	271,405,414	250,630,000
Asia—				
British India	19,316,112	19,973,285	20,582,156	20,100,000
China	22,681,000	19,955,000	20,969,000	20,000,000
Chosen	317,330	279,978	399,415	630,000
Federated Malay States	286,351	323,100	379,000	(a)
Indo-China	988,991	1,056,921	1,235,880	(a)
Japan (f)	29,330,029	30,658,474	31,794,041	(a)
Russia	1,276,900	(g)	(g)	(g)
Turkey	680,000	(a)	(a)	(a)
Africa—				
Algeria	8,855	3,562	9,228	(a)
Nigeria	123,027	173,422	205,250	(a)
Rhodesia	467,787	559,999	591,526	689,200
Tunis	343	620	305	(a)
Union of South Africa	8,830,774	10,810,897	11,332,406	12,936,000
Oceania—				
Australia	12,496,417	12,837,099	14,107,844	11,200,000
British Borneo	88,948	90,000	(a)	(a)
Dutch East Indies	1,032,310	1,156,625	1,470,362	(a)
New Zealand	1,887,637	2,001,450	2,116,642	(a)
Total	**1,225,500,000**	**1,359,900,000**	**1,354,300,000**	**1,368,000,000**

[1] Source—*Mineral Industry* 1925.

(a) Estimate included in total. (b) Includes Saar Basin. (c) Includes new provinces. (d) Includes slack. (e) Shipments to Norway and Sweden. (f) Including Taiwan and Karafuto. (g) Russia in Asia included with Russia in Europe.

COKE

Summary statistics relating to the production of coke and its by-products have been included in this report as a matter of interest.

Table 144.—Production[1] Exports, and Imports of Coke and its By-Products in Canada, 1923, 1924 and 1925

	1923		1924		1925	
	Quantity	Value	Quantity	Value	Quantity	Value
		$		$		$
Coke—						
Coal charged to ovens—						
(a) In coke plants:						
Domestic ... Tons	736,818	3,120,403	584,304	2,110,064	598,280	2,070,313
Foreign ... "	970,206	6,071,461	826,613	4,415,142	930,738	4,723,140
(b) In gas plants:						
Bituminous ... "	728,011	5,660,184	681,480	4,723,734	723,394	4,395,445
Anthracite ... "	22,760	284,988	20,064	251,899	15,323	183,050
Total ... "	2,457,795	15,137,036	2,112,461	11,500,839	2,267,735	11,371,948
Output of coke, by provinces—						
Nova Scotia and New Brunswick ... "	392,041	3,446,732	259,376	1,621,123	307,253	1,667,781
Quebec ... "	206,952	1,455,135	139,435	1,110,537	197,703	1,087,366
Ontario ... "	856,511	7,095,792	812,939	6,038,724	820,839	5,957,333
Manitoba ... "	28,278	357,189	28,450	336,762	30,660	326,882
British Columbia ... "	153,313	1,455,701	130,399	1,181,657	180,284	1,433,479
Total ... "	1,637,135	13,812,549	1,370,599	10,288,803	1,546,739	10,482,841
Imports of coke ... "	733,604	5,790,771	521,725	3,131,485	852,427	5,553,491
Exports of coke ... "	34,407	433,497	23,144	393,976	44,992	675,595
Apparent consumption of coke[2] ... "	2,336,332	19,169,823	1,869,180	13,026,309	2,354,174	15,360,740
Other Products—						
Production in Canada—						
Ammonium sulphate ... Tons	21,518	1,268,146	17,343	865,530	18,251	909,097
Gas: (a) From coke plants ... M. cu. ft.	14,798,857	1,842,006	8,437,314	1,879,296	12,124,412	2,030,129
(b) From gas plants ... "	13,595,429	...	13,227,402	...	13,507,487	...
Light oils ... Imp. gal.	...	130,662	1,810,301	216,805	2,100,705	263,503
Tar and tar products ... "	17,739,609	611,674	19,007,522	736,034	18,801,192	1,050,655
All other products[3] ...	...	581,065	...	346,762	...	105,178
Imports—						
Ammonium sulphate ... Tons	259	18,577	388	27,111	398	27,544
Coal tar and pitch ... Gals.	5,774,256	324,732	2,880,499	186,178	3,636,880	258,944
Coal tar base or salt ... Tons	45	27,810	81	33,397	111	50,647
Exports—						
Ammonium sulphate ... Tons	17,320	1,044,681	13,357	681,709	12,560	637,310
Tar and pitch ... Gals.	4,586,753	582,013	2,339,041	273,900	2,658,851	188,007

[1]Production data includes the outputs of the "Coke and its By-products Industry" and of the "Illuminating and Fuel Gas Industry."
[2]Includes the consumption in companies' own coke plants and in associated metallurgical works.
[3]Including ammonia liquor and other products.

FELDSPAR

Canadian feldspar production in 1925 amounted to 28,681 tons valued at $235,789, as compared with 44,804 tons produced in 1924, valued at $358,540. Of the total 1925 production, Quebec contributed 11,287 tons and Ontario 17,394 tons.

Production in 1925, however, was only slightly lower than the 1923 output of 29,225 tons. It may be noted that a somewhat similar trend was observed in the United States feldspar production figures. Data for 1924 showed an advance of about 41 per cent over the total for the preceding year, while the tonnage sold in 1925 marked a loss of 10 per cent from the figures for 1924.

Exports of Canadian feldspar amounted to 28,659 tons evaluated at $209,164 as against 37,869 tons worth $274,681 exported in the previous year. Importations into Canada totalled 1,570 tons as compared with 1,921 tons in 1924.

Feldspar, fine-ground, is used in the manufacture of enamelware, pottery and porcelain, washing compounds, abrasives, glass, roofing and paint, and in coarser form, as a constituent of artificial walls and floors. Most of the Canadian production is exported in the crude form to the United States for grinding.

Since the consumption of spar in Canada in the finely ground condition is not over 3,000 tons per annum, no difficulty is experienced in securing raw material of a quality suitable for any section of the industry. The bulk of the domestic demand is now supplied by Canadian mills. The average price received for crude spar in 1925 was $8.22 per ton, while the ground material brought about $16.65 per ton.

Grinding plants with a total capacity of 7,500 tons per annum are situated at Toronto and Kingston, Ontario. The Industrial Minerals Corporation of Toronto, and the Frontenac Floor and Wall Tile Company at Kingston operated grinding plants during the year.

Table 145.—Production of Feldspar in Canada, 1890-1925

Year	Tons	Value	Year	Tons	Value	Year	Tons	Value
		$			$			$
1890	700	3,500	1902	7,576	15,152	1914	18,060	70,824
1891	685	3,425	1903	13,928	18,966	1915	14,559	57,801
1892	175	525	1904	11,083	22,166	1916	19,488	71,407
1893	575	1,525	1905	11,700	23,400	1917	19,462	89,826
1894	.....	.....	1906	16,948	40,890	1918	18,782	112,728
1895*	.....	2,545	1907	12,584	29,819	1919	14,679	86,231
1896*	972	2,583	1908	7,877	21,099	1920	37,873	280,895
1897	1,400	3,290	1909	12,783	40,383	1921	29,868	230,754
1898	2,500	6,250	1910	15,809	47,667	1922	27,727	248,402
1899	3,000	6,000	1911	17,723	51,939	1923	29,225	237,601
1900	318	1,112	1912	13,733	30,916	1924	44,804	358,540
1901	5,350	10,700	1913	16,790	60,795	1925	28,681	235,789
						Total	**477,417**	**2,528,445**

*Exports.

Table 146.—Production in Canada, Imports and Exports of Feldspar, 1923, 1924 and 1925

—	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
PRODUCTION—						
Quebec	12,026	102,779	16,147	142,118	11,287	94,730
Ontario	17,199	134,822	28,657	216,422	17,394	141,059
Total	**29,225**	**237,601**	**44,804**	**358,540**	**28,681**	**235,789**
IMPORTS	1,701	36,622	1,921	37,845	1,570	31,114
EXPORTS	26,476	177,569	37,869	274,681	28,659	209,164

Table 147.—World's Production of Feldspar 1913, and 1921-1925

(Long tons)

Country	1913	1921	1922	1923	1924	1925
United Kingdom†	66,626	35,976	39,751	54,589	55,756	57,379
Canada[1]	14,991	26,668	24,756	26,094	40,003	25,608
Australia	.....	26	85	33	15	32
Finland	.....	942	1,301	778	659	788
Germany (Bavaria)	(a)	7,132	5,982	8,851	32,605	10,093
Italy	.....	2,360	2,745	4,989	3,200	2,500
Japan	(a)	(a)	15,802	22,571	23,050	(a)
Norway (exports)	40,186	9,200	11,643	12,863	20,530	26,355
Russia	(a)	662	(a)	(a)	(a)	(a)
Sweden	37,269	19,661	22,010	16,008	18,999	26,244
United States	107,996	91,865	117,127	145,004	204,772	184,100
Total	**267,068**	**194,492**	**241,202**	**291,780**	**399,589**	**333,099**

†Including China Stone.
*Source—
[1]Dominion Bureau of Statistics, Canada.
Prior to 1925, Imperial Mineral Resources Department publications. 1925 figures obtained directly from statistical bureaus of the different countries.
(a) Data not available.

ERRATUM

The first paragraph under the heading "Graphite" should read as follows:—

The year under review marked a considerable advance in the production of graphite in Canada. The 1925 shipments totalling in all 2,569 tons have been exceeded only by the production during the war years. In 1924 the sales amounted to 1,334 tons at $76,117. The Black Donald Graphite Company; the Canadian Graphite Corporation; North American Graphite Company; Quebec Graphite Corporation; and the Timmins Graphite Company all reported shipments during 1925. The Graphite Refining Company re-opened the old Globe mine, near Port Elmsley, Ontario.

FLUORSPAR

In 1925, flourspar production in Canada amounted to 3,886 tons with a valuation of $19,234 as compared with 76 tons at $1,343 produced in the previous year. Importations of fluorspar into Canada increased considerably and amounted to 5,111 tons worth $60,458 as against 4,355 tons appraised at $50,158 in 1924.

A small amount of the 1925 production was credited to the province of Ontario; the remainder was shipped from the Rock Candy mine owned and operated by the Consolidated Mining & Smelting Co. Limited for use in their own smelter at Trail, British Columbia.

Table 148.—Production in Canada and Imports of Fluorspar, 1923, 1924 and 1925

—	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
PRODUCTION—						
Ontario	64	597	76	1,343	12	200
British Columbia	75	1,135	.....	.....	3,874	19,034
Total	**139**	**1,732**	**76**	**1,343**	**3,886**	**19,234**
IMPORTS—						
Hydro fluo silicic acid	3·8	662	·01	40	2·18	636
Fluorspar	17,235	199,595	4,355	50,158	5,111	60,458

GRAPHITE

In 1925, fluorspar production in Canada amounted to 3,886 tons with a valuation of $19,234 as compared with 76 tons at $1,343 produced in the previous year. Importations of production during the war years. In 1924 the sales amounted to 1,334 tons at $76,117. The Black Donald Graphite Company; the Canadian Graphite Corporation; North American Graphite Company; Quebec Graphite Corporation; and the Timmins Graphite Company all reported shipments during 1925. The Graphite Refining Company re-opened the old Globe mine, near Port Elmsley, Ontario.

Prices in the United States market are summed up in the *Engineering and Mining Journal* as follows:—

"With practically no graphite to be sold at sacrifice prices, as in former years, the prices for all grades of graphite increased during 1925. New York prices for Ceylon material averaged about as follows: No. 1 lump, 93 to 9½c.; No. lump, 8 to 8½c.; No. 1 chip, 7½ to 8c.; No. 2 chip, 7 to 7½c.; No. 1 dust, 5 to 6c.; No. 2 dust, 4 to 5c. per pound.

"Flake graphite from Madagascar, after paying a duty of 1½c. per lb., sold in New York at 6 to 8c. per lb. The Canadian and domestic flake graphites seem to have commanded approximately the same prices."

Table 149.—Production of Graphite in Canada, 1886-1925

Year	Tons	Value	Year	Tons	Value	Year	Tons	Value
		$			$			$
1886	500	4,000	1899	1,130	24,179	1913	2,162	90,282
1887	300	2,400	1900	1,922	31,040	1914	1,647	107,203
1888	150	1,200	1901	2,210	38,780	1915	2,535	124,223
1889	242	3,160	1902	1,095	28,300	1916	3,955	325,362
1890	175	5,200	1903	728	23,745	1917	3,714	402,892
1891	260	1,560	1904	452	11,760	1918	3,114	248,870
1892	167	3,763	1905	541	16,735	1919	1,360	100,221
1893	.....	.....	1906	387	18,300	1920	2,190	165,617
1894*	3	223	1907	579	16,000	1921	937	65,862
1895	220	6,150	1908	251	5,565	1922	597	31,353
1896	139	9,455	1909	864	47,800	1923	1,113	67,873
1897	436	16,240	1910	1,392	74,087	1924	1,334	76,117
1898	.....	13,698	1911	1,269	69,576	1925	2,569	158,763
			1912	2,060	117,122			
						Total	**44,799**	**2,554,676**

*Exports.

Table 150.—Production in Canada, Imports and Exports of Graphite, 1923, 1924 and 1925

—	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
Ore milled	1,400	.....	3,590	.....	[illegible]	.....
PRODUCTION—						
No. 1 Flake						
No. 2 Flake	1,113	67,873	1,334	76,117	2,569	158,763
No. 3 Flake and dust						
Total	**1,113**	**67,873**	**1,334**	**76,117**	**2,569**	**158,763**
IMPORTS—						
Crucibles, plumbago	.....	57,322	.....	42,740	.....	49,730
Plumbago, not ground or otherwise manufactured	.....	1,661	.....	2,651	.....	772
Plumbago, ground and manufactures of, n.o.p.	.....	70,704	.....	50,924	.....	91,767
EXPORTS—						
Graphite or plumbago, crude or refined	799	36,980	1,148	59,992	2,483	135,897

Artificial Graphite.—Artificial graphite is manufactured in electric furnaces at Niagara Falls, Ontario, by the Acheson Graphite Company. The annual production over a period of sixteen years is shown in the following table:

Table 151.—Artificial Graphite made in Canada, 1910-1925

Year	Pounds	Year	Pounds	Year	Pounds
1910	2,442,166	1915	497,271	1921	376,508
1911	2,172,098	1916	525,048	1922	724,524
1912	2,302,625	1917	1,096,172	1923	1,554,376
1913	2,184,472	1918	1,808,698	1924	816,455
1914	1,234,239	1919	358,524	1925	688,230
		1920	207,180		

GYPSUM

Increased production of gypsum in Nova Scotia was mainly responsible for the establishment of a new high record for this industry in 1925. The total production for Canada in 1925 was 740,323 tons with a valuation of $2,389,891 as compared with 646,016 tons at $2,208,108 in 1924. Production included lump, crushed, fine ground, and calcined gypsum, the last-named item comprising sales and also the calcined gypsum used in the calcining plants for the production of wall plaster, wallboard, alabastine, and other gypsum products. The average values received by the operators were as follows: lump, $1.51; crushed, $1.83; fine ground, $5.98; and calcined, $8.62 per ton. The total gypsum mined during 1925 was 705,852 tons, of which quantity 162,820 tons or 23 per cent was calcined.

For statistical purposes, as noted above, the production of gypsum is considered to be the sum of the quantities disposed of in the different marketable forms, care being taken to avoid duplication; the values used are those at point of shipment.

Imports of gypsum into Canada were recorded at 8,921 tons with a valuation of $136,308 as compared with a total of 7,323 tons at $128,100 imported in 1924.

Exports of Canadian crude gypsum, principally to the United States, totalled 533,646 tons. Ground gypsum and prepared wall plaster exported during the year amounted to 5,643 tons; United States, Newfoundland, Australia and New Zealand were the principal buyers of these materials.

Table 152.—*World's Production of Gypsum 1913, and 1921-1925

(Long tons)

Country	1913	1921	1922	1923	1924	1925
British Empire						
United Kingdom	285,338	264,861	257,510	317,909	371,703	414,529
Canada	568,188	345,134	499,344	516,340	576,809	661,003
Union of South Africa	108	(a)	(a)	5,731	9,073	(a)
Cyprus (b)	3,714	8,881	11,873	11,029	14,299	24,123
India	24,961	33,801	40,701	39,297	38,123	(a)
Australia	8,826	45,822	53,941	68,236	85,861	90,150
Total	**891,135**	**698,502**	**863,398**	**958,542**	**1,095,856**	**1,189,805**
Foreign Countries						
Austria	.....	16,953	28,300	35,561	32,262	24,067
France	1,698,633	1,738,458	1,738,859	2,319,414	(a)	(a)
Germany	.....	2,928	46,557	29,579	42,635	57,352
Greece	2,194	1,243	2,458	2,434	(a)	(a)
Italy	.....	448,071	458,904	547,364	590,298	662,707
Rumania	.....	.....	8,916	37,810	20,45[illegible]	(a)
Spain (b)	6,938	4,601	4,218	2,444	4,568	2,958
Algeria	.....	.....	42,900	48,633	(a)	(a)
United States	2,320,989	2,581,057	3,374,954	4,244,150	4,502,347	5,066,964
Argentina (b)	171	1,771	1,289	2,106	2,179	1,833
Chile	6,038	11,616	6,982	8,147	5,600	(a)
China (b)	4,970	6,059	7,631	7,159	5,042	6,984
Japan	(a)	(a)	53,202	33,724	42,400	(a)
New Caledonia	.....	.....	12,000	(a)	(a)	(a)
Total	**4,039,933**	**4,812,757**	**5,787,170**	**7,318,525**	**5,247,785**	**5,822,865**
Grand Total	**4,931,068**	**5,511,259**	**6,650,569**	**8,277,067**	**6,343,641**	**7,012,670**

* Source—Imperial Mineral Resources Department publications. 1925 figures obtained directly from the statistical bureaus of the different countries.

(a) Data not available.

(b) Exports.

Table 153.—Production of Gypsum in Canada, 1886-1925

Year	Tons	Value	Year	Tons	Value	Year	Tons	Value
		$			$			$
1886	162,000	178,742	1900	252,101	259,009	1914	516,880	1,156,207
1887	154,008	157,277	1901	293,799	340,148	1915	474,815	854,929
1888	175,887	179,393	1902	333,599	379,479	1916	342,915	738,593
1889	213,273	205,108	1903	314,489	388,459	1917	336,332	881,984
1890	226,509	194,033	1904	345,961	373,474	1918	152,287	823,006
1891	203,605	206,251	1905	442,158	586,168	1919	299,063	1,215,287
1892	241,048	241,127	1906	469,022	643,294	1920	429,144	1,893,091
1893	192,568	196,150	1907	485,921	646,914	1921	386,556	1,785,538
1894	223,631	202,031	1908	340,964	575,701	1922	559,265	2,160,898
1895	226,178	202,608	1909	473,129	809,632	1923	578,301	2,243,100
1896	207,032	178,061	1910	525,246	934,446	1924	646,016	2,208,108
1897	239,691	244,531	1911	518,383	993,394	1925	740,323	2,389,891
1898	219,256	232,515	1912	578,458	1,324,620			
1899	244,566	257,329	1913	636,370	1,447,739	Total	14,400,743	30,929,165

Table 154.—Summary of Statistics on Gypsum in Canada, 1923, 1924 and 1925

—	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
Crude gypsum mined	558,853	.....	703,733	.....	705,852	.....
Crude gypsum calcined	152,036	.....	144,744	.....	162,820	.....
PRODUCTION BY GRADES—						
Lump	217,414	394,217	139,618	253,191	131,612	198,808
Crushed	232,899	443,431	381,262	693,785	447,766	820,141
Fine ground	7,452	45,719	5,478	31,882	5,993	35,843
Calcined	120,536	1,359,733	119,658	1,229,250	154,952	1,335,101
Total	**578,301**	**2,243,100**	**646,016**	**2,208,108**	**740,323**	**2,389,891**
PRODUCTION BY PROVINCES—						
Nova Scotia	341,705	747,934	441,752	915,845	551,230	1,070,408
New Brunswick	104,740	564,680	86,738	476,804	71,745	408,917
Ontario	99,958	542,317	88,121	467,097	82,020	491,833
Manitoba	31,575	386,554	29,375	348,212	35,088	417,868
British Columbia	323	1,615	30	150	240	865
Total	**578,301**	**2,243,100**	**646,016**	**2,208,108**	**740,323**	**2,389,891**
IMPORTS—						
Crude	3,654	39,336	3,252	63,156	4,433	66,064
Ground	78	3,253	102	2,174	119	3,858
Plaster of Paris	3,617	54,591	3,969	62,770	4,369	66,386
Total	**7,349**	**97,180**	**7,323**	**128,100**	**8,921**	**136,308**
EXPORTS—						
Crude	397,329	578,859	472,236	747,829	533,646	861,468
Ground	4,654	92,478	5,226	83,927	5,643	87,242
Total	**401,983**	**671,337**	**477,462**	**831,756**	**539,289**	**948,710**

IRON OXIDES

Iron oxides in Canada have two main uses: (*a*) for the purification of illuminating gas and (*b*) as a raw material in the paint industry. When the material is to be used in the purification of coal gas, the iron oxides are shipped as mined but when it is to be used in the manufacture of paints, it is customary to dry and calcine the oxides before they are shipped.

Shipments of iron oxides in 1925 amounted to 7,118 tons valued at $91,913, as compared with 7,266 tons valued at $91,160 in 1924.

Although the province of Quebec claimed the greater part of this production, small shipments were also made from the province of British Columbia.

Table 155.—Production of Iron Oxides in Canada, 1886-1925

Year	Tons	Value	Year	Tons	Value	Year	Tons	Value
		$			$			$
1886	350	2,350	1900	1,966	15,398	1914	5,890	51,725
1887	485	3,733	1901	2,233	16,735	1915	6,248	48,353
1888	397	7,900	1902	4,955	30,495	1916	8,811	58,711
1889	794	15,280	1903	6,266	32,760	1917	9,409	87,605
1890	275	5,125	1904	3,925	24,995	1918	17,317	112,440
1891	900	17,750	1905	5,105	34,675	1919	11,862	113,427
1892	390	5,800	1906	6,758	36,125	1920	19,128	157,909
1893	1,070	17,700	1907	5,828	35,570	1921	9,018	93,610
1894	611	8,690	1908	4,746	30,440	1922	7,285	110,608
1895	1,339	14,600	1909	3,940	28,093	1923	10,424	129,636
1896	2,362	16,045	1910	4,813	35,185	1924	7,266	91,160
1897	3,905	23,560	1911	3,622	28,333	1925	7,118	91,913
1898	2,226	17,450	1912	7,654	32,410			
1899	3,919	20,000	1913	5,987	41,774	**Total**	**206,627**	**1,746,068**

Table 156.—Production in Canada, Imports and Exports of Iron Oxides, 1923, 1924 and 1925

—	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
PRODUCTION	10,424	129,636	7,266	91,160	7,118	91,913
IMPORTS—						
Ochrey earths	2,251	79,203	2,103	72,414	2,401	82,096
Oxides	3,530	476,382	2,435	387,544	2,532	460,063
EXPORTS (mineral pigments, iron oxides and ochres)	1,041	51,617	882	44,681	850	40,435

LITHIUM MINERALS

In a statement prepared by J. F. Wright, Federal Department of Mines, Ottawa, Canada, on the subject of lithium minerals, there are the following remarks:—

"An outcrop of massive lepidolite was discovered in July, 1924, about one mile south of the Winnipeg river, some 10 miles east and a little north of Pointe du Bois. The Manitoba lithium deposits are the only ones of possible commercial value known within the British Empire.

At the Silver Leaf Mining Syndicate deposit, the lithium minerals occur in pockets and lenses in the central portion of a body of pegmatite which is exposed for 125 feet in a general east-west direction and across an average width of 80 feet. An analysis of a hand-picked sample, judged to represent approximately the lithium-bearing rock after the gangue has been removed, gave 4.76 per cent lithia (Li_2O). There is estimated to be between 2,500 and 3,000 tons of this type of ore for each 10 feet in depth within a horizontal area equal to that at the surface. Two lens-shaped bodies of lepidolite, or a lithia mica of like character, estimated to contain about 540 tons of lithia ore for each 10 feet in depth and averaging 3.87 per cent lithia, occur near the south side of the pegmatite mass. This lithia mica contains only one-tenth of one per cent iron (Fe_2O_3), and therefore probably will be found satisfactory for the manufacture of opal, white and flint glass."

Experimental shipments of material containing lepidolite and spodumene were made to England during 1925. Considerable development work, draining, ditching, stripping, etc., was carried on during the year.

MAGNESITE

The total production of magnesite in Canada for 1925 amounted to 5,576 tons valued at $122,325 as against 3,873 tons valued at $101,356 in 1924.

All the magnesite mined during 1925 was produced in the province of Quebec and was sold in three forms, namely, crude, dead-burned and calcined. Dead-burned magnesite is used entirely in the metallurgical industry as a refractory lining for furnaces. Calcined magnesite is used as a plastic material for floors and walls in buildings and also in the manufacture of pipe and furnace coverings, as it has strong insulating properties.

The *New Tariff Act of 1922 on Imports into United States*, which came into effect in September, 1922, provided the following duties on the various forms of magnesite; Crude magnesite, 5/16 of 1 cent per pound; caustic calcined magnesite, 5/8 of 1 cent per pound; dead burned and grain magnesite, not suitable for manufacture into oxychloride cements, 23/40 of 1 cent per pound.

Exports of calcined magnesite from Canada amounted to 834 tons in 1925 as against 293 tons in 1924.

Table 157.—Production of Magnesite in Canada, 1908-1925

Year	Tons	Value	Year	Tons	Value
		$			$
1908	120	840	1918	39,365	1,016,765
1909	330	2,508	1919	11,273	328,465
1910	323	2,160	1920	18,378	512,756
1911	991	5,531	1921	3,730	81,320
1912	1,714	9,645	1922	2,849	76,294
1913	515	3,335	1923	4,801	134,382
1914	358	2,240	1924	3,873	101,356
1915	14,779	126,584	1925	5,576	122,325
1916	55,413	563,829			
1917	58,090	728,275	**Total**	**222,478**	**3,818,610**

Table 158.—Production in Canada, Imports and Exports of Magnesite, 1923, 1924 and 1925

—	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
Crude, mined	13,315	.....	10,485	.....	4,219	.....
Crude, calcined	12,125	.....	5,162	.....	6,210	.....
PRODUCTION—						
Crude	.....	.....	.....	.....	1,507	6,406
Calcined	120	3,705	1,535	30,216	4,069	115,919
Dead-burned	4,681	130,677	2,338	71,140		
Total	**4,801**	**134,382**	**3,873**	**101,356**	**5,576**	**122,325**
IMPORTS—						
Magnesia pipe covering	.....	141,926	.....	121,046	.....	108,681
Magnesite	244	9,223	280	8,980	111	4,528
Magnesite firebrick	.....	120,453	.....	91,553	.....	75,161
EXPORTS—						
Crude	.....	.....	.....	.....	.....	.....
Calcined	563	14,056	293	8,520	834	21,401

Table 159.—*World's Production of Magnesite, 1913, and 1921-1925

(Unless otherwise stated the quantities in the table represent crude magnesite mined.)

(Metric tons)

COUNTRY	1913	1921	1922	1923	1924	1925
Australia—						
New South Wales	7,112	12,465	3,424	6,229	12,691	12,000
South Australia	.....	175	585	168	131	357
Victoria	106	130	99	76	77	.....
Western Australia	.....	.....	.....	(a) 2	151	.....
Austria-Hungary	(a) 422,349	(c) 160,823	427,556	(c) 180,291	(c) 155,644	160,000
Canada	.....	4,521	7,899	12,934	(f) 3,514	5,056
Cyprus	.....	.....	895	285	224	.....
Greece	98,157	58,249	56,642	57,783	58,200	58,000
India, British	16,458	20,338	10,582	19,749	24,868	20,000
Italy	600	9,410	8,700	12,474	13,433	11,000
Norway	(b) 656	(b) 210	(b) 1,260	(b) 3,879	2,441	.....
Russia	.....	(d) 16,382	10,567	(e) 15,425	30,600	30,000
Spain	958	.....	303	.....	.....	.....
Union of South Africa	493	1,317	962	1,240	2,002	1,860
United States (sold or treated)	8,738	43,458	50,612	133,582	94,721	109,460
Venezuela (exports)	No data available	2,459	No data available		No data available	
Total	**555,537**	**329,928**	**580,086**	**444,117**	**398,587**	**407,733**

*From *Mineral Resources of the United States*, 1925.

(a) Exports, and computed on a basis of 2·1 tons crude to 1 ton sintered.

(b) Exports. Computed on the basis of 2·1 tons crude to 1 ton sintered. In addition in 1913 there were 626 tons of magnesite brick exported; in 1921 there were 337 tons exported.

(c) Exports from the Republic of Austria, computed on the basis of 2·1 tons crude to 1 ton sintered. In addition 8,252 tons of caustic magnesite were exported in 1921. In 1922 the companies operating, reported 427,556 tons raw magnesite produced.

(d) Computed on the basis of 2·1 tons crude to 1 ton sintered.

(e) Operation year Oct. 1, 1922 to Sept. 30, 1923.

(f) From Table 157 of this report.

MAGNESIUM SULPHATE

No production of magnesium sulphate in Canada was reported during 1925. In 1924, there were no shipments of this commodity but 121 tons valued at $6,580 were shipped in 1923.

Importations during the year of magnesium sulphate or epsom salts amounted to 2,137 tons valued at $45,181; no exports were recorded.

Natural magnesium sulphate occurs in a deposit near Ashcroft, British Columbia, owned by the Basque Chemical Company. During 1923 shipments were made from this deposit as far east in Canada, as Toronto, Ontario.

Table 160.—Production in Canada, Imports and Exports of Magnesium Sulphate, 1923, 1924 and 1925

—	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
PRODUCTION—						
Crude	.....	.....	.....	.....	.....	.....
Refined	121	6,580	.....	.....	.....	.....
IMPORTS	1,867	47,155	2,238	54,139	2,137	45,181
EXPORTS	20	830	.....	.....	.....	.....

MICA

The total production of mica in 1925 amounted to 4,020 tons valued at $261,463, or an average price of 0.03 cents per pound as against 4,091 tons valued at $357,272 in 1924.

Shipments of rough-cobbed grades were over 20 per cent lower in 1925 than in the previous year. Thumb-trimmed production was also less by approximately 300,000 pounds while splittings were higher by about 24,000 pounds.

Scrap material, which includes mica that is too small and irregular for splitting, and the refuse from the trimming shops, is ground and bolted into various sizes, grading from 20-mesh to 200-mesh. Grades ranging from 20 to 80-mesh are used in the manufacture of prepared roofings; the 40-mesh grade, if free from grit, is used as a lubricant in some axle greases; and the 200-mesh grade is used as a filler in rubber manufacture.

Deposits of phlogopite mica in the Lièvre-Gatineau district, Quebec, and in Frontenac county, Ontario, continued to be the source of practically the entire Canadian production. It will be noted that the stated value of the exports of Canadian mica exceeded by a considerable amount the value placed on shipments reported by operators. An explanation of this, lies in the fact, that the exported material consisted principally of mica splittings shipped from large trimming shops situated in Ontario and Quebec.

Under the United States *New Tariff Act* the duties on the different grades of mica are as follows: Mica, unmanufactured, valued at not above 15 cents per pound—4 cents per pound; Mica, unmanufactured, valued at above 15 cents per pound—25 per centum ad valorem; mica, cut or trimmed and mica splittings—30 per centum ad valorem; mica plates, and built-up mica, and all manufactures of mica, of which mica is the component material of chief value—40 per centum ad valorem; ground mica—20 per centum ad valorem.

Table 161.—Production of Mica in Canada, 1886-1925

Year	Value	Year	Tons	Value	Year	Tons	Value
	$			$			$
1886	29,008	1900	.....	166,000	1914	595	109,061
1887	29,816	1901	.....	160,000	1915	417	91,905
1888	30,207	1902	.....	135,904	1916	1,208	255,239
1889	28,718	1903	.....	177,857	1917	1,166	358,851
1890	68,074	1904	.....	160,777	1918	747	271,550
1891	71,510	1905	.....	178,235	1919	2,751	273,788
1892	101,745	1906	.....	303,913	1920	2,203	376,022
1893	75,719	1907	.....	312,599	1921	702	70,063
1894	45,581	1908	.....	139,871	1922	3,349	152,263
1895	65,000	1909	369	147,782	1923	3,525	326,974
1896	60,000	1910	758	390,385	1924	4,091	357,272
1897	76,000	1911	590	128,677	1925	4,020	261,463
1898	118,375	1912	530	143,976			
1899	163,000	1913	1,104	194,304	Total	.....	6,419,484

Table 162.—Production of Mica in Canada by Grades, 1924 and 1925

(Long tons)

—	1924			1925		
	Pounds	Value f. o. b. shipping point	Price per pound	Pounds	Value f. o. b. shipping point	Price per pound
		$	$		$	$
Rough cobbed	535,295	33,337	0·06	413,500	23,471	0·05
Thumb-trimmed	662,709	142,405	0·21	357,943	73,443	0·20
Splittings only	164,734	137,248	0·83	188,265	129,454	0·69
Scrap	6,819,636	44,282	0·006	7,080,331	35,095	0·05
Total	**8,182,374**	**357,272**	**0·04**	**8,040,039**	**261,463**	**0·03**

Table 163.—Production in Canada and Exports of Mica, 1923, 1924 and 1925

—	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
PRODUCTION—		$		$		$
Quebec	1,545	216,684	1,677	185,020	2,415	178,800
Ontario	1,980	110,290	2,414	172,252	1,605	82,663
Total	**3,525**	**326,974**	**4,091**	**357,272**	**4,020**	**261,463**
EXPORTS—						
Cobbed	85	40,286	88	52,527	28	21,366
Splittings	502	624,110	285	424,593	230	324,967
Scrap and waste	4,855	70,866	4,519	63,610	4,991	63,931
Plate and manufactures	.....	22,014	.....	3,326	.....	1,046
Total	.....	**757,276**	.....	**543,966**	.....	**411,310**

Table 164.—*World's Production of Mica, 1913 and 1921-1925

(Long tons)

Country	1913	1921	1922	1923	1924	1925
British Empire						
Canada	986	627	2,990	3,147	3,653	3,589
India	2,288	1,624	2,992	3,948	4,112	4,985
Southern Rhodesia	.....	76	59	81	134	130
Tanganyika Territory	.....	3	11	32	55	68
Union of South Africa	.....	2	1	13	892	1,439
Ceylon	.....	5	1	1	.....	(a)
Australia	.....	.....	4	.....	2	4
Total	**3,274**	**2,337**	**6,058**	**7,222**	**8,848**	**10,215**
Foreign Countries						
United States	5,511	2,632	6,411	8,112	4,856	4,670
Madagascar	.....	152	91	162	274	282
Argentina (exports)	6	145	63	100	118	117
Brazil	10	45	66	55	78	(a)
Japan	.....	.....	15	424	582	(a)
Guatemala	.....	(b)	(c) 4	.....	.....	.....
Korea	.....	.....	.....	11	23	(a)
Norway	.....	2	1	.....	.....	.....
Russia	.....	.....	8	(a)	(a)	(a)
Spain	.....	2	.....	3	(a)	(a)
Sweden	.....	.....	8	5	4	(a)
Total	**5,527**	**2,978**	**6,667**	**8,872**	**5,935**	**5,069**
Grand Total	**8,801**	**5,315**	**12,725**	**16,094**	**14,783**	**15,284**

*Source—Prior to 1925 Imperial Mineral Resources Department publications, 1925 figures obtained directly from statistical bureaus of the different countries.
(a) Data not available.
(b) Less than ½ ton.
(c) Estimated.

MINERAL WATERS

Mineral waters produced in Canada during 1925 amounted to 190,134 imperial gallons valued at $28,413 as compared with 209,353 gallons valued at $15,421 in the previous year. Mineral springs in Ontario and Quebec contributed the whole of the Canadian production. In the present compilation there has been included a record of all natural mineral waters sold to the general public for medicinal purposes. No record has been kept of the shipments made of ordinary spring waters. The values given do not take into account any mineral waters used at the springs for drinking or bathing purposes but include only the shipments from the springs in bottles or other containers.

Table 165.—Production of Mineral Waters in Canada, 1888-1925

Year	Imp. gals.	Value	Year	Value	Year	Imp. gals.	Value
		$		$			$
1888	124,850	11,456	1901	100,000	1914	.....	134,111
1889	424,600	37,360	1902	100,000	1915	.....	115,274
1890	561,165	66,031	1903	100,000	1916	.....	127,806
1891	427,485	54,268	1904	100,000	1917	.....	145,814
1892	640,380	75,348	1905	100,000	1918	.....	154,468
1893	725,096	108,347	1906	100,000	1919	.....	71,015
1894	767,460	110,040	1907	136,020	1920	.....	24,582
1895	739,382	126,048	1908	151,953	1921	328,273	21,716
1896	706,372	111,736	1909	175,173	1922	221,433	14,220
1897	749,691	141,477	1910	199,563	1923	232,451	16,455
1898	555,000	100,000	1911	223,758	1924	209,353	15,421
1899	.....	100,000	1912	172,465	1925	190,134	28,413
1900	.....	75,000	1913	173,677	**Total**	.....	**3,819,015**

Table 166.—Production in Canada, Imports and Exports of Mineral Waters, 1923, 1924 and 1925

—	1923		1924		1925	
	Imp. gals.	Value	Imp. gals.	Value	Imp. gals.	Value
		$		$		$
PRODUCTION, by provinces—						
Quebec	5,421	2,408	7,683	2,288	7,122	2,961
Ontario	227,030	14,047	201,670	13,133	183,012	25,452
Total	**232,451**	**16,455**	**209,353**	**15,421**	**190,134**	**28,413**
IMPORTS—Mineral and aerated waters	.....	169,473	.....	181,107	.....	186,543
EXPORTS—Mineral and aerated waters	.....	192,261	.....	109,735	.....	12,402

NATRO-ALUNITE

The Alunite Chemical Corporation, Limited, shipped 20 tons of natro-alunite from a deposit at Kyuquot sound on the west coast of Vancouver island, British Columbia. The treatment of this material consists in crushing, grinding and roasting; the resultant product, calcined alunite may be used as a fertilizer because of the potash content.

NATURAL GAS

Natural gas production in Canada during 1925 totalled 16,902,897 thousand cubic feet valued at $6,833,005. While the quantity of natural gas produced in 1925 has been exceeded in previous years the value recorded for 1925 was considerable in excess of the total for any preceding year. In 1924, the total production was 14,881,336 thousand cubic feet with a valuation of $5,708,636. For the first time in the history of Canada, the gas fields of the province of Ontario were superseded as the leading producer, by the more recently developed fields of Alberta. The Alberta production amounted to 9,119,500 thousand cubic feet; Ontario's production was 7,143,962 thousand cubic feet. New Brunswick's output was recorded at 639,235 thousand cubic feet.

No new developments in the natural gas industry in Ontario were reported during 1925. In New Brunswick the bringing in of six productive wells in the Stony Creek field indicated considerable activity. The continued record production by the Royalite No. 4 well (wet gas producer) was the principal feature of the industry in Alberta. There was also increased drilling activity throughout the Turner Valley field.

Imports of mixed gas, natural and artificial, into Canada from the United States during 1925 totalled 63,614 thousand cubic feet valued at $40,542.

Table 167.—Production of Natural Gas in Canada, 1892-1925

Year	Value	Year	Value	Year	M. cu. ft.	Value
	$		$			$
1892	150,000	1903	202,210	1914	21,692,504	3,484,727
1893	376,233	1904	328,376	1915	20,124,162	3,706,035
1894	313,754	1905	379,561	1916	25,476,458	3,958,029
1895	423,032	1906	583,523	1917	27,408,940	5,045,298
1896	276,301	1907	815,032	1918	20,140,309	4,350,940
1897	325,873	1908	1,012,660	1919	19,937,769	4,176,037
1898	322,123	1909	1,207,029	1920	16,845,518	4,232,642
1899	387,271	1910	1,346,471	1921	14,077,601	4,594,104
1900	417,094	1911	1,907,678	1922	14,682,651	5,846,501
1901	339,476	1912	2,362,700	1923	15,960,583	5,884,618
1902	195,992	1913	2,309,381	1924	14,881,336	5,708,636
				1925	16,902,897	6,833,005
				Total	.....	**73,802,462**

Table 168.—Production of Natural Gas in Canada, by Provinces, 1923, 1924 and 1925

Province	1923		1924		1925	
	M. cu. ft.	Value	M. cu. ft.	Value	M. cu. ft.	Value
		$		$		$
New Brunswick	640,300	126,068	599,972	113,577	639,235	122,394
Ontario	8,128,413	4,066,244	7,150,078	3,798,381	7,143,962	3,958,006
Alberta	7,191,670	1,692,246	7,131,086	1,796,618	9,119,500	2,752,545
Manitoba	200	60	200	60	200	60
Total	**15,960,583**	**5,884,618**	**14,881,336**	**5,708,636**	**16,902,897**	**6,833,005**

PEAT

The Alfred bog in Ontario was operated during 1925 by the Peat Fuels, Ltd., using the process developed by the Ontario-Federal Committee. The total shipments from this bog for the year amounted to 1,370 tons valued at $8,394.

Table 169.—Production of Peat in Canada, 1900-1925

Year	Tons	Value	Year	Tons	Value	Year	Tons	Value
		$			$			$
1900	400	1,200	1908	60	180	1916	300	1,500
1901	220	600	1909	60	240	1917-18	.....	.....
1902	475	1,663	1910	841	2,604	1919	986	6,561
1903	1,100	3,300	1911	1,463	3,817	1920	4,550	18,650
1904	800	2,400	1912	700	2,900	1921	1,666	6,664
1905	80	260	1913	2,600	10,100	1922	3,000	14,500
1906	474	1,422	1914	685	2,470	1923-24	.....	.....
1907	50	200	1915	300	1,050	1925	1,370	8,394
						Total	**22,180**	**99,675**

CRUDE PETROLEUM

Production of crude petroleum in Canada in 1925 amounted to 332,001 barrels valued at $1,250,705 as compared with 160,773 barrels valued at $467,400 in 1924, an increase of approximately 100 per cent.

Encouraging results met the efforts of producers in the Alberta fields during 1925. In the Turner Valley field the Royalite Well No. 4, a wet-gas producer, averaged 500 barrels per day of crude naphtha. A pipe line was constructed during the year to convey this product to the Imperial Oil refinery at Calgary.

The Royalite Company is drilling two other wells in the Turner Valley field, viz.: Royalite Nos. 5 and 6. Properties formerly controlled by the Southern Alberta Oils, Limited, have been taken over by the Imperial Oil Company through its subsidiary, the Dalhousie Oils, Ltd. The McLeod Oil Company, Indiana-Alberta Oil Co., Canada Southern Oil and Refining Co., and British Petroleums, Ltd., were also producers during the year under review. Activities in the Wainwright field were centred chiefly around the operations of British Petroleums, Ltd. Drilling is still being carried on by a number of companies in the Coutts-Sweetgrass field. The Fort Norman drilling operations have been discontinued for the present. There is a possibility of a small refinery being erected at Fort Norman to supply the oil requirements of the Hudson's Bay Company in the North. The capacity of the productive well in this district is estimated at 100 barrels per day.

Col. R. B. Harkness, commissioner of gas for Ontario, reports that exploring for oil was carried on in the province during 1925 to a considerable extent. Wells were drilled in the following localities: near Mitchell in Logan township, Perth county; four miles east of Brantford, near Sixty Nine Corners, Tuscarora Township, Brant County; Thamesville, Zone township; Vaughan township, northwest of Toronto; and at Bond Lake, 20 miles north of Toronto.

In accordance with the terms of "*An Act respecting the Payment of Bounties on Petroleum,*" the payment of bounty to crude petroleum producers, ceased on July 1, 1925. The terms of this Act are as follows:

The said bounty shall be paid during the periods and at the rates following, that is to say:—

"On such crude petroleum produced on or before the thirtieth day of June, one thousand nine hundred and twenty-four, a bounty of one and one-half cents per imperial gallon shall be paid;

"On such crude petroleum produced on or after the first day of July, one thousand nine hundred and twenty-four, and not later than the thirtieth day of June, one thousand nine hundred and twenty-five, a bounty of three-quarters of one cent per imperial gallon shall be paid.

On such crude petroleum produced on and after the first day of July, one thousand nine hundred and twenty-five, no bounty shall be paid."

In the petroleum industry, Canadian interest centres in the refining end rather than in the production of crude oil. In 1925, Canadian refineries treated about 12 million gallons of oil from Canadian wells and about 433 million gallons of imported oil. In the preceding year only 5 million gallons of Canadian oil were treated. Production of gasoline at the refineries in Canada showed an increase over the production of this commodity in 1924, the total output being close to 165 million gallons, as compared with 160 million gallons in 1924.

The total value of all imports of petroleum and its products into Canada during 1925 was $43,842,427, as compared with $37,498,039 in 1924. Imports of asphalt and asphaltum in 1925 valued at $317,653 are not included in the preceding total. Gasoline importations were recorded at 83,927,751 gallons, appraised at $11,599,629; the Canadian production of refined gasoline was 164,670,072 gallons; and the exports (Canadian and foreign) were 1,611,449 gallons, leaving 246,986,374 gallons available for use in Canada during 1925.

Table 170.—Production of Crude Petroleum in Canada, 1881-1925

Year	Barrels*	Value	Year	Barrels*	Value	Year	Barrels*	Value
		$			$			$
1881	368,987	.....	1896	726,822	1,155,647	1911	291,092	357,073
1882	389,573	.....	1897	700,857	1,011,546	1912	243,336	345,050
1883	472,866	.....	1898	758,391	1,061,717	1913	228,080	406,439
1884	571,000	.....	1899	808,570	1,202,020	1914	214,805	343,124
1885	587,563	.....	1900	710,498	1,151,007	1915	215,404	300,572
1886	584,061	525,655	1901	622,392	1,008,275	1916	198,123	302,284
1887	713,728	556,798	1902	530,624	951,190	1917	213,832	542,239
1888	695,203	713,695	1903	486,637	1,048,874	1918	304,741	885,143
1889	704,690	653,600	1904	503,474	935,895	1919	240,466	736,324
1890	795,030	902,734	1905	634,095	856,028	1920	196,251	822,235
1891	755,298	1,010,211	1906	569,753	761,760	1921	187,541	641,533
1892	779,753	984,438	1907	788,872	1,057,088	1922	179,068	611,176
1893	798,406	874,255	1908	527,987	747,102	1923	170,169	522,018
1894	829,104	835,322	1909	420,755	559,604	1924	160,773	467,400
1895	726,138	1,086,738	1910	315,895	388,550	1925	332,001	1,250,705
						Total	†22,261,764	30,663,004

*35 imperial gallons. †From 1886.

Table 171.—Production of Crude Petroleum in Canada by Provinces, 1924 and 1925

Province	1924				1925			
	Barrels	Value less bounty	Bounty paid	Total value	Barrels	Value less bounty	Bounty paid	Total value
		$	$	$		$	$	$
New Brunswick	5,561	18,520	2,793	21,313	5,376	16,805	1,951	18,756
Ontario—								
Petrolia and Enniskillen	60,916	149,427	24,327	173,754	52,481	133,301	7,923	141,224
Oil Springs	41,320	104,250	16,816	121,066	39,137	102,148	5,627	107,775
Moore Township	4,483	10,997	2,069	13,066	8,195	20,815	576	21,391
Sarnia Township	2,068	5,073	1,033	6,106	1,905	4,839	379	5,218
Plympton Township	525	1,288	234	1,522	1,424	3,617	184	3,801
Rodwell	26,700	65,655	10,728	76,383	26,243	66,657	3,680	70,337
Tilbury East	.....	.....	.....	.....	.....	.....	.....	.....
West Dover	3,898	9,585	1,740	11,325	1,820	4,766	399	5,165
Raleigh Township	834	2,047	299	2,346	887	2,253	156	2,409
Dutton	.....	.....	.....	.....	146	381	38	419
Onondaga	456	1,109	213	1,322	81	210	9	219
Moza Township	8,862	21,074	3,605	24,679	8,397	21,328	1,181	22,509
Thamesville	.....	.....	.....	.....	289	734	.....	734
Dunwich	1,351	3,309	.....	3,309	855	2,172	.....	2,172
Elgin Township	.....	.....	.....	.....	.....	.....	.....	.....
Romney Township	2,955	7,074	.....	7,074	1,235	3,076	.....	3,076
Euphemia	.....	.....	.....	.....	39	106	.....	106
Total for Ontario	154,368	380,888	61,064	441,952	143,134	360,403	20,152	386,555
Alberta	844	4,135	.....	4,135	183,491	845,394	.....	845,394
Canada	**160,773**	**403,543**	**63,857**	**467,400**	**332,001**	**1,228,602**	**22,103**	**1,250,705**

Table 172.—Imports into Canada and Exports of Petroleum and its Products, 1923, 1924 and 1925

—		1923		1924		1925	
		Quantity	Value	Quantity	Value	Quantity	Value
			$		$		$
IMPORTS—							
Crude petroleum in its natural state, ·7900 specific gravity or heavier at 60 degrees temperature, when imported by oil refiners to be refined in their own factories	Gals.	392,185,557	17,449,032	465,958,509	20,260,488	436,258,650	23,414,837
Crude petroleum, gas oils other than naphtha, benzine and gasoline lighter than ·8235 but not less than ·775 specific gravity at 60 degrees	"	475,842	38,908	139,745	10,875	4,181,914	227,387
Petroleum, crude, not in its natural state, ·7900 specific gravity or heavier at 60 degrees temperature, when imported by oil refiners to be refined in their own factories—(from May 12, 1923)	"	15,922	966	55,758	3,953	49,149	2,910
Petroleum (not including crude petroleum imported to be refined or illuminating or lubricating oils) ·8235 specific gravity or heavier at 60 degrees temperature	"	108,506,938	4,206,193	94,104,526	4,122,333	103,667,295	4,690,901
Petroleum, imported by miners or mining companies or concerns, for use in the concentration of ores of metals in their own concentrating establishments	"	32,960	5,913	139,473	35,880	129,665	26,251
KEROSENE AND ILLUMINATING OILS							
Coal oil and kerosene, distilled, purified or refined	Gals.	4,118,943	322,434	5,410,973	444,646	4,860,876	391,538
Illuminating oils, composed wholly or in part of the products of petroleum, coal, shale or lignite, costing more than 30 cents per gallon	"	42,474	16,296	10,655	4,215	2,451	1,776
Coal oil and kerosene, distilled, known as "engine distillates", ·725 specific gravity and heavier, but not heavier than ·770 specific gravity at 60 degrees temperature	"	8,203	962	20,420	2,942	395,785	63,587
LUBRICATING OILS							
Lubricating oils, composed wholly or in part of petroleum, and costing less than 20 cents per gallon	"	4,295,635	737,053	3,975,337	728,250	3,813,543	712,850
Lubricating oils, n.o.p.	"	3,901,048	1,573,897	4,521,086	1,714,403	4,632,195	1,770,739
OTHER OILS							
Gasoline under ·725 specific gravity at 60 degrees temperature	"	35,845,251	5,134,286	56,389,078	7,138,561	58,993,020	8,388,057
Gasoline ·725 specific gravity but not heavier than ·770 specific gravity at 60 degrees temperature	"	13,927,843	1,993,596	17,084,248	2,166,847	24,897,661	3,204,479
Gasoline, n.o.p.	"	177,566	32,750	284,115	38,745	37,070	7,093
All other oils, n.o.p.	"	248,888	86,958	260,901	119,088	204,633	109,348
OTHER PRODUCTS OF PETROLEUM							
Grease, axle	Lb.	2,981,849	176,216	2,853,720	165,694	3,776,077	239,151
Paraffine wax	"	1,034,921	63,695	837,317	65,782	1,601,505	124,234
Paraffine wax candles	"	178,487	32,516	202,565	36,884	208,887	46,257
Vaseline and all similar preparations of petroleum, for toilet, medicinal or other purposes		.....	268,267	.....	195,457	.....	216,464
Petroleum, products of, n.o.p.	Gals.	1,712,665	299,388	1,298,590	242,996	1,243,176	213,577
Total		.....	**32,439,326**	.....	**37,498,039**	.....	**43,842,427**
EXPORTS—							
Oil, coal and kerosene, crude	Gals.	2,384,899	138,381	18,263,236	529,497	7,375,163	346,512
Oil, coal and kerosene, refined	"	1,450,051	139,924	1,525,427	165,520	1,508,686	155,783
Oil, gasoline and naphtha	"	1,217,298	263,326	1,403,716	256,965	1,568,855	333,330
Oil, mineral, n.o.p.	"	1,200,347	223,511	627,671	161,259	1,473,779	287,463
Wax, mineral	Cwt.	66,274	206,575	33,171	147,810	14,541	82,999
Total		.....	**971,717**	.....	**1,261,052**	.....	**1,206,087**

Petroleum Refinery Statistics.—As a matter of interest there has been tabulated a record of the crude petroleum and other minerals used in the oil refineries of Canada during the past three years and a list showing the quantities and values of the refined products made. Detailed statistics covering Canadian petroleum refineries will be found in the Bureau's report on the *Manufactures of Non-Metallic Minerals.*

Table 173.—Materials Used and Products Made by the Oil Refineries of Canada, 1923, 1924 and 1925

		1923		1924		1925	
		Quantity	Value	Quantity	Value	Quantity	Value
			$		$		$
MATERIALS USED—							
Crude oil, product of Canadian wells	Imp. gal.	5,906,028	458,609	5,172,903	403,099	12,337,192	1,511,181
Crude oil, imported	"	402,904,711	33,184,017	361,971,731	33,018,299	432,778,502	33,344,004
Sulphuric acid (66° Be) (not made by firm reporting)	Lb.	65,922,858	690,152	57,693,733	605,383	42,843,604	447,528
Sulphur (not used in acid manufacture)	"	61,814	1,733	90,955	2,625	141,265	3,988
Caustic soda	"	3,084,651	128,421	3,796,826	146,842	4,220,371	154,150
Litharge	"	328,185	28,794	315,723	30,197	549,450	59,825
Clay	"	480,375	7,929	.....	.....	.....	.....
Other materials		.....	1,935,651	.....	2,462,847	.....	777,243
Shipping containers		.....	.....	.....	.....	.....	1,516,384
Total		.....	**36,435,306**	.....	**36,669,292**	.....	**37,814,303**
PRODUCTS MADE—							
Gasoline	Imp. gal.	124,156,380	22,153,254	160,045,739	25,799,219	164,670,072	27,589,037
Petroleum spirits	"	1,038,625	144,484	788,571	132,093	1,137,787	199,618
Kerosene	"	67,306,674	8,774,371	61,308,467	7,486,042	45,026,459	5,966,913
Fuel and gas oils	"	139,682,570	7,973,766	177,123,232	9,076,746	172,387,242	9,652,255
Lubricating oils	"	13,741,896	2,696,768	14,341,920	2,585,717	14,801,986	2,697,142
Grease	Lb.	10,599,391	221,426	10,004,590	184,655	9,076,336	184,033
Petroleum coke	Tons	34,020	300,521	38,102	270,403	34,018	268,691
Wax and candles	Lb.	10,484,436	484,416	9,112,143	551,434	15,736,867	734,322
Other products		.....	2,822,503	.....	2,591,038	.....	2,530,604
Total		.....	**45,571,506**	.....	**48,677,347**	.....	**49,802,615**

PHOSPHATE

The production of phosphate in Canada during 1925 amounted to 16 tons valued at $189. This shipment was made from crude material taken from an old mine dump.

Canadian importations, consisting almost entirely of Florida phosphate, totalled 14,002 tons valued at $62,107 in 1925; the Customs' records showed imports of 11,718 tons at $56,965 in 1924.

Table 174.—Production of Phosphate in Canada, 1886-1925

Year	Tons	Value	Year	Tons	Value	Year	Tons	Value
		$			$			$
1886	20,495	304,338	1900	1,415	.7105	1913	385	3,643
1887	23,690	319,815	1901	1,033	6,280	1914	954	7,275
1888	22,485	242,285	1902	856	4,953	1915	217	2,502
1889	30,988	316,602	1903	1,329	8,214	1916	203	2,514
1890	31,753	301,045	1904	817	4,590	1917	149	1,486
1891	23,588	241,603	1905	1,300	8,425	1918	140	1,206
1892	11,932	157,424	1906	850	6,375	1919	24	331
1893	8,198	70,942	1907	824	6,018	1920	.....	.....
1894	6,861	41,166	1908	1,596	14,794	1921	30	450
1895	1,822	9,565	1909	998	8,054	1922	190	1,796
1896	570	3,420	1910	1,478	12,578	1923	30	600
1897	908	3,984	1911	621	5,206	1924	.....	.....
1898	733	3,665	1912	164	1,640	1925	16	189
1899	3,000	18,000						
						Total	**202,642**	**2,210,138**

Table 175.—Production in Canada, Imports and Exports of Phosphate, 1923, 1924 and 1925

—	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
PRODUCTION	30	600	.....	.....	16	189
Total	**30**	**600**	.....	.....	**16**	**189**
IMPORTS—						
Phosphate rock	15,815	86,192	11,718	56,965	14,002	62,107
Acid phosphate (a)	1,524	189,625	1,825	230,676	1,752	208,380
Phosphorus	74	68,684	55	56,455	34	36,411
Phosphor tin and bronze	223	195,491	191	148,856	279	238,002
Superphosphate (b)	.....	278,301	.....	405,937	.....	715,451
EXPORTS—Phosphate rock	.....	.....	.....	.....	25	500

(a) Probably refined phosphate of lime and phosphate of soda.
(b) Probably for use as fertilizer.

PYRITES

The production of pyrites ore (iron and copper sulphides) in Canada during 1925 was 15,605 tons valued at $58,899. Of this, Quebec produced 12,250 tons; Ontario, 685 tons, and British Columbia, 2,670 tons. The average price for this material was $3.78 per ton. The sulphur content of the shipments amounted to 7,587 tons; the percentage of sulphur varied from 38 per cent to 50 per cent with an average of 48.6 per cent for Canada.

Imports of brimstone or sulphur in roll or flour, in 1925 were recorded at 146,609 tons worth $1,982,788. According to Customs' records, the sulphur content of pyritic ores exported was 13 tons valued at $150.

Table 176.—Production of Pyrites in Canada, 1886-1925

Year	Tons	Value	Year	Tons	Value	Year	Tons	Value
		$			$			$
1886	42,906	193,077	1900	40,031	155,164	1913	158,590	521,181
1887	38,043	171,194	1901	35,261	130,516	1914	228,314	741,508
1888	63,479	285,656	1902	35,616	138,939	1915	286,039	985,190
1889	72,225	307,292	1903	33,982	127,713	1916	309,251	1,084,095
1890	49,227	123,067	1904	37,180	134,033	1917	416,649	1,610,762
1891	67,731	203,193	1905	33,339	125,486	1918	411,616	1,705,219
1892	59,770	179,310	1906	42,743	169,990	1919	176,487	529,704
1893	58,542	175,626	1907	46,243	212,491	1920	174,741	719,110
1894	40,527	121,581	1908	47,336	224,821	1921	33,368	116,326
1895	34,198	102,594	1909	64,044	222,814	1922	18,142	74,303
1896	33,715	101,155	1910	53,870	187,062	1923	28,591	113,020
1897	38,910	116,730	1911	82,666	365,820	1924	23,552	95,620
1898	32,218	128,872	1912	81,526	314,081	1925	15,605	58,899
1899	27,687	110,748						
						Total	**3,574,539**	**13,179,993**

Table 177.—Production in Canada, Imports and Exports of Pyrites, 1923, 1924 and 1295

—	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
PRODUCTION—						
Quebec	.....	.....	4,032	10,619	12,250	36,750
Ontario	25,134	99,716	11,429	44,542	685	8,799
British Columbia	3,457	13,304	8,091	40,459	2,670	13,350
Total	**28,591**	**113,020**	**23,552**	**95,620**	**15,605**	**58,899**
Sulphur content	11,073		9,742	.....	7,587	.....
IMPORTS—						
Brimstone or sulphur, crude or in roll or flour	135,767	1,803,550	131,546	1,776,978	146,609	1,982,788
EXPORTS—						
Sulphur contained in pyrites	9,670	46,514	219	1,081	13	150

Sulphuric Acid.—Statistics collected from firms manufacturing sulphuric acid in Canada during 1925 gave the production of the commodity in terms of the standard grades of 50° Bé, 60° Bé, and 66° Bé. For comparative purposes it has been deemed advisable to reduce the first two grades to their equivalent in 66° Bé acid.

Importations of sulphuric acid into Canada during 1925 were comparatively negligible; exports amounted to 19,180 tons as compared with 7,678 tons in the preeeding year.

Table 178.—Production,* Imports and Exports of Sulphuric Acid, 1923, 1924 and 1925

	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
PRODUCTION—						
Sulphur used	21,564	434,687	16,065	295,101	26,202	359,519
Pyrites used	18,615	89,287	19,706	91,202	15,114	76,487
Acid made	87,150	1,521,321	71,991	1,288,344	83,396	1,363,618
IMPORTS of acid	291	10,008	47	7,609	52	7,821
EXPORTS of acid	12,203	200,206	7,678	132,139	19,180	250,096

* Expressed in terms of 66° Bé acid. Record includes a small production of oleum and other grades, the strength of which is not specified. An approximate estimate of production in terms of 50° acid will be obtained by increasing these figures by 50 per cent.

QUARTZ

Quartz production in 1925 amounted to 197,224 tons valued at $363,612 as compared with 150,896 tons valued at $323,156 in 1924. This was an increase of 30.7 per cent in quantity and 12.5 per cent in value.

Ontario's production increased from 111,645 tons in 1924 to 188,560 tons in 1925, but the output from Quebec deposits was only equivalent to one-third of the 1924 output. British Columbia's output was 853 tons while Nova Scotia produced 1,352 tons during the year.

Imports of silex or crystallized quartz into Canada during 1925 amounted to 2,196 tons with a valuation of $39,301, and flint importations were recorded at 3,601 tons valued at $36,936.

Table 179.—Production of Quartz in Canada, 1890-1924

Year	Tons	Value	Year	Tons	Value	Year	Tons	Value
		$			$			$
1890	200	1,000	1907	56,585	124,148	1917	216,288	496,182
1891-2	.....	.....	1908	44,741	52,830	1918	268,155	629,813
1893	100	500	1909	56,924	71,285	1919	91,991	527,635
1894-5	.....	.....	1910	88,205	91,951	1920	128,295	467,821
1896	10	50	1911	69,526	83,865	1921	100,350	312,947
1897	.....	.....	1912	103,242	195,216	1922	109,947	308,598
1898	284	570	1913	78,261	169,842	1923	264,076	599,250
1899	600	1,260	1914	54,148	84,583	1924	150,896	323,156
1900-1905	.....	.....	1915	127,108	205,153	1925	197,224	363,612
1906	48,376	65,765	1916	136,745	251,226			
						Total	**2,383,277**	**5,328,258**

Table 180.—Production in Canada, and Imports of Quartz, 1923, 1924 and 1925

	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
PRODUCTION—						
Nova Scotia	.....	.....	.....	.....	1,352	6,760
Quebec	13,376	68,936	17,893	87,267	6,459	30,064
Ontario	225,110	483,285	111,645	192,855	188,560	324,526
British Columbia	25,590	47,029	21,358	43,034	853	2,262
Total	**264,076**	**599,250**	**150,896**	**323,156**	**197,224**	**363,612**
IMPORTS—						
Silex	2,303	57,940	1,941	49,552	2,196	39,301
Flint	6,327	81,704	6,016	64,753	3,601	36,936

SALT

In 1925, the production of salt in Canada exceeded all previous records. Shipments during the year totalled 233,746 tons as compared with 207,979 tons produced in 1924. There was a considerable decline in value during the year, the average price for all grades being $6.04 per ton, as against $6.61 in 1924.

The production in Ontario amounted to 226,315 tons or 97 per cent of the total; Nova Scotia and Alberta contributed the remainder. The year's shipment of 833 tons from Alberta came from the Fort McMurray district, where development work in the salt industry has been carried on for a considerable time. Nova Scotia's production consisted of salt mined at Malagash.

Customs' records show that 193,625 tons, worth $1,077,321, were brought into Canada during 1925. Exports of Canadian salt totalled 2,324 tons while in the preceding year only 965 tons were shipped from Canada.

Table 181.—Production of Salt in Canada, 1886-1925

Year	Tons	Value	Year	Tons	Value	Year	Tons	Value
		$			$			$
1886	62,359	227,195	1900	62,055	279,458	1914	107,038	493,648
1887	60,173	166,394	1901	59,428	262,328	1915	119,900	600,226
1888	59,070	185,460	1902	64,456	292,581	1916	132,903	717,653
1889	32,832	129,547	1903	62,452	297,517	1917	138,909	1,047,792
1890	43,754	198,857	1904	69,477	321,778	1918	131,727	1,285,039
1891	45,021	161,179	1905	67,340	320,858	1919	148,301	1,397,929
1892	45,486	162,041	1906	76,720	329,130	1920	209,855	1,544,724
1893	62,324	195,926	1907	72,697	342,315	1921	164,658	1,673,685
1894	57,199	170,687	1908	79,975	378,798	1922	181,794	1,628,323
1895	52,376	160,455	1909	84,037	415,219	1923	202,397	1,713,516
1896	43,960	169,693	1910	84,092	409,624	1924	207,979	1,374,780
1897	51,348	225,730	1911	91,582	443,004	1925	233,746	1,410,697
1898	57,142	248,639	1912	95,053	459,582			
1899	59,339	254,390	1913	100,791	491,280	**Total**	**3,781,745**	**22,587,677**

Table 182.—Production of Salt in Canada, by Grades, 1924 and 1925

—	1924			1925		
	Quantity manufactured	Quantity sold	Value of salt sold (not including packages)	Quantity manufactured	Quantity sold	Value of salt sold (not including packages)
	Tons	Tons	$	Tons	Tons	$
Table and dairy	41,198	41,134	663,296	47,452	46,790	713,571
Common fine	37,701	36,706	272,301	34,383	33,197	186,297
Common coarse	36,205	34,345	266,895	46,637	43,931	312,107
Land salt	4,920	4,862	23,889	5,133	5,125	21,826
Other grades	7,654	7,873	65,340	11,799	11,203	83,396
Brine for chemical works (salt equivalent sold or used)	83,059	83,059	83,059	93,500	93,500	93,500
Total	**210,737**	**207,979**	**1,374,780**	**238,904**	**233,746**	**1,410,697**
Value of packages		**$548,631**			**$548,528**	

Table 183.—Production in Canada, Imports and Exports of Salt, 1923, 1924 and 1925

—	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
PRODUCTION	202,397	1,713,516	207,979	1,374,780	233,746	1,410,697
IMPORTS—						
Salt, for the use of the sea or gulf fisheries[1]	65,118	317,773	68,199	332,649	80,398	329,820
Salt in bulk n.o.p.[2]	38,799	455,306	43,508	462,184	73,166	327,364
Salt n.o.p., in bags, barrels, etc[2]	67,941	294,526	71,179	339,557	40,061	420,137
Total imports	**171,858**	**1,067,605**	**182,886**	**1,134,390**	**193,625**	**1,077,321**
EXPORTS	861	10,201	965	10,795	2,324	26,678
APPARENT CONSUMPTION OF SALT[4]	373,394	2,770,920	389,900	2,498,375	425,047	2,461,340

[1]Duty 5 cents per 100 pounds; [2]Duty 7½ cents per 100 pounds; [3]Free—Imported for use of sea or gulf fisheries.
[4]Sum of production and imports, less exports.

Table 184.—*World's Production of Salt, 1913, and 1921-1925

(Long tons)

Country	1913	1921	1922	1923	1924	1925
BRITISH EMPIRE						
United Kingdom	2,203,732	1,382,629	1,889,176	1,886,882	2,045,762	1,933,590
Mauritius	(a)	1,800	1,500	1,500	1,500	1,500
Nigeria	394	.....	400	400	400	400
Somaliland	(a)	892	1,547	1,707	1,303	(a)
South-West Africa Territory	(a)	(a)	(a)	(a)	335	425
Sudan	(a)	(a)	9,000	9,000	9,000	9,000
Tanganyika Territory	(a)	(a)	2,389	1,887	4,556	4,000
Union of South Africa	42,837	60,000	74,609	61,188	(a)	(a)
Canada	89,992	147,016	162,316	180,711	185,695	208,702
West Indies—						
Bahamas	(a)	3,150	3,030	2,680	1,570	1,291
Turks & Caicos Islands	(a)	(a)	65,650	58,060	52,327	62,432
Ceylon	(a)	14,707	38,997	28,279	(a)	(a)
Cyprus	(a)	885	2,974	766	22	1
India	1,472,764	1,681,717	1,861,210	1,900,829	1,812,712	(a)
Weihaiwei	(a)	1,500	2,000	2,000	2,000	2,000
Australia	64,981	50,492	98,657	98,286	110,687	126,251
Total	**3,874,700**	**3,350,788**	**4,213,455**	**4,234,175**	**4,227,869**	**2,349,592**
FOREIGN COUNTRIES						
Austria	358,887	75,813	142,079	81,953	109,382	128,705
Bulgaria	(a)	(a)	20,000	(a)	(a)	(a)
Czechoslovakia	See Austria	(a)	126,118	131,925	122,768	124,000
France	1,261,364	750,980	1,031,761	1,127,031	1,267,881	1,327,049
Germany	2,034,391	2,158,345	2,995,947	1,845,404	1,941,973	2,188,347
Greece	18,906	64,000	66,415	58,945	84,000	(a)
Italy	633,722	505,337	777,608	752,376	794,346	900,922
Jugoslavia	26,843	23,000	43,167	45,000	48,000	53,623
Netherlands	.....	25,056	27,879	25,969	31,895	34,191
Poland	See Russia	296,765	290,655	357,468	636,059	(a)
Rumania	329,613	229,076	280,628	301,684	297,895	(a)
Russia	1,963,405	990,500	782,305	924,016	998,443	(a)
Spain	600,612	504,893	669,937	704,322	952,744	(a)
Switzerland	506,718	105,910	63,253	66,951	(a)	(a)
Algeria	26,566	(a)	19,883	24,676	(a)	(a)
Angola	(a)	2,141	(a)	(a)	(a)	(a)
Belgian Congo	79	80	(a)	80	(a)	(a)
Egypt	(a)	151,224	183,823	154,758	206,584	207,645
Eritrea	19,678	(a)	20,000	20,000	20,000	20,000
Tripoli (exports)	(a)	(a)	11,606	(a)	(a)	(a)
Tunis	(a)	21,739	51,000	72,000	(a)	(a)
Dutch West Indies	13,201	(a)	18,172	11,605	(a)	(a)
Mexico	65,923	(a)	66,000	66,000	(a)	(a)
Panama	(a)	666	813	(a)	(a)	(a)
United States	4,298,638	4,447,459	6,065,044	6,366,708	6,074,210	6,604,909
Argentina	54,034	(a)	92,200	(a)	(a)	(a)
Chile	19,244	38,832	33,201	37,627	53,513	(a)
Colombia	28,534	(a)	29,000	29,000	29,000	29,000
Peru	24,040	25,927	25,706	26,096	25,000	(a)
Venezuela	(a)	(a)	(a)	30,000	30,000	30,000
China including Kwantung Peninsula	(a)	2,042,000	2,000,000	2,000,000	2,000,000	2,000,000
Dutch East Indies	100,449	(a)	166,963	122,066	(a)	(a)
Formosa	(a)	90,835	(a)	235,400	134,000	(a)
French Indo-China	.....	(a)	(a)	11,215	4,184	5,861
Japan	702,584	505,904	654,407	472,195	620,929	(a)
Portuguese India	11,807	(a)	(a)	12,000	12,000	12,000
Siam	(a)	29,353	26,123	32,428	39,923	34,639
Turkey	(a)	(a)	100,000	100,000	100,000	100,000
Philippine Islands	19,186	(a)	32,350	30,803	(a)	(a)
Total	**13,118,424**	**13,091,835**	**16,914,043**	**16,277,701**	**16,640,729**	**13,800,891**
Grand Total	**16,993,124**	**16,442,623**	**21,127,498**	**20,511,876**	**20,868,598**	**16,150,483**

*Source—Imperial Mineral Resources Department publications. 1925 figures obtained directly from the statistical bureaus of the different countries.

(a) Data not available.

SODIUM CARBONATE

The production of sodium carbonate in 1925 amounted to 1,120 tons valued at $8,140 as against 510 tons at $5,173 in 1924. Commercial deposits of this commodity now being worked occur on the line of the Pacific Great Eastern Railway in the Clinton Mining District, British Columbia, in the vicinity of 70 Mile House.

Soda ash from salt brine is made in Canada on a very large scale by Brunner-Mond Company, Limited, at Amherstburg, Ontario.

Sodium carbonate is used largely in chemical and hydro-metallurgical plants. Its principal uses are in the manufacture of glass, soap and paper, the bleaching and washing of linen, cotton, wool, etc., and the dyeing and printing of fabrics. Sodium carbonate has been utilized for some time as a means of removing, and of preventing the formation of boiler scale.

SODIUM SULPHATE

Natural deposits of sodium sulphate in the province of Saskatchewan were operated during the year 1925. The total quantity of natural sodium sulphate sold during the year amounted to 3,876 tons valued at $19,380, as against 1,083 tons valued at $6,004 in the previous twelve months.

Importations of salt cake totalled 34,215 tons at $471,931, as against 36,022 tons appraised at $673,322 in the previous year. Bisulphate of soda, or nitre cake, amounting to 21,873 tons at $72,939 and glauber's salt to a total of 518 tons at $8,177 were also imported.

Table 185.—Production and Imports of Sodium Sulphate, 1923, 1924 and 1925

	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
PRODUCTION—						
Natural Sodium Sulphate—						
Crude	210	1,050	965	4,825	3,876	19,380
Refined	523	9,139	118	1,179	.....	.....
Artificial Sodium Sulphate—						
Sodium sulphate	2,376	57,621	1,648	32,948	2,248	31,529
Glauber's salt	2,315	61,446	1,458	36,602	1,442	33,559
IMPORTS—						
Soda, bisulphate of, or nitre cake—(From May 12, 1923)	20,152	91,940	18,859	87,981	21,873	72,939
Soda, sulphate of, crude, known as salt cake	30,967	684,604	36,022	673,322	34,215	471,931
Glauber's salt	521	11,542	906	14,684	518	8,177

TALC AND SOAPSTONE

During 1925 there was an appreciable advance in the production of talc and soapstone in Canada. Sales for the year totalled 14,474 tons worth $205,835 as against 11,332 tons valued at $154,480 in 1924.

Ontario's production of talc was derived from deposits in Hastings county. Most of the shipments from Quebec consisted of soapstone blocks for use in lining the alkali recovery furnaces of sulphate (kraft) pulp mills. A small tonnage of ground talc was shipped from a deposit at Wolf Creek, Victoria Mining Division, British Columbia.

Imports of talc or soapstone into Canada in 1925 were recorded at 4,568 tons appraised at $91,288. Exports of refined talc during the same period, amounted to 10,461 tons at $124,217.

The following quotation is from a report on *"Talc and Soapstone,"* by Hugh S. Spence, Mines Branch, Ottawa.

"The soapstone used in Canadian sulphate pulp mills is almost all imported Alberene stone from Virginia. It is difficult to obtain a structurally strong stone that will stand up under the combined attack of heat and alkali in such furnaces, and even the Alberene stone in general use has not a very long life. From six to nine months is stated to be a good average for an Alberene stone lining.. The best soapstone for the purpose is obtained from Sweden, but the expense of importation prohibits its use.

The requirements in a soapstone for sulphate pulp furnaces are: fine to medium grain, compactness and homogeneous composition, and freedom from flaws and cracks. It should consist largely of talc, and contain no carbonates (dolomite, calcite) or pyrites. The stone should possess a massive, as opposed to a scnistose texture, since schistose soapstone tends to spall readily and has little strength.

The discovery of a soapstone possessing the above characteristics, in Canada, would be of considerable benefit to domestic paper mills, since the quantity used is large and the cost of the imported stone high—from $5 to $6 per cubic foot, laid down.

The soapstone bricks used vary in size. Common dimensions are: 12 x 12 x 6 in.; 12 x 6 x 6 in.; 12 x 6 x 3 in.; 18 x 12 x 8 in.; 18 x 12 x 12 in."

Table 186.—Production of Talc and Soapstone in Canada, 1886-1925

Year	Tons	Value	Year	Tons	Value	Year	Tons	Value
		$			$			$
1886	50	400	1900	1,420	6,365	1914	10,808	40,418
1887	100	800	1901	259	842	1915	11,885	40,554
1888	140	280	1902	689	1,804	1916	13,104	49,423
1889	195	1,170	1903	990	2,739	1917	15,803	76,539
1890	917	1,239	1904	840	1,875	1918	18,169	119,197
1891			1905	500	1,800	1919	18,642	116,295
1892	1,374	6,240	1906	1,234	3,030	1920	21,671	166,934
1893	717	1,920	1907	1,534	4,602	1921	10,124	114,565
1894	916	1,640	1908	1,016	3,048	1922	13,195	138,458
1895	475	2,138	1909	4,350	10,300	1923	10,366	159,507
1896	410	1,230	1910	7,112	22,308	1924	11,332	154,480
1897	157	350	1911	7,300	22,100	1925	14,474	205,835
1898	405	1,000	1912	8,270	23,132			
1899	450	1,960	1913	12,250	45,980	**Total**	**223,643**	**1,623,497**

Table 187.—Production of Talc and Soapstone in Canada and Exports of Talc, 1923, 1924 and 1925

	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
PRODUCTION—						
Soapstone	607	20,843	449	20,273	768	32,655
Talc	9,759	129,664	10,883	134,207	13,706	173,180
Total	**10,366**	**159,507**	**11,332**	**154,480**	**14,474**	**205,835**
EXPORTS	7,233	99,239	7,876	98,571	10,461	124,217

Table 188.—*World's Production of Talc and Soapstone, 1913, and 1921-1925

(Long tons)

Country	1913	1921	1922	1923	1924	1925
BRITISH EMPIRE						
United Kingdom	40	.....	50	186	.....	.....
Union of South Africa	.....	527	304	317	670	(a)
Canada	10,937	9,039	11,781	9,255	10,118	12,923
India	2,524	5,703	4,754	7,024	2,852	(a)
Australia	104	318	468	622	859	1,052
Total	13,605	15,587	17,357	17,404	14,499	13,975
FOREIGN COUNTRIES						
Austria (exports)	7,953	7,884	13,294	7,369	9,432	12,676
China	.....	.....	284	188	218	50
France	59,208	34,183	47,396	47,967	(a)	(a)
Germany (Bavaria)	.....	6,513	4,440	1,876	3,933	3,405
Greece	.....	.....	.....	130	(a)	(a)
Italy	44,622	20,693	26,059	30,649	28,171	33,310
Norway (exports)	2,392	2,765	7,695	8,764	11,596	8,887
Spain	4,336	1,097	3,029	1,951	1,434	(a)
Sweden	.....	.....	2,030	2,391	2,827	(a)
United States	156,994	108,916	177,396	175,618	181,983	168,603
Uruguay (exports)	.....	1,727	(a)	(a)	(a)	(a)
Japan	.....	.....	48,244	35,341	41,194	(a)
Total	275,505	183,778	329,867	312,244	280,789	226,931
Grand Total	**289,110**	**199,365**	**347,224**	**329,648**	**295,288**	**240,906**

* Source—Imperial Mineral Resources Department publications. 1925 figures obtained directly from the statistical bureaus of the different countries.

(a) Data not available.

STRUCTURAL MATERIALS AND CLAY PRODUCTS

Corresponding with the increase in the value of construction contracts awarded during 1925, the total value of structural materials and clay products made in Canada (from domestic raw materials) increased 6.4 per cent to $37,649,234. In the previous year the total production was valued at $35,380,869.

Construction of buildings and bridges, the building of roads, the maintenance of railroads and the development of power schemes provide the necessary markets for the structural materials and clay products from Canadian quarries and plants.

Increased output values were recorded in all provinces with the exception of New Brunswick, Ontario and Saskatchewan. Ontario and Quebec were the principal producing provinces, accounting for 30.2 million dollars in an aggregate for Canada of 37.6 million dollars. British Columbia's production was valued at 2.8 million dollars; Manitoba's 1.76 million dollars; Alberta's, 1.68 million dollars; Nova Scotia, New Brunswick, Saskatchewan and Prince Edward Island followed in the order named.

Building and construction contracts awarded in Canada during 1925, as reported by the *MacLean Building Review* were valued at $297,973,000, an advance of 7.8 per cent over the total for 1924. A classification of these contracts was as follows: residential projects, $96,489,900; business, $73,067,100; industrial, $40,007,300; and engineering, $88,408,700. Quebec was the leading province, mainly because of its unprecedented increase in industrial building and power development. Ontario followed with a somewhat lower total than in 1924. Of the other provinces, Prince Edward Island, Nova Scotia, New Brunswick and Manitoba showed increases; while there was a decrease of about 7 per cent in British Columbia; there were also appreciable declines in Alberta and Saskatchewan.

Costs of building materials in Canada during 1925 were very stable. The Bureau of Statistics index number of prices applying to 32 building and construction materials (base 100 in 1913) showed only a slight variation during the year, ranging from 152.4 in January to a maximum of 154.6 in February, thence by a gradual recession to 152.4 in December.

Among the structural materials and clay products the chief items were portland cement, and clay products; stone was next in point of value, followed by sand and gravel and lime.

Availability of hydro-electric power has proved a great stimulus to manufacturing in the southern part of Ontario and the mining industry's great progress in the northern part of the province, has followed the development of adequate power facilities in that area. Water-power development in Quebec has proceeded apace in recent years and has been the forerunner of industrial expansion on a magnificent scale. Recent road-building programs have made transportation a smaller factor in production and marketing costs, and at the same time have provided wider markets for stone, cement and other materials used in their construction.

Production of structural materials will undoubtedly increase as the years go by; advances in manufacturing and in the primary industries, particularly mining, will continue to provide extensive home markets for such materials, so that, while there may be years of apparent depression in construction, succeeding periods should more than compensate for such temporary set-backs.

Table 189.—Production Values of Structural Materials and Clay Products in Canada, 1923, 1924 and 1925

Province	1923	1924	1925
	$	$	$
Prince Edward Island	4,429	4,588	8,495
Nova Scotia	654,191	528,309	610,727
New Brunswick	467,118	321,994	298,763
Quebec	11,968,006	11,272,539	13,179,513
Ontario	18,896,053	17,429,449	17,089,582
Manitoba	1,380,779	1,161,491	1,767,050
Saskatchewan	178,946	234,325	184,757
Alberta	1,568,760	1,657,742	1,686,545
British Columbia	2,633,099	2,770,432	2,823,802
Canada	**37,751,381**	**35,380,869**	**37,649,234**

Table 190.—Summary Statistics of Structural Materials and Clay Products, 1923, 1924 and 1925

Item		Production	Imports	Exports	Apparent consumption
		$	$	$	$
Cement, portland	1923	15,064,661	75,294	824,811	14,315,144
	1924	13,398,411	69,320	213,845	13,253,886
	1925	14,046,704	63,067	1,498,495	12,611,276
Clay and clay products	1923	10,483,016	8,172,662	584,843	18,070,835
	1924	9,215,077	7,158,371	543,572	15,829,876
	1925	9,529,691	7,478,084	220,818	16,786,957
Lime	1923	3,266,608	55,820	428,286	2,894,142
	1924	3,178,541	46,578	411,122	2,813,997
	1925	3,387,652	47,639	312,168	3,123,123
Sand and gravel	1923	3,016,518	247,388	182,750	3,081,156
	1924	3,181,083	442,676	210,496	3,413,263
	1925	3,220,410	537,237	198,485	3,559,162
Slate	1923	17,289	265,846	.....	283,135
	1924	.....	220,402	.....	220,402
	1925	.....	205,507	.....	205,507
Stone	1923	5,903,289	1,133,894	222,240	6,814,943
	1924	6,407,757	913,325	170,113	7,150,969
	1925	7,464,777	824,992	138,392	8,151,377
Total	**1923**	**37,751,381**	**9,950,904**	**2,212,930**	**45,459,355**
	1924	**35,380,869**	**8,850,672**	**1,549,148**	**42,682,393**
	1925	**37,649,234**	**9,156,526**	**2,368,358**	**44,437,402**

CEMENT

In 1925, shipments of cement from Canadian mills showed an appreciable advance over the total recorded for the previous twelve months. Sales during 1925 totalled 8,116,597 barrels valued at $14,046,704 as compared with 7,498,624 barrels at $13,398,411 shipped in 1924.

Cement is produced in Quebec, Ontario, Manitoba, Alberta and British Columbia. There was formerly a production of puzzolan cement from blast furnace slag in Nova Scotia, but this has been discontinued in recent years. In 1925, Ontario was the leading producer, sales in that province amounting to 3,462,358 barrels valued at $5,253,911. While slightly below the total quantity for Ontario, sales from Quebec mills amounted to 3,365,802 barrels. British Columbia mills sold 485,185 barrels for $1,151,344, and Manitoba came next with 407,395 barrels worth $1,037,929. Alberta sales totalled 395,857 barrels at $913,529.

By provinces, the average selling price per barrel, f.o.b. plant, was as follows: Quebec, $1.69; Ontario, $1.52; Manitoba, $2.55; Alberta, $2.31; and British Columbia, $2.37.

Importations during 1925 amounted to 21,849 barrels averaging $2.89 per barrel as against an average price of $2.50 in 1924. Exports of Portland cement totalled 997,915 barrels invoiced at $1,498,495.

Cement consumption in Canada during the year was considerably lower than in 1924. In comparison with 1913, the 1925 consumption showed a decrease of 19.9 per cent.

Table 191.—Production of Cement in Canada, 1887-1925

Year	Barrels	Value	Year	Barrels	Value	Year	Barrels	Value
		$			$			$
1887	69,843	81,909	1900	417,552	662,910	1913	8,658,805	11,019,418
1888	50,668	35,593	1901	450,394	660,030	1914	7,172,480	9,187,924
1889	90,474	69,790	1902	722,525	1,127,550	1915	5,681,032	6,977,024
1890	102,216	92,405	1903	719,993	1,225,247	1916	5,369,560	6,547,728
1891	93,479	108,561	1904	967,172	1,338,239	1917	4,768,488	7,724,246
1892	117,408	147,663	1905	1,360,732	1,924,014	1918	3,591,481	7,076,503
1893	158,597	194,015	1906	2,128,374	3,170,859	1919	4,905,257	9,802,433
1894	108,142	144,637	1907	2,441,868	3,781,371	1920	6,651,980	14,798,070
1895	128,294	173,675	1908	2,666,333	3,709,954	1921	5,752,885	14,195,143
1896	149,090	201,651	1909	4,067,709	5,345,802	1922	6,943,972	15,438,481
1897	205,213	275,273	1910	4,753,975	6,412,215	1923	7,543,589	15,064,661
1898	250,209	397,580	1911	5,692,915	7,644,937	1924	7,498,624	13,398,411
1899	396,753	633,291	1912	7,132,732	9,106,556	1925	8,116,597	14,046,704
						Total	**118,187,410**	**193,942,473**

Table 192.—Summary Statistics of Cement in Canada, 1923, 1924 and 1925

	1923		1924		1925	
	Barrels	Value	Barrels	Value	Barrels	Value
		$		$		$
Made from limestone	7,688,196	.....	7,768,652	.....	7,869,946	.....
Total made	**7,688,196**	.....	**7,768,652**	.....	**7,869,946**	.....
Sold or used	7,543,589	15,064,661	7,498,624	13,398,411	8,116,597	14,046,704
Stocks Dec. 31	1,251,546	.....	1,521,574	.....	1,274,923	.....
IMPORTS—						
Portland cement	17,697	75,294	27,672	69,320	21,849	63,067
Manufactures	.....	86,974	.....	9,772	.....	13,753
EXPORTS	493,751	824,811	153,520	213,845	997,915	1,498,495
CONSUMPTION	7,067,535	.....	7,372,776	.....	7,140,531	.....

Table 193.—Sales of Cement in Canada by Provinces, 1924 and 1925

Province	1924		1925	
	Barrels	Value	Barrels	Value
		$		$
Quebec	2,758,316	4,796,959	3,365,802	5,689,991
Ontario	3,564,499	5,668,671	3,462,358	5,253,911
Manitoba	286,948	746,750	407,395	1,037,929
Alberta	416,534	945,700	395,857	913,529
British Columbia	472,327	1,240,331	485,185	1,151,344
Canada	**7,498,624**	**13,398,411**	**8,116,597**	**14,046,704**

CLAY AND CLAY PRODUCTS

Under "Clay and Clay Products" there have been included statistics relating to production in Canada from domestic clays, of (*a*) fireclay, (*b*) fireclay blocks and shapes; (*c*) fire brick; (*d*) brick made by the different processes such as the soft mud process, stiff mud process and dry press; (*e*) structural tile, such as hollow blocks, roofing tile, floor tile (quarries), ceramic or glazed floor and wall tile; (*f*) drain tile; (*g*) sewer pipe, including copings, flue linings, etc.; and (*h*) pottery.

The total value of clay products produced in Canada from domestic raw materials during 1925 was $9,529,691, an increase of 3.4 per cent over the 1924 total of $9,215,077. Sales in the province of Ontario reached a value of $5,195,084 as against $5,089,299 in the preceding year.

Nova Scotia, Manitoba, Alberta and British Columbia producers all reported increased productions, but there was a slight falling-off in each of the other provinces.

The schedule designed in 1924 as the result of a conference of the Dominion Bureau of Statistics officials and the members of the Canadian National Clay Products Association, has been found very satisfactory both to producers and to the compilers of data for the industry.

Statistics on production in Canada from imported clays are given in table 195.

Table 194.—Production of Clay Products in Canada, from Domestic Clays, by Provinces, 1923, 1924 and 1925

Province	1923		1924		1925	
	Sold or used	Per cent of total value	Sold or used	Per cent of total value	Sold or used	Per cent of total value
	$		$		$	
Prince Edward Island	.....	.....	3,340	0·04	3,020	0·03
Nova Scotia	413,974	3·95	355,948	3·86	422,690	4·43
New Brunswick	62,587	0·60	74,994	0·81	69,473	0·72
Quebec	2,439,598	23·28	2,435,695	26·44	2,426,887	25·46
Ontario	6,270,615	59·82	5,089,299	55·24	5,195,084	54·51
Manitoba	160,134	1·53	117,450	1·27	173,794	1·82
Saskatchewan	119,405	1·13	137,280	1·49	95,952	1·06
Alberta	590,565	5·63	540,477	5·86	618,860	6·49
British Columbia	426,138	4·06	460,594	4·99	523,931	5·48
Canada	**10,483,016**	**100·00**	**9,215,077**	**100·00**	**9,529,691**	**100·00**

Table 195.—Value of Clay Products Produced in Canada from Domestic and Imported Clays, 1924 and 1925

Item	From domestic clays		From imported clays		Total	
	1924	1925	1924	1925	1924	1925
	$	$	$	$	$	$
Fireclay blocks and shapes	51,273	36,567	146,016	157,911	197,289	194,478
Sanitary ware	.....	.....	254,752	240,501	254,752	240,501
Ceramic or glazed floor and wall tile	.....	28,338	91,759	110,059	91,759	138,397
Pottery, glazed and unglazed	238,342	267,255	53,678	55,305	292,020	322,560
Electrical porcelain insulators	.....	.....	1,332,679	973,328	1,332,679	973,328
Other clay products (brick, tile, sewer-pipe, etc.)	8,925,462	9,197,531	885	204,641	8,926,347	9,402,172
Total	**9,215,077**	**9,529,691**	**1,879,769**	**1,741,745**	**11,094,846**	**11,271,436**

Table 196.—Production in Canada, Imports and Exports of Clay and Clay Products, 1923, 1924 and 1925

—		1923		1924		1925	
		Quantity	Value	Quantity	Value	Quantity	Value
			$		$		$
SALES—							
Bricks, common	M	250,565	3,884,474				
Bricks, pressed	M	73,400	1,461,483				
Bricks, hollow building	M	7,720	620,329				
Bricks, moulded and ornamental	M	64,682	1,355,360				
Fire brick	M	6,122	295,037				
Fire clay	Tons	2,685	24,158				
Fire clay blocks and shapes		.....	81,345	Itemized in table 197			
Fireproofing and hollow porous blocks		.....	379,805				
Kaolin	Tons	163	2,369				
Paving brick	M	.....	.....				
Pottery from domestic clay		.....	229,547				
Sewer pipe	Tons	70,252	1,616,324				
Architectural terra-cotta and tile other than drain		.....	209,471				
Tile, drain	M	10,599	323,314				
Total		.....	**10,483,016**	.....	**9,215,077**	.....	**9,529,691**
IMPORTS—							
Bath brick		.....	1,938	.....	1,799	.....	695
Building brick	M	5,381	140,441	5,425	124,983	5,489	125,565
Building blocks		.....	77,972	.....	63,559	.....	81,873
Clays—							
China	Cwt.	342,408	242,860	390,613	250,113	363,890	195,032
Fire	"	1,070,122	223,628	886,091	186,696	824,774	166,733
Pipe		.....	1,161	.....	847	.....	1,668
Other clays		.....	99,515	.....	56,590	.....	64,498
Drain tile, unglazed		.....	2,041	.....	3,014	.....	8,622
Drain and sewer pipe		.....	61,868	.....	68,449	.....	66,960
Earthenware and chinaware		.....	5,067,489	.....	4,124,607	.....	4,558,194
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.		.....	970,324	.....	23,413	.....	27,113
Brick, fire, n.o.p., for use exclusively in the construction or repair of a furnace, kiln or other equipment of a manufacturing extablishment—(From May 12, 1—23).					812,039		861,696
Firebrick, n.o.p.		.....	610,243	.....	284,388	.....	194,060
Firebrick, chrome—(From May 12, 1923)		.....	4,000	.....	.....	.....	35,277
Magnesite brick		.....	120,453	.....	91,553	.....	93,840
Silica brick		.....	216,642	.....	154,251	.....	185,356
Paving brick	M	3,243	90,767	2,559	69,493	1,563	39,901
Other clay manufactures		.....	241,320	.....	842,577	.....	771,001
Total		.....	**8,172,662**	.....	**7,158,371**	.....	**7,478,084**
EXPORTS—							
Building brick	M	4,069	42,742	2,988	38,105	1,758	22,027
Clay—							
Unmanufactured	Cwt.	12	52	1,346	1,127	7,325	8,496
Manufactures		.....	109,957	.....	109,295	.....	85,383
Earthenware		.....	432,092	.....	72,839	.....	16,879
Porcelain insulators*		.....	.....	.....	322,206	.....	88,033
Total		.....	**584,843**	.....	**543,572**	.....	**220,818**

*Prior to April 1924, porcelain insulators included with earthenware.

Table 197.—Production of Clay Products in Canada, from Domestic Clays, 1924 and 1925

Kind		1924 Quantity	1924 Total selling value	1925 Quantity	1925 Total selling value
			$		$
Brick: Soft mud process, Face	M	10,831	185,248	27,701	521,739
Soft mud process, Common	"	50,079	746,044	51,214	753,970
Stiff mud process (wire cut), Face	"	80,565	1,842,224	93,903	1,883,856
Stiff mud process (wire cut), Common	"	124,556	1,880,631	116,105	1,635,257
Dry press, Face	"	35,203	761,572	37,201	800,504
Dry press, Common	"	12,794	168,043	22,053	270,135
Fancy or ornamental brick (including special shapes, embossed and enamelled brick)	"	755	98,460	524	26,320
Sewer brick	"	2,690	40,775	2,485	52,382
Firebrick from domestic clay	"	4,327	209,256	6,197	305,332
Fireclay	Ton	3,645	26,258	623	6,544
Fireclay blocks and shapes		.....	51,273	.....	36,567
Structural tile: Hollow blocks (including fireproofing and load-bearing tile)	Ton	96,818	926,777	115,576	1,093,397
Roofing tile	No	7,377	917	78,479	6,323
Floor tile (quarries)	Sq. ft	444,601	35,608	140,927	28,338
Drain tile	M	15,137	499,369	14,55[illegible]	401,503
Sewer pipe (including copings, flue linings, etc.)	Ton	76,355	1,594,280	73,791	1,440,269
Pottery, glazed or unglazed		.....	238,342	.....	267,255
Total		.....	**9,215,077**	.....	**9,529,691**

Brick.—The total Canadian production in 1925 was valued at $5,944,163 as compared with a value of $5,722,997 in 1924. Ontario leads all other provinces in Canada in the production of building brick. In 1925, this province's production had a selling value of $3,196,335; Quebec followed with a total value of $2,018,008; and Alberta came next with a valuation of $224,569. British Columbia, Manitoba, Nova Scotia, Saskatchewan, New Brunswick and Prince Edward Island followed in the order named.

Table 198.—Production of Building Brick in Canada by Provinces, 1924 and 1925

—		Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	*Canada
1924										
Soft mud process, Face	M	.....	.....	.....	10,605	.....	226	.....	.....	**10,831**
	$	.....	.....	.....	182,385	.....	2,863	.....	.....	**185,248**
Soft mud process, Common	M	440	2,345	4,802	31,041	5,722	1,603	1,446	2,565	**50,079**
	$	5,880	38,131	48,865	488,742	93,698	20,473	19,195	29,470	**746,044**
Stiff mud process (wire cut), Face	M	675	.....	14,611	63,353	165	1,200	213	348	**80,565**
	$	13,581	.....	381,549	1,385,131	4,911	32,210	5,736	19,106	**1,842,224**
Stiff mud process (wire cut), Common	M	4,161	.....	93,343	22,563	127	227	3,502	633	**124,556**
	$	50,322	.....	1,351,657	424,536	1,270	3,570	38,823	10,453	**1,880,631**
Dry press, Face	M	.....	.....	1,817	30,597	.....	173	1,486	1,130	**35,203**
	$	.....	.....	53,006	636,101	.....	6,064	25,824	40,577	**761,572**
Dry press, Common	M	.....	.....	.....	2,433	.....	128	7,510	2,723	**12,794**
	$	.....	.....	.....	34,093	.....	2,018	96,533	35,399	**168,043**
Fancy or ornamental brick	M	.....	.....	223	532	.....	.....	.....	.....	**755**
	$	.....	.....	9,603	88,857	.....	.....	.....	.....	**98,460**
Sewer brick	M	.....	.....	.....	2,656	.....	.....	.....	34	**2,690**
	$	.....	.....	.....	39,446	.....	.....	.....	1,329	**40,775**
Total	**M**	**5,276**	**2,345**	**114,796**	**163,780**	**6,014**	**3,557**	**14,157**	**7,433**	**317,473**
	$	**69,783**	**38,131**	**1,844,680**	**3,270,291**	**99,879**	**67,198**	**186,111**	**136,334**	**5,722,997**
1925										
Soft mud process, Face	M	.....	.....	3	24,479	3,219	.....	.....	.....	**27,701**
	$	.....	.....	35	476,638	45,066	.....	.....	.....	**521,739**
Soft mud process, Common	M	830	2,000	7,740	30,799	6,014	662	.....	3,169	**51,214**
	$	10,760	30,000	80,114	474,114	96,632	9,951	.....	52,399	**753,970**
Stiff mud process (wire cut), Face	M	1,435	.....	21,224	68,975	324	560	852	533	**93,903**
	$	29,180	.....	506,113	1,288,382	8,404	17,104	17,963	16,710	**1,883,856**
Stiff mud process (wire cut), Common	M	3,658	.....	93,827	12,642	29	465	5,036	268	**116,105**
	$	45,475	.....	1,328,403	195,202	283	6,531	52,645	4,198	**1,635,257**
Dry press, Face	M	.....	.....	2,919	32,016	.....	77	922	1,267	**37,201**
	$	.....	.....	91,551	638,812	.....	2,634	16,525	50,982	**800,504**
Dry press, Common	M	.....	250	800	4,587	.....	.....	11,930	4,486	**22,053**
	$	.....	2,800	7,200	64,377	.....	.....	137,436	58,322	**270,135**
Fancy or ornamental brick	M	.....	.....	98	426	.....	.....	.....	.....	**524**
	$	.....	.....	4,592	21,728	.....	.....	.....	.....	**26,320**
Sewer brick	M	.....	.....	.....	2,125	.....	.....	.....	360	**2,485**
	$	.....	.....	.....	37,082	.....	.....	.....	15,300	**52,382**
Total	**M**	**5,923**	**2,250**	**126,611**	**176,049**	**9,586**	**1,764**	**18,740**	**10,083**	**351,186**
	$	**85,415**	**32,800**	**2,018,008**	**3,196,335**	**150,385**	**36,220**	**224,569**	**197,911**	**5,944,163**

*Totals for Canada include record of small production in Prince Edward Island.

Table 199.—Production of Building Brick (Common and Pressed), 1886-1906

Year	Value	Year	Value	Year	Quantity	Value
	$		$		M	$
1886	873,600	1893	1,800,000	1900		2,275,000
1887	986,689	1894	1,800,000	1901		2,400,000
1888	1,036,746	1895	1,670,000	1902		2,593,000
1889	1,273,884	1896	1,600,000	1903		2,832,000
1890	1,266,982	1897	1,600,000	1904		2,983,000
1891	1,061,536	1898	1,900,000	1905	523,820	3,933,925
1892	1,251,934	1899	2,195,000	1906	523,390	4,102,590
				Total		**41,435,886**

Table 200.—Production of Common Brick, 1907-1923

Year	Quantity	Value	Year	Quantity	Value	Year	Quantity	Value
	M	$		M	$		M	$
1907	439,016	3,455,524	1914	457,514	3,653,861	1920	303,343	4,835,996
1908	353,261	2,611,551	1915	234,733	1,755,187	1921	220,438	3,567,503
1909	539,229	4,212,424	1916	237,035	1,826,844	1922	294,919	4,714,658
1910	627,715	5,105,354	1917	219,631	1,999,465	1923	250,565	3,884,474
1911	645,551	5,420,890	1918	164,970	1,879,811			
1912	769,192	7,010,375	1919	291,470	3,850,219	**Total**	**6,708,009**	**65,701,512**
1913	668,427	5,917,373						

Table 201.—Production of Pressed Brick, 1907-1923

Year	Quantity	Value	Year	Quantity	Value	Year	Quantity	Value
	M	$		M	$		M	$
1907	78,922	794,722	1914	93,635	1,115,556	1920	85,137	2,004,537
1908	53,481	517,180	1915	49,817	492,774	1921	80,947	1,738,293
1909	57,265	630,677	1916	44,947	492,355	1922	90,578	1,839,549
1910	67,895	807,294	1917	46,409	653,153	1923	73,400	1,461,483
1911	87,351	1,094,582	1918	40,147	639,083			
1912	125,180	1,609,854	1919	74,424	1,304,162	**Total**	**1,266,337**	**18,653,987**
1913	116,802	1,458,733						

Table 202.—Production of Paving Brick*, 1897-1925

Year	Quantity	Value	Year	Quantity	Value	Year	Quantity	Value
	M	$		M	$		M	$
1897	4,568	45,670	1905	4,500	54,000	1914	2,707	49,627
1898			1906	3,000	45,000	1915	1,228	20,694
1899	5,300	42,550	1907	3,618	72,354	1916	1,590	30,144
1900	2,710	26,950	1908	3,720	59,456	1917-1921		
1901	3,689	37,000	1909	3,760	67,408	1922	151	5,972
1902	4,211	42,000	1910	4,215	78,980	1923-1925		
1903	3,789	45,288	1911	5,220	79,444			
1904	4,436	55,450	1912	4,580	85,989	**Total**	**71,200**	**1,019,645**
			1913	4,208	75,669			

*Figures prior to 1907 compiled by the Ontario Bureau of Mines.

Structural Tile.—Records of the production of structural tile in Canada include such items as hollow blocks (fire-proofing and load-bearing tile), roofing tile, and floor tile; sales of these products amounted in value to $1,128,058 in 1925 as compared with $963,302 in 1924. Hollow blocks were manufactured in every province except New Brunswick and Prince Edward Island. Roofing and floor tile were made in Ontario during 1925. In the preceding year a small quantity of floor tile was produced in British Columbia.

Table 203.—Production of Hollow Building Blocks, Fireproofing, Architectural Terra-cotta and Tile other than Drain, in Canada, by Provinces, 1923

Province	Hollow building bricks or blocks		Fireproofing and hollow porous blocks	Architectural terra-cotta and tile other than drain
	1923		1923	1923
	Quantity	Value	Value	Value
	M	$	$	$
Nova Scotia	294	26,074	.....	.....
Quebec	1,929	156,112	66,868	28,082
Ontario	4,168	309,605	284,039	181,376
Manitoba	137	15,478	.....	.....
Saskatchewan	215	19,650	.....	.....
Alberta	400	41,657	28,898	.....
British Columbia	577	51,753	.....	13
Canada	**7,720**	**620,329**	**379,805**	**209,471**

Table 204.—Production of Structural Tile in Canada by Provinces, 1924 and 1925

Province	Hollow blocks (including fireproofing and load-bearing tile)		Roofing tile		Floor tile (quarries)	
	Tons	Value	No.	Value	Sq. ft.	Value
1924		$		$		$
Nova Scotia	4,695	54,410	.....	.....	.....	.....
Quebec	29,366	277,940	.....	.....	.....	.....
Ontario	48,134	428,894	7,377	917	441,301	35,211
Manitoba	969	11,726	.....	.....	.....	.....
Saskatchewan	1,795	35,892	.....	.....	.....	.....
Alberta	5,511	51,518	.....	.....	.....	.....
British Columbia	6,348	66,397	.....	.....	3,300	397
Canada	**96,818**	**926,777**	**7,377**	**917**	**444,601**	**35,608**
1925						
Nova Scotia	6,706	67,863	.....	.....	.....	.....
Quebec	31,842	302,272	.....	.....	.....	.....
Ontario	62,926	577,477	78,479	6,323	140,927	28,338
Manitoba	610	9,329	.....	.....	.....	.....
Saskatchewan	2,700	27,052	.....	.....	.....	.....
Alberta	5,166	49,831	.....	.....	.....	.....
British Columbia	5,626	59,573	.....	.....	.....	.....
Canada	**115,576**	**1,093,397**	**78,479**	**6,323**	**140,927**	**28,338**

Drain Tile and Sewer Pipe.—The Canadian production of sewer pipe during 1925 totalled 73,791 tons valued at $1,440,269 as compared with 76,355 tons worth $1,594,280 produced in 1924. Sales of drain tile, during the period under review were recorded at 14,552 thousand valued at $401,503 as against a total of 15,137 thousand at $409,369 sold in 1924. Ontario accounted for 92.8 per cent of the total production of drain tile and 66 per cent of the sewer pipe produced.

Table 205.—Production of Sewer Pipe in Canada, 1888-1925

Year	Value	Year	Value	Year	Tons	Value
	$		$			$
1888	266,320	1901	248,115	1914	.....	1,104,499
1889	*	1902	301,965	1915	.....	799,446
1890	348,000	1903	317,970	1916	.....	716,287
1891	227,300	1904	440,894	1917	.....	783,762
1892	367,660	1905	382,000	1918	36,574	699,774
1893	350,000	1906	530,045	1919	62,821	1,074,146
1894	250,325	1907	667,100	1920	58,887	1,549,090
1895	257,045	1908	514,362	1921	.....	1,666,584
1896	153,875	1909	645,722	1922	75,932	1,766,347
1897	164,250	1910	774,110	1923	70,252	1,616,324
1898	181,717	1911	812,716	1924	76,355	1,594,280
1899	161,546	1912	884,641	1925	73,791	1,440,269
1900	231,525	1913	1,035,906			
				Total	.....	**25,325,917**

*Data not available.

Table 206.—Production of Drain Tile in Canada, 1891-1925

Year	Value	Year	Value	Year	Value	Year	Value
	$		$		$		$
*1891	90,000	1900	225,000	1909	408,440	1918	499,340
1892	100,000	1901	250,000	1910	370,008	1919	616,510
1893	190,000	1902	250,000	1911	339,812	1920	562,652
*1894	280,000	1903	275,000	1912	357,862	1921	473,952
1895	210,000	1904	260,000	1913	338,552	1922	407,386
1896	225,000	1905	260,000	1914	366,340	1923	323,314
1897	225,000	1906	290,000	1915	355,296	1924	409,369
1898	225,000	1907	260,609	1916	359,387	1925	401,503
1899	225,000	1908	298,561	1917	434,708		
						Total	**11,163,601**

*1891-1894 (inclusive), as reported by Ontario Bureau of Mines.

Table 207.—Production of Drain Tile and Sewer Pipe, in Canada, by Provinces, 1924 and 1925

Province	1924				1925			
	Drain tile		Sewer pipe		Drain tile		Sewer pipe	
	M	$	Tons	$	M	$	Tons	$
Prince Edward Island	76	1,750			22	500		
Nova Scotia	71	2,515	12,910	214,783	44	1,520	11,483	195,787
Quebec	65	2,550	12,939	310,525	50	1,906	4,251	104,701
Ontario	14,096	373,979	42,449	848,398	13,496	360,710	49,334	893,442
Manitoba	167	5,845			278	14,080		
Saskatchewan	200	8,000			20	1,000		
Alberta	38	1,831	6,345	168,016	84	3,373	6,985	191,257
British Columbia	424	12,899	1,712	52,558	558	18,414	1,738	55,082
Canada	**15,137**	**409,369**	**76,355**	**1,594,280**	**14,552**	**401,503**	**73,791**	**1,440,269**

Sanitary Ware and Pottery from Domestic Clays.—Pottery from domestic clays sold during 1925 amounted in value to $267,255 as against $238,342 in the preceding year. Pottery produced from imported clays in 1925 was valued at $55,305; thus the total production of this commodity was worth $322,560. While no sanitary ware was produced in Canada from domestic clays during 1925, the production of this commodity from imported clays was valued at $240,501.

In computing the value of the mineral production of Canada, only the sales of pottery made from domestic clays are included; the value of pottery made from imported clays is included in the record of manufactures, on which a special Bureau report is issued.

Table 208.—Production of Pottery from Domestic Clays in Canada, 1888-1925

Year	Value	Year	Value	Year	Value	Year	Value
	$		$		$		$
1888	27,750	1898	214,675	1908	200,541	1918	130,242
1889	*	1899	185,000	1909	285,285	1919	185,474
1890	195,242	1900	200,000	1910	250,924	1920	209,171
1891	258,844	1901	200,000	1911	102,493	1921	231,262
1892	265,811	1902	200,000	1912	43,955	1922	266,391
1893	213,186	1903	200,000	1913	53,533	1923	229,547
1894	162,144	1904	140,000	1914	35,371	1924	238,342
1895	151,588	1905	120,000	1915	64,900	1925	267,255
1896	163,427	1906	150,000	1916	61,069		
1897	129,629	1907	253,809	1917	122,878	**Total**	**6,499,738**

*Not available.

Kaolin.—There were no shipments of kaolin in Canada during 1925. In 1923, some 163 tons of this commodity were shipped from the St. Rémi d'Amherst deposit in Quebec. During the year under review, considerable development work was done on the china clay deposits on the Mattagami river, near Long Falls, Temiskaming district, Ontario.

Table 209.—Production of Kaolin in Canada, 1912-1925

Year	Tons	Value	Year	Tons	Value	Year	Tons	Value
		$			$			$
1912	20	160	1917	533	9,594	1922	1,197	17,866
1913	500	5,000	1918	863	19,299	1923	163	2,369
1914	1,000	10,000	1919	759	13,744	1924–25	.....	.....
1915	1,300	13,000	1920	683	15,022			
1916	1,750	17,500	1921	124	1,888	**Total**	**8,892**	**125,442**

Refractories.—*Fireclay.*—Sales of fire clay or refractory clay sold as such, in Canada, during 1925 amounted to 623 tons valued at $6,544. Shipments of this commodity were made from deposits in the provinces of British Columbia, Saskatchewan, New Brunswick and Nova Scotia.

Firebrick.—Firebrick produced from domestic clays totalled 6,197 thousand valued at $305,332, as against 4,327 thousand valued at $209,256 in the previous year. British Columbia was the principal producer accounting for 57 per cent of the total sales of this commodity in the whole of Canada.

Imports of firebrick into Canada during 1925 consisting of magnesite brick, silica brick, chrome brick, firebrick of a kind not made in Canada, and firebrick n.o.p., were appraised at $1,397,342.

Large deposits of magnesite from which a good grade of basic high temperature brick may be made, occur in the province of Quebec.

Table 210.—Production of Fire Clay in Canada, 1889-1925

Year	Quantity	Value	Year	Quantity	Value	Year	Quantity	Value
	Tons	$		Tons	$		Tons	$
1889	400	4,800	1902	2,741	4,283	1915	2,328	12,065
1890	.....	.....	1903	2,639	3,523	1916	9,206	30,767
1891	250	750	1904	5,972	17,466	1917	10,534	49,455
1892	1,991	4,467	1905	5,088	13,917	1918	8,732	44,351
1893	540	700	1906	6,559	18,522	1919	4,600	24,163
1894	539	2,167	1907	.....	.....	1920	8,321	44,091
1895	1,329	3,492	1908	1,984	8,121	1921	2,931	29,851
1896	842	1,805	1909	4,405	12,390	1922	10,196	55,185
1897	2,118	5,759	1910	1,425	5,863	1923	2,685	24,158
1898	670	1,680	1911	7,532	24,128	1924	3,645	26,258
1899	599	1,295	1912	6,307	24,343	1925	623	6,544
1900	1,245	4,130	1913	3,345	14,018			
1901	3,979	5,920	1914	2,171	12,875	**Total**	**128,471**	**543,302**

Table 211.—Production of Fire Brick and Other Fire-Clay Products in Canada, from Domestic Clays, 1907-1925

Year	Fire brick		Other fireclay products	Year	Fire brick		Other fireclay products
	Quantity	Value	Value		Quantity	Value	Value
	M	$	$		M	$	$
1907	4,323	113,322	18,000	1917	8,192	199,171	77,885
1908	2,416	70,429	31,752	1918	7,192	248,884	111,589
1909	1,059	32,742	33,000	1919	5,610	268,756	96,435
1910	1,375	29,352	15,000	1920	7,293	375,230	54,792
1911	2,368	44,122	20,880	1921	4,592	242,462	91,685
1912	3,430	67,192	34,050	1922	6,705	251,776	67,588
1913	3,667	86,164	42,556	1923	6,122	225,037	81,345
1914	2,816	72,299	22,334	1924	4,327	209,256	51,273
1915	2,896	68,700	29,928	1925	6,197	305,332	36,567
1916	5,689	147,757	56,038				
				Total	**86,179**	**3,127,983**	**972,757**

Table 212.—Production of Refractories, in Canada, from Domestic Clays, by Provinces, 1924

Province	Fire clay		Fire brick		Fire clay blocks and shapes
	Sold or used		Sold or used		
	Quantity	Value	Quantity	Value	Sold or used
	Tons	$	M	$	$
Nova Scotia	1,967	5,258	176	8,269	930
New Brunswick	50	2,005	23	640	.....
Ontario	.....	.....	718	38,509	.....
Saskatchewan	315	2,436	436	19,036	3,818
Alberta	.....	.....	.....	.....	12,977
British Columbia	1,313	16,559	2,974	141,902	33,548
Canada	**3,645**	**26,258**	**4,327**	**209,256**	**51,273**

Table 213.—Production of Refractories, in Canada, from Domestic Clays, by Provinces, 1925

Province	Fire clay		Fire brick		Fire clay blocks and shapes
	Sold or used		Sold or used		
	Quantity	Value	Quantity	Value	Sold or used
	Tons	$	M	$	$
Nova Scotia	48	489	1,221	71,336	280
New Brunswick	49	1,956	30	768	.....
Ontario	.....	.....	904	46,459	.....
Saskatchewan	319	2,895	447	21,672	7,113
Alberta	.....	.....	58	2,524	.....
British Columbia	207	1,204	3,537	162,573	29,174
Canada	**623**	**6,544**	**6,197**	**305,332**	**36,567**

LIME

Production of lime in Canada during 1925, increased 12 per cent in quantity over the previous year's shipments. The year's production amounted to 10,256,542 bushels, consisting of 8,529,399 bushels of quicklime, and 60,450 tons of hydrated lime, having a total value of $3,387,652. In 1924, the total production was 9,136,952 bushels valued at $3,178,541. The average price throughout Canada for quicklime in 1925 was 32 cents per bushel, while hydrated lime sold for $11.30 per ton.

Importations of lime in the year under review were recorded at 4,700 tons appraised at $47,639. Exports, according to Customs' records, were 16,286 tons, worth $312,168.

Quicklime is used extensively in Canada in chemical works, pulp and paper mills and in the building trades. Hydrated lime is sold mainly to the building trades and dealers, although appreciable quantities are also consumed in the chemical industry, pulp and paper mills, etc.

Ontario is the chief Canadian source of lime; this province produced 5,115,974 bushels of quicklime and 41,610 tons of hydrated lime in 1925 having a total selling value at the kiln of $2,044,125. There was no production of lime in Prince Edward Island nor Saskatchewan during 1925.

Table 214.—Production of Lime in Canada, 1886-1925

Year	Value	Year	Bushels	Value	Year	Bushels	Value
	$			$			$
1886	283,755	1900 (Estimated)	.....	800,000	1914	7,028,582	1,360,628
1887	394,859	1901 "	.....	830,000	1915	5,047,244	1,015,702
1888	339,951	1902 "	.....	892,000	1916	5,493,250	1,091,463
1889	362,848	1903 "	.....	900,000	1917	6,567,170	1,558,487
1890	412,308	1904 "	.....	780,000	1918	6,363,951	1,876,025
1891	251,215	1905 "	.....	750,000	1919	7,147,504	2,310,607
1892	411,270	1906	5,230,406	1,009,177	1920	9,427,331	3,818,553
1893 (Estimated)	900,000	1907	4,755,316	974,595	1921	6,870,066	2,781,197
1894	900,000	1908	3,601,468	712,947	1922	8,972,971	3,165,005
1895	700,000	1909	5,592,924	1,132,756	1923	10,035,319	3,266,608
1896	650,000	1910	5,848,146	1,137,079	1924	9,136,952	3,178,541
1897	650,000	1911	7,533,525	1,517,599	1925	10,256,542	3,387,652
1898 (Estimated)	650,000	1912	8,475,839	1,844,849			
1899 "	800,000	1913	7,558,484	1,609,398	**Total**	.....	**51,407,074**

Table 215.—Production of Lime in Canada, 1924 and 1925, showing Purposes for which Sold or Used

Purpose for which sold or used	1924				1925			
	Quicklime		Hydrated lime		Quicklime		Hydrated lime	
	Bushels	Value*	Tons	Value*	Bushels	Value*	Tons	Value*
		$		$		$		$
Building trades	1,056,281	430,624	22,772	284,327	1,003,084	369,574	29,658	358,178
Chemical works	2,653,362	843,111	1,953	13,835	3,145,399	992,360	2,325	18,576
Glass works	94,602	26,567	25	287	78,653	21,706	.....	.....
Smelters	56,518	35,689	.....	.....	181,749	58,404	.....	.....
Pulp and paper mills	1,896,907	466,189	3,535	33,915	2,028,002	479,025	5,569	37,562
Sugar refineries	315,323	94,383	.....	.....	314,786	94,974	.....	.....
Tanneries	63,141	21,411	111	1,166	98,414	30,142	177	1,272
Agricultural uses (fertilizers)	.....	.....	399	3,374	13,667	2,784	611	5,119
Dealers (uses unspecified)	743,816	287,362	13,073	160,937	868,658	278,760	16,992	198,430
Other consumers	940,259	424,002	4,218	51,362	796,987	377,036	5,118	63,750
Total sold or used	**7,820,209**	**2,629,338**	**46,086**	**549,203**	**8,529,399**	**2,704,765**	**60,450**	**682,886**

*Total selling value at kiln.

Table 216.—Production of Lime in Canada, by Provinces, 1923, 1924 and 1925

Province		Quicklime		Hydrated lime		Total	
		Sold or used		Sold or used		Sold or used	
		Bushels	Selling value at kiln	Bushels	Selling value at kiln	Bushels	Selling value at kiln
			$		$		$
Nova Scotia	1923	42,370	7,199	.....	.....	42,370	7,199
	1924	.....	.....	2,229	936	2,229	937
	1925	57	20	8,200	3,444	8,257	3,464
New Brunswick	1923	329,548	143,814	.....	.....	329,548	143,814
	1924	208,180	108,890	.....	.....	208,180	108,890
	1925	202,106	92,216	.....	.....	202,106	92,216
Quebec	1923	2,198,071	576,731	159,857	57,482	2,357,928	634,213
	1924	2,219,359	610,990	167,086	58,947	2,386,445	699,937
	1925	2,272,751	601,031	269,486	72,249	2,542,237	673,330
Ontario	1923	4,810,421	1,373,823	1,192,200	519,840	6,002,621	1,893,663
	1924	4,391,050	1,401,515	1,028,257	438,607	5,419,307	1,840,152
	1925	5,115,974	1,566,540	1,188,857	477,585	6,304,831	2,044,125
Manitoba	1923	524,128	161,226	.....	.....	524,128	161,226
	1924	394,229	121,518	.....	.....	394,229	121,518
	1925	324,515	100,833	125,800	69,397	450,315	170,230
Alberta	1923	86,810	37,653	943	346	87,753	37,999
	1924	89,814	36,083	400	196	90,214	36,279
	1925	98,938	39,852	.....	.....	98,938	39,852
British Columbia	1923	564,971	338,443	126,000	50,051	690,971	388,494
	1924	517,577	320,312	118,771	50,517	636,348	370,829
	1925	515,058	304,223	134,800	60,212	649,858	364,435
Canada	**1923**	**8,556,319**	**2,638,889**	**1,479,000**	**627,719**	**10,035,319**	**3,266,608**
	1924	**7,820,209**	**2,629,338**	**1,316,743**	**549,203**	**9,136,952**	**3,178,541**
	1925	**8,529,399**	**2,704,765**	**1,727,143**	**682,887**	**10,256,542**	**3,387,652**

Table 217.—Imports into Canada and Exports of Lime, 1923, 1924 and 1925

Item	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
Imports	4,989	55,820	4,418	46,578	4,700	47,639
Exports	24,326	428,286	22,750	411,122	16,286	312,168

SAND AND GRAVEL

The production of sand and gravel in 1925 totalled 11,018,647 tons valued at $3,220,410 as against 11,603,500 tons valued at $3,181,083 in 1924. This represented a decrease in quantity of 5 per cent and in value an increase of 1.2 per cent.

Imports of sand and gravel into Canada during the year were as follows: sand and gravel n.o.p., 282,203 tons, appraised at $184,400; silica sand for the manufacture of glass and carborundum and for the use in foundries, 143,502 tons at $353,237.

Production by Railway Companies.—As the sand and gravel produced by railway companies in Canada accounted for 38.2 per cent of the total production, statistics relating to this output have been tabulated separately from data regarding other producers. It will be noted in the table below that 89 per cent of this output was utilized as railway ballast. In addition to this quantity there was a production of 416,049 tons for use in concrete work; and smaller quantities for use as blast, core and engine sands.

Production by Other Operators.—Statistics given under this sub-heading include data concerning the production of sand and gravel by all operators in Canada other than railway companies. These producers numbered 435 operators distributed as follows: Nova Scotia, 9; New Brunswick, 3; Quebec, 65; Ontario, 336; Manitoba, 10; Saskatchewan, 5; Alberta, 3; and 4 in British Columbia.

Table 218.—Production of Sand and Gravel in Canada, 1895-1925*

Year	Quantity	Value	Year	Quantity	Value	Year	Quantity	Value
	Tons	$		Tons	$		Tons	$
1895	277,162	118,359	1906	336,550	139,712	1917	9,182,417	2,326,249
1896	224,769	80,110	1907	298,095	119,853	1918	11,262,282	2,387,018
1897	152,063	76,729	1908	298,954	161,387	1919	10,364,481	2,680,460
1898	165,954	90,498	1909	481,584	253,166	1920	11,530,795	4,201,067
1899	242,450	101,649	1910	624,824	407,974	1921	11,574,862	2,537,249
1900	197,558	101,666	1911	573,494	408,110	1922	11,666,374	3,592,935
1901	197,302	117,465	1912	.....	1,512,099	1923	12,752,515	3,016,518
1902	159,793	119,120	1913	.....	2,258,874	1924	11,663,500	3,181,083
1903	355,792	124,006	1914	.....	2,595,310	1925	11,018,647	3,220,410
1904	399,809	189,803	1915	.....	1,624,767			
1905	306,935	152,805	1916	8,156,207	1,838,320	**Total**	.....	**39,537,762**

*Exports prior to 1912. No production statistics collected.

Table 219.—Production in Canada, Imports and Exports of Sand and Gravel, 1923, 1924 and 1925

Kind	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
PRODUCTION—						
Moulding sand	154,711	111,537	118,202	80,072	57,656	48,880
Building sand and sand for concrete road-work, etc	1,740,573	706,250	2,662,809	911,173	2,557,623	755,289
Other sand (including blast, core and engine sands)	101,695	72,980	46,515	22,346	47,538	17,770
Sand and gravel for railway ballast	6,149,789	800,496	5,076,511	696,966	3,950,328	570,235
Sand and gravel for concrete, road building, etc	4,115,260	1,050,504	3,086,663	1,203,259	3,955,166	1,626,834
Crushed gravel	490,487	274,751	612,800	267,267	450,336	201,402
Total	**12,752,515**	**3,016,518**	**11,663,500**	**3,181,083**	**11,018,647**	**3,220,410**
IMPORTS—						
Sand, silica, for glass and carborundum manufacture, etc	167,556	317,250	131,778	324,279	143,501	353,237
Sand and gravel, n.o.p	355,126	247,388	150,868	118,397	282,203	184,000
Total	**522,682**	**564,638**	**282,646**	**442,676**	**425,704**	**537,237**
EXPORTS	764,521	182,750	1,036,029	210,496	864,872	198,48

Table 220.—Railway Production of Sand and Gravel in Canada, 1923, 1924 and 1925

Kind	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
Moulding sand	2,738	405	4,779	708	526	780
Building sand and sand for concrete road-work	5,524	2,670	23,121	7,317	26,769	10,816
Other sand (including blast, core and engine sand)	30,967	38,516	35,703	11,961	38,095	8,927
Sand and gravel for ballast	5,991,863	737,812	5,063,711	679,297	3,755,028	500,958
Sand and gravel for concrete, road-building, etc	1,409,304	148,535	188,740	39,886	389,280	95,294
Crushed gravel	270	500	.....	.....	1,215	1,665
Total	**7,440,666**	**928,438**	**5,316,054**	**739,169**	**4,210,913**	**618,440**

Table 221.—Production of Sand and Gravel by Other Operators in Canada, 1923, 1924 and 1925

Kind	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
Moulding sand	151,973	111,132	113,423	79,364	57,130	48,100
Building sand and sand for concrete road-work, etc	1,735,049	703,580	2,639,688	903,856	2,530,854	744,473
Other sand (including blast, core and engine sands)	70,728	34,464	10,812	10,385	9,443	8,843
Sand and gravel for railway ballast	157,926	62,684	12,800	17,669	195,300	69,277
Sand and gravel for concrete, road building, etc	2,705,956	901,969	2,897,923	1,163,373	3,565,886	1,531,540
Crushed gravel	490,217	274,251	612,800	267,267	449,121	199,737
Total	**5,311,849**	**2,088,080**	**6,287,446**	**2,441,914**	**6,807,734**	**2,601,970**

Table 222.—Production of Sand and Gravel in Canada, by Provinces, 1924

Kind		Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Canada
Moulding sand	Tons	.....	.....	3,361	114,099	742	.....	.....	.....	**118,202**
	$	.....	.....	953	78,293	826	.....	.....	.....	**80,072**
Building sand, etc	Tons	4,225	.....	1,057,864	1,149,788	45,259	4,205	22,216	379,252	**2,662,809**
	$	2,779	.....	214,733	495,208	21,428	1,592	8,828	166,605	**911,173**
Other sand	Tons	4,596	1,137	16,121	8,802	607	.....	8,761	6,491	**46,515**
	$	4,136	352	2,389	8,138	600	.....	4,475	2,256	**22,346**
Sand and gravel— (a) for railway ballast	Tons	233,649	113,612	642,197	2,135,002	223,648	676,897	535,120	504,896	***5,076,511**
	$	32,663	17,692	51,733	371,251	24,662	88,558	54,924	54,235	*** 696,966**
(b) for concrete, etc	Tons	52,943	27,148	472,418	2,219,063	89,279	21,611	9,897	194,334	**3,086,663**
	$	20,023	5,955	136,754	890,737	34,381	6,895	4,579	103,935	**1,203,259**
Crushed gravel	Tons	.....	.....	5,184	547,539	.....	.....	39,600	20,486	**612,800**
	$	.....	.....	7,866	198,332	.....	.....	43,163	17,906	**267,267**
Total	**Tons**	**295,383**	**141,897**	**2,197,145**	**6,174,281**	**359,535**	**702,713**	**615,594**	**1,105,459**	***11,603,500**
	$	**59,601**	**23,999**	**414,428**	**2,041,959**	**81,897**	**97,045**	**115,969**	**341,937**	***3,181,083**

*Includes 11,490 tons valued at $1,248 used in Prince Edward Island.

Table 223.—Production of Sand and Gravel in Canada, by Provinces, 1925

Kind		Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Canada
Moulding sand	Tons	.....	.....	6	57,076	574	.....	.....	.....	**57,656**
	$	.....	.....	24	48,263	593	.....	.....	.....	**48,880**
Building sand	Tons	4,787	40	1,088,619	1,355,834	34,717	216	26,139	47,271	**2,557,623**
	$	3,758	13	254,668	464,383	16,865	26	5,488	10,088	**755,289**
Other sand	Tons	3,357	1,049	8,593	14,016	317	12,220	7,567	419	**47,538**
	$	2,783	331	1,931	7,937	249	3,139	1,165	232	**17,770**
Sand and gravel— (a) for railway ballast	Tons	*231,206	48,172	646,148	905,171	359,235	514,797	328,862	916,737	**3,950,328**
	$	*31,818	8,018	101,336	85,804	40,710	68,718	42,326	191,505	**570,235**
(b) for concrete, etc	Tons	45,949	20,895	459,830	2,440,932	332,309	52,668	171,601	430,982	**3,955,166**
	$	15,338	3,966	175,891	992,143	138,184	16,922	57,245	227,145	**1,626,834**
Crushed gravel	Tons	1,215	.....	.....	428,575	.....	.....	723	19,823	**450,336**
	$	1,665	.....	.....	180,599	.....	.....	1,212	17,928	**201,402**
Total	**Tons**	***286,514**	**70,156**	**2,203,196**	**5,201,604**	**727,152**	**579,901**	**531,892**	**1,415,232**	**11,018,647**
	$	**55,362**	**12,331**	**533,850**	**1,779,129**	**196,601**	**88,805**	**107,436**	**446,896**	**3,220,410**

* Includes 35,430 tons valued at $5,475 used in Prince Edward Island.

SAND-LIME BRICK

The total production of sand-lime brick in Canada in 1925 amounted to 63,869 thousand valued at $781,555, as against 55,873 thousand at $619,946 produced in the preceding year. Ontario was as usual the principal producer. The 9 plants operating in this province accounted for practically the whole Canadian output.

Because of its association with other building materials, data regarding the production of sand-lime brick are included in this report. Statistics relating to sand-lime brick are not included in the totals for structural materials industries as both the sand and lime used have been so recorded; production of sand-lime brick is regarded as a manufacturing operation and therefore is shown in the report on the *Manufactures of Non-Metallic Minerals*, issued annually by the Bureau.

Table 224.—Sand-Lime Brick Manufactured in Canada, by Provinces, 1923, 1924 and 1925

Province	1923		1924		1925	
	Quantity	Value	Quantity	Value	Quantity	Value
	M	$	M	$	M	$
Ontario	59,080	887,960	54,410	604,275	61,506	748,393
Manitoba	1,000	10,000	1,101	11,040	2,363	33,162
Saskatchewan	.....	.....	359	4,631	.....	.....
Total	**60,080**	**897,960**	**55,873**	**619,946**	**63,869**	**781,555**

SLATE

The entire production of Canadian slate comes from deposits situated along the south shore of the St. Lawrence river in the province of Quebec. Mining of slate has been carried on in the province since about 1854, the maximum production, 6,935 tons valued at $119,160, occurring in the year 1889. There has been no production of slate from the quarries in Melbourne township, Quebec, since 1923. The total sales for 1923, amounting to 1,836 tons valued at $17,289, consisted of crushed green and red slate, for use in the manufacture of roofing paper. During 1922, the production amounted to 1,899 tons of crushed slate valued at $14,871.

Imports of slate products into Canada during 1925 were valued at $205,507 as compared with $220,402 in 1924. Customs' figures did not show any exports of slate.

Table 225.—Production in Canada and Imports of Slate, 1923, 1924 and 1925

—	1923		1924		1925	
	Quantity	Value	Quantity	Value	Quantity	Value
		$		$		$
PRODUCTION—						
Crushed ..... Tons	1,836	17,289	.....	.....	.....	.....
IMPORTS—						
Roofing ..... Squares	5,905	67,507	5,718	71,298	4,411	50,331
School-writing	.....	111,922	.....	74,879	.....	102,878
Pencils	.....	9,027	.....	7,601	.....	4,810
Mantles and manufactures of slate, n.o.p.	.....	77,390	.....	66,624	.....	47,488
Total	.....	**265,846**	.....	**220,402**	.....	**205,507**

STONE

Production of stone in Canada during 1925 totalled 5,706,119 tons valued at $7,464,777. In 1924, the shipments amounted to 4,768,014 tons worth $6,407,757. With the exception of the record production of 1920, the 1925 value exceeds that of all other years. Ontario was the leading producer accounting for 53 per cent of the total quantity; Quebec followed with 39.3 per cent. The other provinces in order of tonnage produced were: British Columbia, Nova Scotia, Manitoba, and New Brunswick.

The kinds of stone quarried included granite (trap-rock, syenite, and other igneous rock), limestone, sandstone and marble.

The quantities of limestone quarried and used in the manufacture of lime by the operator have not been included under this industry; only the quantity and value of lime are recorded in order to avoid duplication of entries.

Table 226.—Production of Limestone and Sandstone in Canada*, 1909-1925

Year	Limestone	Sandstone	Year	Limestone	Sandstone	Year	Limestone	Sandstone
	$	$		$	$		$	$
1909	2,139,691	374,179	1915	2,312,081	249,336	1921	5,155,046	78,036
1910	2,249,576	502,148	1916	2,224,091	146,244	1922	4,175,941	80,908
1911	2,594,926	451,183	1917	2,283,659	261,256	1923	4,475,921	66,547
1912	2,762,936	329,352	1918	2,342,403	102,750	1924	4,831,684	240,273
1913	3,204,091	396,782	1919	3,074,815	86,577	1925	5,049,563	145,757
1914	2,672,781	487,140	1920	5,665,093	165,149			
						Total	57,214,898	4,163,617

*Data not available prior to 1909.

Table 227.—Production of Granite and Marble in Canada, 1886-1925

Year	Granite	Marble	Year	Granite	Marble	Year	Granite	Marble
	$	$		$	$		$	$
1886	63,909	9,900	1900	80,000	.....	1914	2,176,602	132,533
1887	142,506	6,224	1901	155,000	.....	1915	1,525,553	158,027
1888	147,305	3,100	1902	210,000	.....	1916	1,247,267	118,810
1889	79,624	980	1903	200,000	.....	1917	639,412	55,820
1890	65,985	10,776	1904	150,000	.....	1918	590,871	550
1891	70,056	1,752	1905	226,305	.....	1919	850,563	213,982
1892	89,326	3,600	1906	278,419	.....	1920	1,508,916	240,593
1893	94,393	5,100	1907	194,712	.....	1921	937,894	172,720
1894	109,936	.....	1908	282,320	125,000	1922	1,486,250	231,894
1895	84,838	2,000	1909	454,824	158,441	1923	1,159,303	201,518
1896	106,709	2,405	1910	739,516	158,779	1924	1,013,345	322,455
1897	61,931	.....	1911	1,119,865	162,783	1925	2,014,535	254,922
1898	81,073	.....	1912	1,373,119	260,761			
1899	90,542	.....	1913	1,653,791	249,975	Total	23,556,518	3,265,403

Table 228.—Production of Stone in Canada, by Provinces, Showing Purposes for Which Used, 1924

Item		Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Alberta	British Columbia	Canada
Building—									
Rough	Tons	1,738	.....	33,937	15,752	815	.....	6,785	59,027
	$	19,740	.....	207,682	44,539	9,498	.....	40,713	322,172
Dressed	Tons	.....	30	20,644	1,149	1,200	80	650	23,753
	$	.....	1,500	711,651	36,545	30,570	2,455	83,500	866,221
Monumental and ornamental—									
Rough	Tons	193	1,141	9,446	1,609	2	.....	.....	12,391
	$	2,338	16,384	127,143	10,312	39	.....	.....	156,216
Dressed	Tons	201	481	636	65	.....	.....	950	2,333
	$	17,059	45,325	27,668	3,696	.....	.....	67,098	160,846
Flagstone	Tons	.....	.....	.....	719	.....	.....	.....	719
	$	.....	.....	.....	5,764	.....	.....	.....	5,764
Curbstone	Tons	.....	702	11,383	6	.....	.....	200	12,291
	$	.....	8,043	56,381	71	.....	.....	3,000	67,495
Paving blocks	Tons	.....	292	6,858	7,642	.....	.....	.....	14,792
	$	.....	4,171	96,957	61,184	.....	.....	.....	162,312
Limestone, for flux	Tons	54,899	.....	7,373	218,429	.....	.....	24,421	305,122
	$	49,789	.....	7,843	197,308	.....	.....	14,652	269,592
Limestone for sugar factories, chemical works, etc	Tons	.....	11,732	68,931	104,207	.....	.....	2,632	187,502
	$	.....	24,556	66,880	69,165	.....	.....	7,229	167,830
Rubble and riprap	Tons	8,334	.....	15,205	90,888	5,945	200	48,036	168,608
	$	16,364	.....	10,692	67,182	7,415	100	39,920	141,673
Crushed	Tons	2,170	4,851	1,417,676	2,399,707	46,103	16,418	94,551	3,981,476
	$	6,534	14,132	1,612,623	2,293,602	46,354	16,762	97,629	4,087,636
Total	**Tons**	**67,535**	**19,229**	**1,592,089**	**2,840,173**	**54,065**	**16,698**	**178,225**	**4,768,014**
	$	**111,824**	**114,111**	**2,925,520**	**2,789,368**	**93,876**	**19,317**	**353,741**	**6,407,757**
Per cent of total	Quantity	1·4	0·4	33·4	59·6	1·1	0·4	3·7	100·0
	Value	1·7	1·8	45·7	43·5	1·5	0·3	5·5	100·0

Table 229.—Production of Stone in Canada, by Provinces, Showing Purposes for Which Used, 1925

Item		Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Alberta	British Columbia	Canada
Building—									
Rough	Tons	535	.....	28,389	16,166	9,221	.....	2,026	56,337
	$	3,827	.....	233,523	163,755	39,702	.....	10,775	451,582
Dressed	Tons	.....	461	28,441	1,327	2,300	.....	197	32,726
	$	.....	19,334	704,252	33,112	86,261	.....	13,840	856,799
Monumental and ornamental—									
Rough	Tons	29	613	10,171	657	.....	.....	135	11,605
	$	1,000	10,026	102,251	6,068	.....	.....	15,433	134,778
Dressed	Tons	429	508	1,503	63	.....	.....	1,260	3,763
	$	28,021	45,166	59,584	3,496	.....	.....	53,000	189,267
Flagstone	Tons	.....	.....	200	666	.....	.....	.....	866
	$	.....	.....	250	5,325	.....	.....	.....	5,575
Curbstone	Tons	.....	.....	24,989	4,347	.....	.....	100	29,436
	$	.....	.....	75,132	28,042	.....	.....	1,500	104,674
Paving blocks	Tons	.....	136	16,385	9,191	.....	.....	.....	25,712
	$	.....	3,153	137,974	72,849	.....	.....	.....	213,976
Limestone, for flux	Tons	84,239	.....	6,500	223,410	.....	.....	49,543	363,692
	$	70,742	.....	6,390	197,479	.....	.....	37,138	311,749
Limestone for sugar factories, chemical works, etc.	Tons	.....	14,000	107,655	53,057	.....	.....	7,299	182,011
	$	.....	25,800	79,469	39,306	.....	.....	15,259	159,834
Rubble and riprap	Tons	12,690	.....	319,778	81,820	4,435	.....	36,801	455,524
	$	24,618	.....	573,455	69,963	7,362	.....	31,019	706,417
Crushed	Tons	4,203	9,673	1,698,905	2,632,008	36,814	3,979	158,865	4,544,447
	$	6,478	21,264	1,883,175	2,197,938	55,171	6,868	159,232	4,330,126
Total	**Tons**	**102,125**	**25,391**	**2,242,916**	**3,022,712**	**52,770**	**3,979**	**256,226**	**5,706,119**
	$	**134,686**	**124,743**	**3,855,455**	**2,817,333**	**188,496**	**6,868**	**337,196**	**7,464,777**
Per cent of total	Quantity	1·79	0·45	39·31	52·97	0·92	0·07	4·49	100·0
	Value	1·80	1·67	51·65	37·74	2·53	0·09	4·52	100·0

Table 230.—Production of Stone in Canada, by Kinds and by Provinces, 1924

Province	Granite		Limestone		Marble		Sandstone	
	Tons	Value	Tons	Value	Tons	Value	Tons	Value
		$		$		$		$
Nova Scotia	7,554	33,021	57,069	56,323	.....	.....	2,912	22,480
New Brunswick	4,921	80,812	14,308	33,299	.....	.....	.....	.....
Quebec	42,283	442,933	1,465,237	2,058,432	4,379	322,455	80,190	101,700
Ontario	214,691	208,219	2,614,911	2,551,111	.....	.....	10,571	30,038
Manitoba	.....	.....	54,065	93,876	.....	.....	.....	.....
Alberta	.....	.....	16,418	16,762	.....	.....	280	2,555
British Columbia	150,522	248,360	27,053	21,881	.....	.....	650	83,500
Canada	**419,971**	**1,013,345**	**4,249,061**	**4,831,684**	**4,379**	**322,455**	**94,603**	**240,273**

Table 231.—Production of Stone in Canada, by Kinds and by Provinces, 1925

Province	Granite		Limestone		Marble		Sandstone	
	Tons	Value	Tons	Value	Tons	Value	Tons	Value
		$		$		$		$
Nova Scotia	14,961	54,524	84,939	73,717	.....	.....	2,225	6,445
New Brunswick	9,027	89,731	16,364	35,012	.....	.....	.....	.....
Quebec	491,986	1,363,220	1,677,514	2,160,790	3,046	254,922	79,370	76,523
Ontario	263,567	242,150	2,750,115	2,530,621	.....	.....	9,030	44,562
Manitoba	.....	.....	52,770	188,496	.....	.....	.....	.....
Alberta	.....	.....	3,979	6,868	.....	.....	.....	.....
British Columbia	192,177	264,910	58,172	54,059	.....	.....	5,877	18,227
Canada	**971,718**	**2,014,535**	**4,643,853**	**5,049,563**	**3,046**	**254,922**	**87,502**	**145,757**

Table 232.—Production of Stone in Canada by Kinds, Showing Purposes for Which Used, 1924

Item	Granite		Limestone		Marble		Sandstone	
	Tons	Value	Tons	Value	Tons	Value	Tons	Value
		$		$		$		$
Building—								
Rough	11,905	85,175	40,875	163,825	912	36,471	5,335	36,701
Dressed	3,810	81,826	16,575	416,760	2,588	280,280	780	87,355
Monumental and ornamental— Rough	12,223	154,184	97	1,194	.....	.....	71	838
Dressed	2,298	159,706	35	1,140	.....	.....	.....	.....
Flagstone	.....	.....	5	52	.....	.....	714	5,712
Curbstone	12,275	67,331	16	164	.....	.....	.....	.....
Paving blocks	14,602	160,612	.....	.....	.....	.....	190	1,700
Limestone, for flux	.....	.....	305,122	269,592	.....	.....	.....	.....
Limestone for sugar factories, chemical works, etc	.....	.....	187,502	167,830	.....	.....	.....	.....
Rubble and riprap	56,650	55,593	104,445	78,113	.....	.....	7,513	7,967
Crushed	306,208	248,918	3,594,389	3,733,014	879	5,704	80,000	100,000
Total	**419,971**	**1,013,345**	**4,249,061**	**4,831,684**	**4,379**	**322,455**	**94,603**	**240,273**

Table 233.—Production of Stone in Canada by Kinds, Showing Purposes for Which Used, 1925

Item	Granite		Limestone		Marble		Sandstone	
	Tons	Value	Tons	Value	Tons	Value	Tons	Value
		$		$		$		$
Building—								
Rough	7,480	41,657	47,382	375,016	940	31,082	535	3,827
Dressed	11,627	236,651	18,696	378,194	2,106	223,840	297	18,114
Monumental and ornamental— Rough	11,359	134,295	246	483	.....	.....	.....	.....
Dressed	3,580	188,513	183	754	.....	.....	.....	.....
Flagstone	.....	.....	200	250	.....	.....	666	5,325
Curbstone	25,089	75,632	.....	.....	.....	.....	4,347	28,042
Paving blocks	25,712	213,976	.....	.....	.....	.....	.....	.....
Limestone, for flux	.....	.....	363,692	311,749	.....	.....	.....	.....
Limestone for sugar factories, chemical works, etc	.....	.....	182,011	159,834	.....	.....	.....	.....
Rubble and riprap	292,166	542,377	92,071	86,271	.....	.....	71,287	77,769
Crushed	594,705	580,434	3,939,372	3,737,012	.....	.....	10,370	12,680
Total	**971,718**	**2,014,535**	**4,643,853**	**5,049,563**	**3,046**	**254,922**	**87,502**	**145,757**

Table 234.—Production in Canada, by Kinds and by Provinces, and Imports and Exports of Stone, 1923, 1924 and 1925

—	1923		1924		1925	
	Tons	Value	Tons	Value	Tons	Value
		$		$		$
PRODUCTION, BY KINDS—						
Granite	398,432	1,159,303	419,971	1,013,345	971,718	2,014,535
Limestone	3,687,663	4,475,921	4,249,061	4,831,684	4,643,853	5,049,563
Marble	2,473	201,518	4,379	322,155	3,016	254,922
Sandstone	22,766	66,547	94,603	240,273	87,502	145,757
Total	**4,111,334**	**5,903,289**	**4,768,014**	**6,407,757**	**5,706,119**	**7,464,777**
PRODUCTION, BY PROVINCES—						
Nova Scotia	138,682	177,090	67,535	111,824	102,125	134,686
New Brunswick	22,448	166,083	19,229	114,111	25,391	124,743
Quebec	1,102,876	2,332,821	1,592,089	2,925,520	2,242,916	3,855,455
Ontario	2,630,924	2,859,15[illegible]	2,840,173	2,789,368	3,022,712	2,817,333
Manitoba	51,304	118,277	54,065	93,876	52,770	188,496
Alberta	.....	.....	16,698	19,317	3,979	6,868
British Columbia	165,100	249,866	178,225	353,741	256,226	337,196
Canada	**4,111,334**	**5,903,289**	**4,768,014**	**6,407,757**	**5,706,119**	**7,464,777**
IMPORTS—						
Building stone, other than marble or granite, sawn on more than two sides, but not sawn on more than four sides	943	19,821	240	3,619	285	4,143
Building stone other than marble or granite, planed, turned, cut or further manufactured than sawn on four sides	334	18,700	276	10,886	231	7,917
Flagstone, granite, rough sandstone, and all building stone, not hammered, sawn or chiselled	.....	180,608	.....	170,555	.....	134,170
Flagstone and building stone, other than marble or granite, sawn on not more than two sides	.....	184,421	.....	82,639	.....	97,875
Granite, sawn only	.....	13,151	.....	2,226	.....	2,255
Granite, manufactures of, n.o.p.	.....	145,713	.....	138,011	.....	158,614
Marble, rough, not hammered or chiselled	.....	48,360	.....	60,544	.....	67,507
Marble, sawn or sand rubbed, not polished	.....	163,004	.....	192,181	.....	174,029
Marble, manufactures of, n.o.p.	.....	82,412	.....	38,655	.....	40,203
Paving blocks	.....	61	.....	3,168	.....	.....
Refuse stone	392,819	225,565	281,824	174,738	160,997	100,544
Manufactures of stone, n.o.p.	.....	52,048	.....	36,163	.....	37,645
Total	.....	**1,133,894**	.....	**913,325**	.....	**824,902**
EXPORTS—						
Crushed	89,434	159,088	59,984	100,873	42,518	81,764
Ornamental, rough*	3,165	30,350	3,390	45,195	3,430	36,552
Building, rough†	1,302	12,575	2,059	18,680	4,166	14,389
Dressed	.....	20,227	.....	5,365	.....	5,687
Total	.....	**222,240**	.....	**170,113**	.....	**138,392**

*Granite, marble, etc., unwrought. †Freestone, limestone, etc., unwrought.

PART TWO

GENERAL STATISTICS

Supplementing the statistics reported in Part One, general reviews have been prepared showing for each principal group in the mineral industry of Canada, statistics of capital employed, number of employees, salaries and wages paid, fuel and electricity used, and power units employed. Following a general review of the mineral industry in Canada as a whole, there is a series of short articles, each of which traces the development of the mineral industry in a single province. General tables present the principal statistics of the industry as a whole, as well as by groups, and by provinces. There are separate sections each dealing with the general statistics pertaining to a particular industrial group, as the copper-gold-silver industry, nickel-copper industry, asbestos industry, etc.

GENERAL STATISTICS

REVIEWS OF THE MINERAL INDUSTRY OF CANADA AND ITS PROVINCES

To meet the very general demand for a more comprehensive review of the mineral industry than is afforded by a record of commodity output, as presented in Part One of this report, there have been collected in the following pages, data on the industry in its many phases, which are designed to give the reader a wider knowledge of the growth and importance of Canada's third greatest primary industry. In order to present the subject in as acceptable form as possible this part of the report has been arranged in two main groups. The first section reviews the industry in each province, tracing the developments in the leading fields. Then follow general tables presenting for the whole of Canada, data on the number of mines in operation, capital employed by main groups of enterprises, the number of workers engaged and the sums spent in salaries and wages, cost of fuel and electricity, and details regarding plant equipment and power employed. Finally, there are individual sections devoted to a presentation of the leading features of each principal industrial group. In all these sections, the aim is to present in concise form, the salient points of interest in a subject that for great commercial importance and romantic charm is not excelled.

Canada

As a general introduction to the subject, the following paragraphs are of interest. They are taken from the official contribution of the *Canadian Institute of Mining and Metallurgy* to the Empire Mining and Metallurgical Congress held in London, England, June, 1924, as printed in the Transactions of the Canadian Institute of Mining and Metallurgy, 1924. The paper was prepared by Prof. R. P. D. Graham of McGill University, Montreal.

"It is almost exactly two hundred years since the foundations of the mining and metallurgical industries in Canada were laid. There was nothing spectacular about this early start. It had to do with the most basic phases of these industries—the mining of coal and iron ore, and the manufacture of cast and wrought iron. At several points along the coast of Cape Breton Island, coal seams may be seen outcropping quite conspicuously, and it is probable that they had been observed, and possibly worked in a small way, in very early times. However that may be, these coal seams have the distinction of being the first in North America of which there is any printed record, reference to them appearing in a volume by Nicolas Denys which was published in Paris in 1672. Regular coal mining in the district did not commence until about fifty years later, however.

"The metallurgists started their operations along the north shore of the St. Lawrence river. Here, at many points between Montreal and Quebec, are to be found deposits of bog iron ore, and in 1730 a furnace for smelting such ore was established on the St. Maurice river. The St. Maurice forges continued in operation until 1880, and throughout that long period they were famed for the fine quality of castings produced, and also for a superior wrought iron.

"Other occurrences of minerals were doubtless observed from time to time in these early days as settlements spread, and as trading posts were established farther and farther afield. Of special interest in this connection is a map of the lakes of Canada, published in 1744, on which is given the location of a deposit of argentiferous galena (Ance à la Mine) on the eastern shore of Lake Timiskaming. This is one of the oldest known metalliferous deposits in North America, and it was the scene of active mining operations as recently as 1901; and yet, for at least one hundred and sixty years after it was known, there lay awaiting discovery, less than ten short miles to the northwest, the almost fabulously rich silver veins of what is now known as the Cobalt district.

"However, isolated discoveries such as that on Lake Timiskaming must have been entirely the result of chance, and not of even haphazard prospecting. As for systematic prospecting, it can hardly be said to have existed in Canada until nearly the middle of the nineteenth century, since, before that time, little or nothing was known of the geology of the country. In 1843, however, the Geological Survey of Canada was instituted by the

Provincial Government, with Sir William Logan as Director. With a small but enthusiastic band of assistants, many of them explorers whom he himself had trained, he set about the Herculean task of exploring, mapping, and geologically surveying eastern Canada. So vigorously was the work prosecuted that in 1863 he was able to publish a very comprehensive '*Geology of Canada*,' a volume of nearly 1,000 pages dealing with the southern portions of the provinces of Ontario and Quebec, and accompanied by an Atlas of geological maps. Special attention, had been paid to mineral occurrences, both metallic and non-metallic, and where such were found or known, they were carefully examined as to their economic possibilities. These deposits are described in a section of 165 pages on economic geology.

"This period of 20 years, from 1843 to 1863, may be said to have marked the real inauguration of the mining industry in eastern Canada. Deposits of iron ore were opened up in various parts of Ontario and Quebec; numerous occurrences of copper ore were known and mined, especially in the Eastern Townships of Quebec, where the Acton mine had the reputation of being, in its time, the richest copper mine in the world; alluvial gold was obtained from the gravels of the St. Francis and other rivers on the south side of the St. Lawrence; and in Nova Scotia, lode-gold mining became established. This healthy growth of the industry may be attributed in very large measure to the influence of the Geological Survey. Both directly, as a result of its explorations and through the distribution of its reports and maps, and indirectly, by encouraging prospecting and disseminating information concerning Canada's mineral resources, especially through the exhibition of collections of Canada's minerals and ores at the principal British and International exhibitions, the Geological Survey played an enormously important part in firmly establishing the mineral industry of the Dominion, and in calling world-wide attention to Canada's actual and potential mineral resources. It only remains to add that Logan's successors in the Survey have at all times admirably maintained this close association and co-operation with the industry.

"Prior to the building of the Canadian Pacific railway across the continent, west Canada, beyond the Great Lakes was virtually isolated from the East. Settlement was slower, and it is thus not surprising that there is little or no record of mineral discoveries in the west until about the middle of the nineteenth century. Among the first of these was the finding of coal at Fort Rupert in 1835, and later, 1858, the important discoveries of placer gold along the Fraser and other rivers were made. Notwithstanding this late start, however, British Columbia soon became the premier mineral-producing province of the Dominion, a position it maintained until 1906.

"While the establishment of the Geological Survey marks the first important epoch in the history of Canada's mineral industry, the completion, in 1885, of the construction of the Canadian Pacific railway across the continent opened a second chapter, and one of tremendous expansion. Vast new territories were rendered accessible, and in these it was often the prospector who led the way, with consequences that soon made themselves evident. The first important find was made near Sudbury, Ontario, in 1883, when, in blasting a cutting for the railway, a body of nickel-copper ore, for which the district has since become world-famed, was encountered. Similar good fortune was in store for British Columbia, and the nineties witnessed the discovery of a remarkable succession of ore-bodies, especially auriferous copper and argentiferous lead-zinc deposits, in the southeastern section of the province, between the railway and the international boundary. An idea of the rapidity with which the mining industry expanded during this period is best conveyed by figures. Thus, while for the year 1886 the total mineral production of the Dominion had a value of $10,221,255, seven years later in 1893, the value had doubled, and in 1903 it amounted to $61,740,513.

"But this transcontinental railway did not open up the whole of Canada. It permitted of a channel sample being taken, and events have proved that it was probably no more than a fair average sample. As transportation facilities were improved and extended, other ore deposits were found, as, for example, the silver veins of the Cobalt district, discovered in 1903 during the construction of the Timiskaming and Northern Ontario railway; and, largely as a result of the output from such new mines, the value of the total mineral production had again more than doubled by 1913, to $145,634,812. Fluctuations during and following

the war culminated in an output having the record value of $227,859,665 in 1920; but apart from this abnormal period, the value of the annual mineral production has continued to rise.

"But other factors than the provision of increased transportation facilities have contributed to the remarkable growth of the industry. The staff of the Geological Survey has been considerably enlarged since the days of Logan, although it still remains painfully inadequate for the gigantic task with which it is entrusted, and much that might be accomplished with immediate benefit to the mining industry has perforce to remain undone. A Mines Branch also has been established, these two together constituting the Federal Department of Mines. Except in the newer provinces of Manitoba, Saskatchewan, and Alberta, and in the Yukon and Northwest Territories, the control of mining lands, the granting of mineral rights, and the administration of mining laws, come under the jurisdiction of the individual provinces, and each of these has its own department or bureau of mines. As a result, there are numerous parties of geologists in the field in every province each season, and a very large proportion of their work is directed to the examination and geological mapping of districts where mineral deposits are known to occur or where such might be expected. These several departments of mines have rendered invaluable assistance to the mining industry, through the distribution of reports and maps, the framing of intelligent mining laws, and in innumerable other ways.

"The universities have played their part by training the men necessary to direct and carry on the industry. The courses in mining and metallurgical engineering, and in general and economic geology, offered by the leading universities of the country have the reputation among mining men everywhere of being models of their kind, and it may be stated that the vast majority of those responsible for the operation of Canadian mines and metallurgical plants, as well as practically all the officers of the departments and bureaus of mines, are Canadians who have received their training in the country. Nor has the prospector, that essential, though perhaps not always sufficiently appreciated, prop of the industry, been forgotten, and at several centres the provincial departments of mines have from time to time established classes where he can obtain instruction in the rudiments of mineralogy and geology. It may not be out of place here to express the opinion that any young man who proposes to follow the mining or metallurgical profession in Canada would be well advised to obtain his training in Canada, and, if at all possible, to take an engineering course at one of the universities.

"As the industry grew, and the number of men engaged in it increased, a demand arose for an asociation of some kind, through which mining men might meet together from time to time for the discussion of mutual problems, and to present papers dealing with mining methods, metallurgical practice, and allied subjects. To meet this need, the General Mining Association of the province of Quebec was organized in January, 1891. In 1896 the Federated Canadian Mining Institute was established, and two years later the Canadian Mining Institute was incorporated, replacing the older organizations. For more than thirty years Nova Scotia has had its Mining Society, and in 1918 this became affiliated with the larger Canadian Mining Institute, which in 1920 broadened its title and became the Canadian Institute of Mining and Metallurgy. The Institute is thus representative of these industries from coast to coast, and its *Transactions* form a very complete history of the great progress which mining and metallurgical practice has made in Canada during the last quarter of a century."

The Mineral Industry of Nova Scotia

Because of the geographical position of Nova Scotia on the Atlantic seaboard, this province was among the first in Canada to have its mineral resources explored. In mining, and especially in the production of bituminous coal, Nova Scotia has had an enviable reputation for over 200 years, while its gypsum deposits, which are among the most extensive in Canada, are only in the primary stage of development. In addition to those resources, there are deposits of iron, gold and antimony that have added much to the mineral wealth of the province. Non-metallics, such as dolomite, limestone, salt, grindstones, quartz and building stone, also have their place.

Protective tariff provisions designed to promote the coal-mining industry in Nova Scotia were made in 1877, when a duty was placed on American soft coal entering Canada; this made it possible for the Nova Scotia mine operators to compete with United States producers successfully in the markets along the St. Lawrence river. With the advent of the steel industry, using the iron ore from the neighbouring country of Newfoundland, the consumption of coal was further increased.

Gold was discovered in Nova Scotia about the year 1860, and the auriferous area has been variously estimated to represent from 3,000 to 5,000 square miles. Considerable work has been done on these gold ores, many of which contain arsenic, but of late there has not been much to report except that in the year 1923 when the price of arsenic was high, production was stimulated for a time.

Possibilities of production there are in many fields, but at the present time, Nova Scotia's mineral output is limited to the few commodities mentioned above.

The Mineral Industry of New Brunswick

Although there are many important economic minerals in the province of New Brunswick, development of these resources has not been as rapid here as in other provinces of the Dominion, probably because of the general concealment of the rocks by forests, which adds to the difficulty of locating mineralized areas suitable for commercial development. Actual mining has not progressed therefore to the extent that geological indications would warrant and very little of the province has been prospected.

At present, activities are restricted mainly to the mining of bituminous coal, the quarrying of gypsum and stone, and the production of petroleum, natural gas, lime and clay products.

Coal is found at several places in the broad carboniferous belt, extending westward from the coast, in Albert and Kent counties through Kings, Queens, Sunbury and York. There is a well-known deposit near Minto, Grand Lake district, at Beersville, on the coal branch of the Richibucto river and at Dunsinane, thirty miles southwest of Moncton, but it has been worked economically only in the vicinity of Minto. Here, the seam runs from sixteen to thirty inches in thickness and is found at various depths down to 120 feet. The production of coal in 1925 amounted to 208,012 tons which was valued at $815,367.

Gypsum ranks next to coal and is found in localized deposits. It is quarried at Hillsborough and part of the production is there made into plaster by the Albert Manufacturing Company, who have a large and well-equipped plant.

Natural gas and petroleum produced in New Brunswick come from the Stoney Creek district south of Moncton. Extensive deposits of bituminous or oil-shales occur in Albert and Westmorland counties near Moncton, but as yet these have not been worked commercially.

Other materials such as wolframite—the ore of tungsten, copper in the form of chalcopyrite, iron ore in the form of siliceous magnetite, antimony, manganese and tripolite have also been located but production of these minerals, with the exception of manganese, is now very limited.

The Mineral Industry of Quebec

Quebec is the largest of all the Canadian provinces. It has a land and water area of 706,834 square miles, and comprises the territory lying between the Hudson Bay and Hudson Strait and Labrador on the north, the Gulf of St. Lawrence on the east, the province of New Brunswick and the United States on the south, and the province of Ontario on the west. Only the southern part of the province has ever been examined for mineralized areas, and until recently, interest has been focussed on the non-metallic minerals of the province, as the main source of mineral wealth. In 1922, copper ores carrying gold were discovered in what is commonly called Northern Quebec, but this term really refers to a section lying south of the main line of the Canadian National Railway, and just east of the Ontario boundary; it is a continuation of the mineralized belt of the Kirkland Lake area that has added to Ontario's prominence as a mining area during recent years. The development of this section

promises to be very extensive and with the introduction of transportation and smelting facilities, a large mining industry will no doubt be built up.

So far, the non-metallics have provided the greater part of the mineral output. Asbestos is the most important mineral product of Quebec. Other minerals, arranged in order of their relative importance are: mica, feldspar, magnesite, iron oxides, quartz, soapstone, pyrites, and graphite. In the older and better known sections of the province there are copper, lead and zinc properties, which are operated on a small scale. Molybdenite and chromite have also been mined at different times when the market warranted an output of these minerals.

In recent years the development of hydro-electric power in Quebec has proven a great stimulus to industrial activity, particularly in the Shawinigan Falls area. Other power sites have been, and are being developed on a large scale and there is no doubt that electro-chemical and electrometallurgical enterprises, as well as other productive concerns using large quantities of electric power in their processes, will thrive well in this province in the future.

The Mineral Industry of Ontario

The province of Ontario may be described as the central province of the Dominion; Hudson Bay and James Bay are on the north, the St. Lawrence River and the Great Lakes constitute the greater part of the southern boundary, the province of Quebec lies immediately to the east, and Manitoba adjoins Ontario on the west. Traversing the province in easterly and westerly directions, the main lines of the Canadian National and Canadian Pacific Railways, with their many branch lines provide an extensive system of transportation. The main line of the Canadian Pacific Railway from Montreal to Winnipeg crosses the rich Sudbury section in a westerly direction, then runs along the north shore of lake Superior and through the lake of the Woods district. In the vicinity of Sudbury are the famous nickel-copper properties which supply the greater part of the world's nickel. The Timiskaming and Northern Ontario Railway connects North Bay and Cochrane and runs through the rich silver camps of the Cobalt and South Lorrain areas and has branch lines extending to other silver camps and to the gold camps of Kirkland Lake and Porcupine.

Mining was carried on in Ontario as far back as 1770, when copper was recovered from mines on the shores of Lake Superior. Thus, although very little mining of any consequence was done until recent years, this province early took its place in the mining history of Canada. About the year 1800, the first iron furnace in the province was erected in Leeds county, and a few years later a blast furnace for the smelting of bog ores was built at Normandale in Norfolk county. This initial effort proved a failure but later another attempt was made and smelting was carried on as a successful enterprise until 1847. Other iron furnaces were established in different parts of this older section of Ontario, but their operations were never very successful. In 1899 the Algoma Steel Corporation of Sault Ste. Marie opened the Helen mine on the northeast shore of Lake Superior, and other iron properties, namely the Magpie mine and the Moose Mountain mine, have also been operated by this company. At the present time there is practically no production of iron ore in Ontario, the steel companies finding it more economical to bring in ore from the United States.

Construction of the Canadian Pacific Railway in 1883 led to the discovery of the rich nickel-copper ores in the Sudbury districts. Fortunately, about this time also, it was found that the addition of nickel in the manufacture of steel armour plate made the plate much stronger and harder and therefore more useful. For some years after the opening up of the Sudbury area, one of the larger properties was operated as a copper mine, the nickel in the ore not being detected until about 1887; to-day, the presence of nickel in that ore is the more valuable component. About 90 per cent of the world's output of nickel comes from the Sudbury area. The deposits there are very great. These ores also carry precious metals such as gold, silver, platinum, palladium, rhodium, and other related metals.

Ontario has the distinction of having had the first producing oil well on the American continent. This well was dug at Oil Springs in Lambton county in the year 1858, and from that time forward, oil wells have been discovered in other sections of that part of Ontario. However, no large oil fields have been found since 1905, and consequently the annual production has been steadily declining despite the additional production of a few small new fields.

As far back as 1866 gold was discovered in a spectacular occurrence at the Richardson property, Hastings county, and that district was the scene of a small gold rush at that time. Other properties in the same vicinity were worked intermittently, but at the present time no gold is being recovered from that area. Other finds were made from time to time in various parts of the province, and in 1899 Ontario reported a production of the yellow metal valued at $421,591.

Five years after this, the Timiskaming and Northern Ontario Railway was projected and built from North Bay in a northerly direction. This opened up a country of which, hitherto, little had been known, and fortunately, passed right through the now famous Cobalt area, which was thus discovered in 1903. The finding of such a rich silver deposit led to intense prospecting on either side of the railway; the silver camps of Gowganda, Elk Lake and South Lorrain and the rich gold areas of Porcupine and Kirkland Lake are the present outcome of these early endeavours.

Although the production of silver has fallen off to some extent in late years, intensive prospecting underground has resulted in the finding of blind veins in some of the older properties; these have helped to maintain the silver output. Gold production on the other hand has grown apace. Some companies with proven ore bodies have augmented their milling facilities, and increased their outputs. Through intensive underground exploration many others are changing prospects into mines.

Mention may here be made of the Silver Islet mine on an extremely small island off Thunder cape in lake Superior which was worked for fifteen years or more and which produced in the neighbourhood of $3,500,000 worth of silver. This property was extremely rich, but was at one time flooded with water, and any attempt to work it since has met with very little success; diamond drilling has disclosed nothing of value at depth.

Lead is known to occur in different sections of Ontario, but until recent years little production was reported. In 1915, however, the Kingdon Mining, Smelting and Manufacturing Company, Limited, opened up a property near Galetta in Carleton county, and production of lead has increased steadily since that time.

Ontario mineral deposits include a large number of non-metallic minerals of economic value. The largest mica mine in Canada is located near Sydenham in Frontenac county, and this county also supplies the greater part of the feldspar produced in the province. Talc is mined in the vicinity of Madoc in Hastings county. The salt-producing sections of the province are in the southwestern part. No rock salt is mined, the entire output coming from brine pumped from wells; the development of the salt industry dates back to 1865 when the first well was sunk at Goderich in Huron county in a search for oil.

Natural gas was discovered in Ontario in December, 1888, in Essex county near the present town of Leamington, and in the following year a well was opened up in Welland county about 25 miles west of Niagara Falls. At that time there was little market in Canada for natural gas, so the gas from these wells was piped to the neighbouring cities of Detroit, Toledo and Buffalo. Some of the older wells are now becoming depleted, but new wells are brought in from time to time. The natural gas supply, however, is now being conserved under government supervision so that the most economic use may be made of the available supply.

The growth of the clay products and construction materials industry has grown with the increasing demand for such commodities. Portland cement is manufactured in various sections of the province where suitable limestone and clay have been found at convenient distances from the large markets for this class of material. Hydrated lime and quicklime are also being manufactured and the growth of the brick industry has been rapid. The construction of highways and the building of concrete structures has enlarged the demand for gravel and crushed stone. These apparently common materials form a very large part of the non-metallic mineral production of the province.

The Mineral Industry of Manitoba

Most of the material in this section is taken from a paper prepared by Prof. R. C. Wallace of the University of Manitoba, who is recognized as a leading authority on the mineral possibilities of Manitoba.

The earlier work on the mineral resources of the province was confined to non-metallic materials. This was to be expected in an area where the population was massed in the agricultural lands where metallic deposits do not occur, and where building materials and other non-metallic minerals are in demand. The earliest mineral industry was the extraction of salt from the brine springs on the west side of lake Manitoba and lake Winnipegosis. From this source freedmen from the Hudson's Bay Company service manufactured salt during the period 1800-1876, and probably even earlier, and supplied the needs of the posts and settlements on the Assiniboine, Red and Saskatchwan rivers. As agricultural communities grew, and as the Fort Garry Settlement reached the proportions of a town, building materials came into demand. The outcrops of limestone at Lower Fort Garry, Bishop's Quarry, near St. Andrew's Locks, the East Selkirk beds, and later Garson (Tyrdall) supplied the stone for foundations and for the more imposing buildings; while the limestone boulders which were plentifully distributed in the drift materials were everywhere burnt for lime. In the late nineties the gypsum deposits northwest of lake St. Martin were opened up, and the calcined product was conveyed by boat from old Gypsumville, on lake Manitoba, to Totogan and thence by rail to Winnipeg. From that date there has been continuous operation of the gypsum industry, though the route is now all-rail, and the gypsum is calcined in Winnipeg. In the present century the brick industry developed at several towns in the province, a natural cement plant was established at Babcock, and a Portland cement plant at Tuxedo, using limestone drawn from lake Manitoba. Except for the years of stagnation following the war, the building material industry has had a steady and healthy growth.

In fuels, the history of development has been less encouraging. While the coal deposits of Alberta were yet untouched considerable interest was shown in the coal seams which were known to occur in Turtle mountain in southwestern Manitoba. During the nineties of the last century mining was done on the northwestern flank of the mountain at the old McArthur mine, and at the Varden mine; but for over twenty years no coal has been mined in that area. The opening of the Estevan field, from which the first coal was brought down the Souris river to Winnipeg by barge, has made available a lignite area of much greater extent and more feasible exploitation: and the Turtle mountain area will, in future, probably serve only local demand. In many places, drilling has been carried on for oil, but without success; though at Waskada and in isolated wells elsewhere natural gas has been found in quantities sufficient for local use.

The history of metalliferous mining development lies within the last fifteen years. Some prospecting had been done before 1910 in the northern areas of the province, but development work dated from that time. The stimulus, which successful gold-mining development in northern Ontario has given since that date, to Canadian mining has had a marked effect on exploratory work in northern Manitoba. The actual result in established mining industry is as yet small. A small high-grade copper sulphide deposit was mined at the Mandy property in northwestern Manitoba during the years 1916-1919. The Rex mine has been producing gold while development work is proceeding. From the Luleo and Gold Pan properties east of lake Winnipeg some gold was produced. But during those years of search, a large low-grade copper sulphide deposit was discovered in northwestern Manitoba in the Flin Flon property which has been carefully investigated, and will be developed when conditions are favourable. Gold has been found in several areas, north of the Hudson Bay Railway, and east of lake Winnipeg, and important mining companies are engaged in developing prospects in those several fields. There is as well a changing attitude on the part of the people of the province, and the belief has gained ground during those years of exploration that the Precambrian areas of Manitoba—more than three-fifths of the land surface of the province—may, through judicious expenditures of capital, yield a return in gold and copper which will be an important contribution to the wealth of the province.

The Mineral Industry of Saskatchewan

Saskatchewan, the great grain-growing province of the Dominion, lies between Alberta and Manitoba. While the greatest development in this province so far has been in agriculture, there is each year an appreciable production of lignite coal, clays and clay products, sand and gravel, sodium sulphate, and occasionally other mineral products. Large clay deposits, both of fireclay and of clay suitable for the manufacture of pottery, occur south

of Moose Jaw and the economic development of these deposits on a great scale is only a matter of time. Large areas of unprospected territory in the northern part of the province are underlain by the same Precambrian rocks that have proved mineral-bearing in other parts of Canada. In this territory lode gold has been reported near Beaver lake, and iron and other metallic minerals near lake Athabasca. In connection with the sodium sulphate deposits, it may be noted that these occur as lakes which are solid at certain seasons, and mushy or even liquid at other times. Investigations have been carried on for several years by the Mines Branch at Ottawa to determine the commercial possibilities of these areas. Available tonnage has been blocked out and some deposits have been worked successfully. Shipments of sodium sulphate from Saskatchewan have reached Ontario points and the use of the natural sulphate has partially replaced the manufactured product in some fields. Development of the lignite deposits has progressed to a greater extent in Saskatchewan than the production of any other mineral in that area. Most of the mines are operated on a small scale, largely to meet the needs of the surrounding country, and many of them are only worked in the winter months, as the owners find it more profitable to grow wheat than to mine coal during the summer season.

The Mineral Industry of Alberta

The province of Alberta lies immediately east of British Columbia, the summit of the Rocky Mountains marking its western boundary as far north as 54°, north latitude. From that point, northerly, the line follows the 120th meridian to Mackenzie district. Alberta is for the most part, a grazing and wheat-growing country, but the coal mines which are located in the area immediately to the east of the mountains, contribute largely to the mineral production of Canada. Natural gas is also of considerable importance in Alberta as a fuel for domestic and industrial purposes. Prospecting for oil has been carried on over considerable areas and some success has been attained. Gold is also known to occur in the gravels underlying some of the rivers.

As in Ontario, where the opening of mining areas followed the building of railroads, so also the construction of the Canadian Pacific Railway and the Canadian National Railway through the mountain led to the economic exploitation of the coal areas in Alberta. The famous Crow's Nest Pass, through which the southerly branch of the Canadian Pacific Railway transcontinental line passes, has coal within easy proximity to the railroad. Along the main line of the same railway which enters the mountains near Calgary and Banff, a large amount of work has also been done in the vicinity of Bankhead, and quantities of semi-anthracite coal have been produced, but these workings are closed down at the present time. The Canadian National Railway running west from Edmonton passes through coal areas for a considerable distance.

Deposits of bituminous sands in the northern part of the province along the Athabasca river have become of economic importance in recent years. Experiments are being carried on by the University of Alberta at Edmonton, and by officials of the Mines Department at Ottawa, on methods of extracting the bitumen from the sands.

The Mineral Industry of British Columbia

British Columbia, Canada's mountain province, has been associated with mining for many years. From the early days of the Cariboo rush in 1858 which followed the finding of placer gold in California in 1849, until the present time, this western province has always occupied a conspicuous place in the mineral industry of the Dominion. It is a province of mountains and valleys, swift running rivers and wide fertile tracts between the main ranges. It has an area of 355,855 square miles in extent, of which 353,416 square miles are land and 2,439 square miles are covered with water.

Broadly speaking there are three main mountain systems, the Coast range, on the west, the Columbia system which includes the Cariboo, Selkirk, and Purcell ranges in the centre and the Rocky Mountains on the east, the summit of the latter forming the provincial boundary of Alberta and British Columbia as far north as latitude 54°.

In the southerly sections of the province the main rivers are the Fraser, the Columbia and their tributaries while farther north, the Skeena, the Stikene and the Naas and their tributaries empty into the Pacific ocean. The Peace river, which has its headwaters in the

northeastern section, flows in a southeasterly direction and then north to Great Slave lake in Mackenzie district after which it joins the Mackenzie river by way of the Liard, and thence reaches salt water at the Arctic ocean.

Transportation which did so much to open up the southern section of the province when the Canadian Pacific Railway was built, has been greatly augmented in recent years by the construction of the Canadian National Railway to Prince Rupert, the Pacific Great Eastern from Squamish to Prince George, and the Canadian National down through the central sections of the province to tide-water at Vancouver.

As soon as the easily-won gold began to show signs of depletion from the creek bottoms mining men commenced to prospect for mineral in place, and to-day, British Columbia has in the Sullivan mine, the largest lead-zinc mine in the British Empire, leads all the other provinces in copper production, and stands second in gold and silver.

Coal is British Columbia's most important non-metallic mineral. It is found in abundance on the east coast of Vancouver island, in the south-eastern portion of the province, and also to a less extent, in small detached basins in the northern section of the province. Other non-metallics produced in 1925 were quartz, pyrites, fluorspar, natro-alunite, pulp-stones, sodium carbonate, talc, iron oxides and gypsum.

As arranged, at the time British Columbia joined Confederation, all geological work and mapping is done by the Dominion Government, and parties are sent annually to British Columbia for this purpose. The Provincial Department of Mines assists very materially in the opening up and development of prospects and mines. The province is divided into six mining districts, each supervised by a resident engineer, whose duty it is to carry on mineral surveys and to assist prospectors and others with such advice as may be necessary and may come within the scope of a mining engineer's work.

Among the outstanding mines of British Columbia are the Premier mine, a gold and silver property situated at the northerly end of the Portland canal in northern British Columbia, and the Sullivan mine, a rich lead and zinc deposit, at Kimberley in East Kootenay, owned and operated by the Consolidated Mining and Smelting Company of Canada, Limited. Leading copper properties, operated by the Granby Consolidated Mining, Smelting and Power Company of Anyox on the Portland canal in northern British Columbia, and by the Britannia Mining and Smelting Company on Howe Sound, a short distance north of Vancouver, contribute largely to the copper production of the province. Many silver-lead-zinc mines of the Slocan district that have been operated intermittently for a number of years, have been given a new lease of life recently because of the developments in smelter practice and because of the comparatively high prices which the metals from such ores now command.

The Premier mine was finally brought to the producing stage and into the dividend class by the American Smelting and Refining Company, Limited, who acquired the controlling interest in this mine in the fall of 1919.

The Nickel Plate mine at Hedley in the Similkameen Valley is of interest as it is the only property in the province credited as being a producer of arsenic. The ore from this mine is concentrated and cyanided, the concentrates being shipped to Tacoma for treatment. Payment is made for some of the arsenic as well as for the gold content. Gold bullion from this mine is shipped to the Dominion Assay Office at Vancouver.

Successful research work carried on by the staff of the Consolidated Mining and Smelting Company of Canada, Limited, at Trail, with respect to economic recovery of the metals from the refractory ores of the Sullivan mine, proved so satisfactory that when the large concentrator was put into commission at Kimberley, recoveries exceeded expectations, the result being that the smelter and refinery at Trail were not large enough to handle the output of the mine; this temporary limitation made it necessary to export zinc concentrates to Belgium and to the Anaconda Copper Company at Black Eagle, Montana, U.S.A.

The Mineral Industry of the Yukon Territory

The Yukon Territory lies in the extreme northwest section of the Dominion of Canada. Immediately to the west is Alaska, and on the east, the Mackenzie district, while the province of British Columbia is adjacent to the greater part of its southern boundary.

Alaska was originally owned by Russia, and it comprised that territory lying west of the present Yukon Territory, and a section of the western coast down as far as a long narrow inlet known as the Portland Canal. Russia claimed the north Pacific coast down to latitude 51°N, but in the treaty of 1824 the boundary was fixed at 54° 40′N, and in the following year a treaty was concluded by which Russia relinquished to Great Britain her claim, not only to the region below 54° 40′N, but also to the vast interior occupied by the Hudson's Bay Company up to the frozen ocean. In 1825, the southern and western boundaries of the British possessions were established, but owing to certain ambiguity, the boundary between what are now British Columbia and Alaska, was not very well established. In 1867, Alaska was purchased from Russia by the United States. In the summer of 1896, alluvial gold was found in the Yukon District, and immediately a section of the North American continent which up to this time had been considered of little economic value, became the cause of serious controversy between Canada and the United States because of the doubt as to the proper location of the boundary line of Alaska. Finally, the question was settled in 1903 by the award of the Alaska Boundary Tribunal.

The main rivers of this territory are the Peel, the Porcupine, the Yukon and its tributaries such as the White river, the Stewart river and the Pelly. Dawson City, which had a population of 9,142 during the gold boom, is occupied now by 975 people. There is one railroad, the White Pass and Yukon, which runs from Skagway, Alaska, northerly to White Horse. From there, passengers embark on the river boats and go down the Yukon river to Dawson City. The railroad was constructed along the route most travelled during the days in which the early prospectors were entering the territory.

When the news of the wonderful gold discoveries reached the outside world, men from all walks of life flocked to this new district, and the stories of the hardships of the life have been told in prose and verse by Robert W. Service, a young bank clerk who lived through the days when Dawson City was at its height.

Between 1898 and 1905 upwards of a $100,000,000 in gold was taken from the gravels of Bonanza, Eldorado, Hunker, Dominion and Sulphur Creeks and their tributaries. Many of the famous creek claims on Bonanza and Hunker are now being worked by the dredging process, and the terraces of the equally famous White Channel are being washed down by hydraulic methods.

Since 1905, production of gold has gradually decreased; in 1919, the output was valued at about $1,900,000 and in 1925 at $989,000. Although there are a great many individual miners, the report of their production is not very extensive and the greater part of the gold is recovered by large hydraulic or dredging companies; five such companies report annually.

Of late years, the Mayo district on the Stewart river has come into prominence because of the silver-lead ore discovered there. Two companies, the Treadwell Yukon and the Keno Hill, operated in this district during 1925. The ore is mined under difficult climatic conditions, and is taken down to the river and piled there ready for transportation to the smelters when navigation opens. Because of the high cost entailed in shipping this ore to the smelter, only high-grade material can be transported economically, and in order to prepare lower grade ore for shipping the Treadwell Yukon Mining Company, Limited, has constructed a concentrator where custom ore as well as their own is treated.

Other economic minerals such as copper and antimony are known to occur but up to the present time there has been no report of production.

Among the non-metallic minerals coal is the only one of any importance and it is known to occur in the Yukon in at least eighteen distinct areas. In thirteen of these, coal of economic importance has been discovered. The production, however, has been small, partly because there has been little demand for coal and partly because only very few of the properties are conveniently situated for shipping purposes.

GENERAL TABLES

Under this section are included the principal statistics for the year 1925 and they are shown under the three main headings Metallics, Non-Metallics and Structural Materials and Clay Products. In the section on metallics the net values given to ore shipped by the

mines, were in many cases nominal and were made up from book values used by the companies in crediting the mining part of their enterprises.

In the metallic section it has been found difficult to separate the actual mining operations from milling and these are taken as one. The smelting or refining operations have been separated where possible from milling operations and reviewed under the title "Metallurgical Works."

The values of the metallic production given in the following tables were as reported by the operating companies and in each case were the settlements received for shipments. The totals, therefore, indicate more nearly the actual return to the different industries than do the values for the several metals in Part I of this report where in the majority of cases the values are computed by using the average New York prices for the year. The tables immediately following cover every branch of the three main divisions of the mining industry and show shipments and net returns, capital employed, number of employees, salaries and wages paid, fuel costs, and power used throughout the industry.

Table 235.—Summary of Principal Statistics Relative to the Mineral Industry, in Canada, 1925

—	Number of active operators	Number of operating plants or mines	Capital employed	Number of employees	Salaries and wages paid	Cost of fuel and electricity	*Net value of bullion, ore, concentrates or residues shipped from the mines, and smelters
			$		$	$	$
METALLIC—							
Auriferous quartz mining and milling	52	52	84,964,062	7,052	11,931,948	1,836,050	35,035,361
Silver-cobalt mining and milling	33	38	44,045,619	1,788	2,576,414	498,874	6,611,644
Silver-lead-zinc mining and milling	89	94	15,735,930	2,538	3,867,613	584,121	21,902,686
Copper-gold-silver mining and milling	40	41	[1]23,200,580	2,374	3,555,844	413,767	7,758,990
Placer mining	99	[2]1,419	22,095,669	363	347,448	.....	1,270,419
Nickel-copper mining and milling	2	6	38,691,594	1,412	1,867,217	105,570	3,794,244
Iron mining and briquetting[3]	3	3	109,583	33	17,301	2,007	23,110
Metallurgical works	5	6	61,691,928	5,104	8,568,997	5,280,674	[4]29,304,384
Total	**323**	**1,659**	**290,534,965**	**20,664**	**32,732,782**	**8,721,063**	**105,700,838**
NON-METALLIC—							
Asbestos	14	19	38,133,046	2,582	2,997,107	923,239	8,988,360
Coal mining	450	511	145,006,440	25,032	33,200,309	4,069,634	49,261,951
Feldspar	23	25	712,329	240	165,766	11,141	235,789
Graphite	6	6	902,310	106	75,021	14,718	158,763
Natural abrasives	8	8	154,733	62	55,466	5,408	126,490
Gypsum	15	16	4,506,995	1,039	1,018,585	189,649	2,389,891
Mica	36	36	190,144	269	123,079	4,528	261,463
Natural gas	161	2,236	48,895,802	1,059	1,206,875	13,396	6,833,005
Oxides, iron	5	5	173,940	47	35,454	16,073	91,913
Petroleum	180	2,885	7,954,722	259	318,101	20,990	1,250,705
Quartz	14	15	1,005,159	153	145,494	20,495	363,612
Salt	12	13	2,563,508	402	467,487	315,368	1,410,697
Talc	7	7	744,037	92	74,519	22,218	205,835
All other non-metallic	28	28	2,080,481	218	149,655	58,437	273,327
Total	**959**	**5,810**	**253,023,646**	**31,560**	**40,032,918**	**5,685,294**	**71,851,801**
STRUCTURAL MATERIALS AND CLAY PRODUCTS							
Clay products	183	188	27,760,864	4,136	4,034,075	1,909,591	9,529,691
Cement	10	11	38,081,583	1,926	2,511,400	2,848,904	14,046,704
Lime	56	62	5,154,046	1,006	960,434	762,814	3,387,652
Sand and gravel	622	622	5,286,268	1,650	1,231,856	158,645	3,220,410
Stone	201	201	12,233,773	4,148	3,599,653	479,489	7,464,777
Total	**1,072**	**1,084**	**88,516,534**	**12,866**	**12,337,418**	**6,159,443**	**37,649,234**
Summary by Classes—							
Metallic	**323**	**1,659**	**290,534,965**	**20,664**	**32,732,782**	**8,721,063**	**105,700,838**
Non-metallic	**959**	**5,810**	**253,023,646**	**31,560**	**40,032,918**	**5,685,294**	**71,851,801**
Structural materials and clay products	**1,072**	**1,084**	**88,516,534**	**12,866**	**12,337,418**	**6,159,443**	**37,649,234**
Total	**2,354**	**8,553**	**632,075,145**	**65,090**	**85,103,118**	**20,565,800**	**215,201,873**

*Net value here is gross value less freight and treatment charges.

[1]Doesnot include capital of Granby Co., Anyox, B.C.

[2]Does not include the number of placer mines in B.C.

[3]Includes 1 iron mine in Quebec, 1 molybdenum mine in Quebec and 1 cinnabar prospect in B.C.

[4]Value of shipments from metallurgical works less cost of ores, concentrates, matte, etc., treated, as this latter value was included in the credits to the mines and mills.

Table 236.—Summary of Principal Statistics Relative to the Mineral Industry in Canada, by Provinces, 1925

Province	Number of active operators	Number of operating plants or mines	Capital	Number of employees	Salaries and wages paid	Cost of fuel and electricity
			$		$	$
Nova Scotia*	67	95	59,456,860	9,905	12,488,285	2,229,275
New Brunswick	36	85	3,070,322	1,113	1,003,169	114,629
Quebec	294	301	83,449,054	8,700	8,566,616	3,152,395
Ontario	1,208	5,896	258,967,755	19,346	25,909,951	8,463,276
Manitoba	26	26	4,948,621	699	711,735	315,005
Saskatchewan	70	70	3,732,909	652	647,014	91,025
Alberta	391	465	86,735,632	10,486	13,808,354	1,226,903
British Columbia	161	193	107,257,567	13,727	21,440,904	4,801,665
Yukon	101	1,422	24,456,425	462	527,090	171,627
Canada	**2,354**	**8,553**	**632,075,145**	**65,090**	**85,103,118**	**20,565,800**

*Includes 1 firm operating in P.E.I.

Table 237.—Fuel Used in the Mineral Industry in Canada, by Provinces, 1925

Kind	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia and Yukon	Canada
Anthracite coal....Tons	.....	10	11,620	3,349	180	.....	.....	16	15,175
$	.....	99	84,503	37,795	1,052	.....	.....	193	123,642
Bituminous coal...Tons	394,923	8,934	291,616	572,743	22,866	4,225	119,365	318,247	1,732,919
$	1,415,968	44,056	1,763,968	3,456,041	182,132	33,667	455,082	1,366,125	8,717,039
Lignite coal.....Tons	.....	.....	.....	.....	300	24,526	141,325	.....	166,151
$	.....	.....	.....	.....	1,641	26,430	144,750	.....	172,821
Coke.....Tons	10	.....	5,055	164,532	63	.....	.....	102,847	272,507
$	75	.....	50,039	1,630,064	381	.....	.....	1,122,768	2,803,327
Gasoline.....Imp. gal.	39,040	685	56,748	159,261	15	1,374	486	97,770	355,379
$	11,139	254	17,477	45,176	5	406	208	58,412	133,077
Fuel oil.....Imp. gal.	15,568	1,060	44,875	4,652,836	.....	247,069	60	3,157,675	8,119,143
$	2,672	209	5,357	450,566	.....	25,112	42	297,840	781,798
Wood.....Cord	2,808	8,962	35,268	73,463	15,174	220	1,673	17,814	155,382
$	12,636	37,038	175,703	388,144	73,080	1,290	6,728	73,685	768,304
Artificial and natural gas.....M cu. ft.	.....	2,735	.....	98,902	.....	.....	521,548	257,077	880,262
$	.....	1,094	.....	24,359	.....	.....	19,897	44,552	89,902
Other fuels..... $	.....	.....	545	45,132	.....	.....	.....	2,933	48,610
Total..... $	**1,442,490**	**82,750**	**2,097,592**	**6,077,277**	**258,291**	**86,905**	**626,707**	**2,966,508**	**13,638,520**

Table 238.—Fuel Used in the Mineral Industry in Canada, by Kinds and by Industries, 1925

Industry	Anthracite coal	Bituminous coal	Lignite coal	Coke	Gasoline and fuel oil	Gas	Wood	Other fuel	Total value
METALLIC MINERAL INDUSTRY—	Tons	Tons	Tons	Tons	Gal.	M cu. ft.	Cords	$	$
Auriferous Quartz Mining and Milling—									
Quantity	950	23,262	.....	461	897,732	.....	11,666	.....	.....
$	17,324	236,287	.....	6,757	99,088	.....	62,525	208	422,189
Copper-Gold-Silver Mining— Quantity	6	6,834	.....	128	439,889	.....	10,943	.....	.....
$	90	63,132	.....	1,342	36,558	.....	51,190	49	152,361
Nickel-Copper Mining—									
Quantity	55	3,427	.....	335	29,702	.....	4	.....	.....
$	889	29,418	.....	4,043	3,455	.....	27	.....	37,832
Silver-Cobalt Mining and Milling—									
Quantity	615	7,532	.....	91	262,537	.....	7,223	.....	.....
$	9,629	98,430	.....	1,254	48,685	.....	44,146	38,722	240,866
Silver-Lead-Zinc Mining and Milling—									
Quantity	.....	17,062	.....	608	219,779	.....	6,344	.....	.....
$	.....	121,448	.....	5,369	109,730	.....	40,332	40	276,919
Metallurgical Works—									
Quantity	149	127,919	.....	257,506	6,008,791	245,257	5,347	.....	.....
$	2,406	788,894	.....	2,664,241	517,818	41,426	33,769	.....	4,048,554
Total.....Quantity	**1,775**	**186,036**	.....	**259,129**	**7,858,430**	**245,257**	**41,527**	.....	.....
$	**30,338**	**1,327,609**	.....	**2,683,006**	**815,334**	**41,426**	**231,989**	**39,019**	**5,178,721**

Table 238.—Fuel Used in the Mineral Industry in Canada, by Kinds and by Industries, 1925—Concluded

Industry	Anthracite coal	Bituminous coal	Lignite coal	Coke	Gasoline and fuel oil	Gas	Wood	Other fuel	Total value
NON-METALLIC MINERAL INDUSTRIES—	Tons	Tons	Tons	Tons	Gals.	M cu. ft.	Cords	$	$
Asbestos—									
Quantity	10,751	34,993	.....	4,267	.....	.....	50	.....	.....
$	78,072	256,945	.....	41,897	.....	.....	150	.....	**377,064**
Coal Mining—									
Quantity	.....	687,587	159,843	.....	.....	.....	.....	.....	.....
$	.....	2,353,496	145,182	.....	.....	.....	.....	.....	**2,498,678**
Feldspar—									
Quantity	.....	865	.....	.....	5,320	.....	767	.....	.....
$	.....	7,073	.....	.....	1,392	.....	2,676	.....	**11,141**
Graphite—									
Quantity	.....	250	.....	.....	19,611	.....	2,046	.....	.....
$	.....	2,500	.....	.....	2,447	.....	7,271	.....	**12,218**
Natural Abrasives—									
Quantity	.....	475	.....	.....	1,115	.....	501	.....	.....
$	.....	3,585	.....	.....	240	.....	1,583	.....	**5,408**
Gypsum—									
Quantity	.....	16,179	262	673	45,685	4,032	672	.....	.....
$	.....	108,466	1,312	6,166	12,028	1,874	1,944	.....	**131,790**
Iron Oxides—									
Quantity	40	603	.....	.....	3,585	.....	1,150	.....	.....
$	720	4,819	.....	.....	847	.....	6,750	.....	**13,136**
Mica—									
Quantity	.....	112	.....	.....	350	.....	572	.....	.....
$	.....	915	.....	.....	100	.....	3,513	.....	**4,528**
Natural Gas—									
Quantity	.....	4	.....	.....	.....	27,298	.....	.....	.....
$	.....	25	.....	.....	.....	11,222	.....	.....	**11,247**
Petroleum—									
Quantity	.....	35	.....	.....	.....	1,480	33	.....	.....
$	.....	300	.....	.....	.....	824	160	.....	**1,284**
Quartz—									
Quantity	.....	3,056	.....	.....	2,802	.....	30	.....	.....
$	.....	17,032	.....	.....	561	.....	150	.....	**17,743**
Salt—									
Quantity	.....	57,081	1,665	.....	6,200	.....	40	.....	.....
$	.....	278,067	10,359	.....	1,288	.....	200	6,315	**296,229**
Talc—									
Quantity	.....	296	.....	.....	1,183	.....	610	.....	.....
$	.....	2,200	.....	.....	384	.....	2,340	.....	**4,924**
Miscellaneous Non-Metallic Mineral Industries—									
Quantity	.....	3,871	.....	.....	242,810	.....	868	.....	.....
$	.....	29,136	.....	.....	24,828	.....	1,724	.....	**55,688**
Total.....Quantity	**10,791**	**805,487**	**161,770**	**4,940**	**328,661**	**32,810**	**7,339**	.....	.....
$	**78,792**	**3,064,559**	**156,853**	**48,063**	**44,115**	**13,920**	**28,461**	**6,315**	**3,441,078**
STRUCTURAL MATERIALS AND CLAY PRODUCTS INDUSTRIES—									
Cement—									
Quantity	.....	426,462	.....	.....	6,082	.....	.....	.....	.....
$	.....	2,227,593	.....	.....	1,472	.....	.....	.....	**2,229,065**
Clay Products—									
Quantity	66	203,346	3,843	2,691	151,250	546,458	44,256	.....	.....
$	951	1,372,147	13,863	21,546	19,844	27,779	235,295	.....	**1,691,425**
Lime Burning—									
Quantity	1,582	63,654	38	5,622	1,688	55,737	59,180	.....	.....
$	7,173	393,827	329	48,756	493	6,777	257,309	3,276	**717,940**
Sand and Gravel—									
Quantity	80	22,058	500	.....	43,433	.....	372	.....	.....
$	580	125,617	1,776	.....	9,736	.....	1,550	.....	**139,259**
Stone Quarrying—									
Quantity	881	25,956	.....	195	84,978	.....	2,708	.....	.....
$	5,808	195,687	.....	1,956	23,881	.....	13,700	.....	**241,032**
Total.....Quantity	**2,609**	**741,476**	**4,381**	**8,438**	**287,431**	**602,195**	**106,516**	.....	.....
$	**14,512**	**4,314,871**	**15,968**	**72,258**	**55,426**	**34,556**	**507,854**	**3,276**	**5,018,721**
Grand Total—									
Quantity	**15,175**	**1,732,919**	**166,151**	**272,507**	**8,474,522**	**880,262**	**155,382**	.....	.....
$	**123,642**	**8,717,039**	**172,821**	**2,803,327**	**914,875**	**89,902**	**768,304**	**48,610**	**13,638,520**

Table 239.—Power Used in the Mineral Industry in Canada by Provinces, 1925

Province		Stationary engines			Hydraulic turbines	Electric motors		Boilers
		Steam	Gas	Oil		Operated by power generated by own establishment	Operated by purchased power	
Nova Scotia	No.	146	.....	26	5	294	138	179
	H.P.	63,083	.....	810	670	27,201	3,333	44,780
New Brunswick	No.	40	15	6	.....	24	4	38
	H.P.	2,054	129	94	.....	373	190	2,493
Quebec	No.	178	.....	42	3	13	1,307	126
	H.P.	4,195	.....	641	650	1,020	69,884	7,641
Ontario	No.	275	147	93	17	172	2,487	276
	H.P.	17,144	1,743	3,599	5,430	5,713	119,739	27,150
Manitoba	No.	15	.....	4	.....	17	130	14
	H.P.	575	.....	15	.....	250	7,145	905
Saskatchewan	No.	36	.....	7	.....	16	3	19
	H.P.	1,931	.....	192	.....	336	18	2,000
Alberta	No.	292	43	43	.....	307	474	235
	H.P.	34,195	1,292	369	.....	9,077	19,476	26,619
British Columbia	No.	173	4	45	70	847	1,013	144
	H.P.	32,225	135	2,236	42,689	42,043	76,237	17,475
Yukon	No.	1	.....	6	.....	17	.....	3
	H.P.	100	.....	368	.....	250	.....	190
Canada	**No.**	**1,156**	**209**	**272**	**95**	**1,707**	**5,556**	**1,034**
	H.P.	**155,502**	**3,299**	**8,324**	**49,439**	**86,263**	**296,022**	**129,253**

Table 240.—Cost of Electric Power Used in the Mineral Industry in Canada, by Industries and by Provinces, 1925

Industry	Nova Scotia and New Brunswick	Quebec	Ontario	Manitoba and Saskatchewan	Alberta	British Columbia and Yukon	Canada
	$	$	$	$	$	$	$
METALLIC—							
Auriferous Quartz	.....	.....	1,294,279	.....	.....	119,582	1,413,861
Silver-Cobalt-Nickel	.....	.....	258,008	.....	.....	.....	258,008
Silver-Lead-Zinc	.....	26,356	13,692	.....	.....	267,154	307,202
Copper-Gold	.....	25,911	.....	.....	.....	235,495	261,406
Placer Mining	.....	.....	.....	.....	.....	.....	.....
Nickel-Copper	.....	.....	67,738	.....	.....	.....	67,738
Iron Mining and Briquetting	.....	2,007	.....	.....	.....	.....	2,007
Metallurgical Works	.....	.....	205,632	.....	.....	1,026,488	1,232,120
Total	.....	**54,274**	**1,839,349**	.....	.....	**1,648,719**	**3,542,342**
NON-METALLIC—							
Asbestos	.....	546,175	.....	.....	.....	.....	546,175
Coal	793,817	.....	.....	4,120	506,919	266,100	1,570,956
Feldspar	.....	.....	.....	.....	.....	.....	.....
Graphite	.....	.....	2,500	.....	.....	.....	2,500
Natural Abrasives	.....	.....	.....	.....	.....	.....	.....
Gypsum	16,413	.....	31,942	9,504	.....	.....	57,859
Iron Oxides	.....	2,937	.....	.....	.....	.....	2,937
Mica	.....	.....	.....	.....	.....	.....	.....
Quartz	.....	1,000	1,752	.....	.....	.....	2,752
Salt	.....	.....	19,139	.....	.....	.....	19,139
Talc	.....	.....	17,294	.....	.....	.....	17,294
Natural Gas	.....	.....	1,350	.....	799	.....	2,149
Petroleum	.....	.....	19,706	.....	.....	.....	19,706
Other Non-Metallic	.....	733	2,016	.....	.....	.....	2,749
Total	**810,230**	**550,845**	**95,699**	**13,624**	**507,718**	**266,100**	**2,244,216**
STRUCTURAL MATERIALS AND CLAY PRODUCTS—							
Cement	.....	203,327	213,162	36,306	91,542	75,502	619,839
Clay Products	4,258	88,051	112,367	1,977	936	10,577	218,166
Lime	518	15,968	28,388	.....	.....	.....	44,874
Sand and gravel	.....	1,022	12,018	4,469	.....	1,877	19,386
Stone	3,658	141,316	85,016	4,458	.....	4,009	238,457
Total	**8,434**	**449,684**	**450,951**	**47,210**	**92,478**	**91,965**	**1,140,722**
Grand Total	**818,664**	**1,054,803**	**2,385,999**	**60,834**	**600,196**	**2,006,784**	**6,927,280**

Table 241.—Machinery Installed and Operated in the Mineral Industry in Canada, 1925

Industry		Boilers installed	Stationary engines, including those used for hoisting, pumping, etc.			Hydraulic turbines or water-wheels	Electric motors	
			Steam	Gas	Oil		Operated by power generated by establishment	Operated by purchased power
METALLIC—								
Auriferous Quartz	No.	60	21	4	25	16	96	658
	H.P.	4,265	1,570	226	2,666	7,541	3,271	37,583
Silver-Cobalt-Nickel	No.	31	14	1	2	...	...	208
	H.P.	1,785	630	160	400	...	...	7,707
Silver-Lead-Zinc	No.	19	22	3	20	24	36	81
	H.P.	1,095	1,770	75	911	3,469	890	5,851
Copper-Gold-Silver	No.	36	7	...	10	15	176	192
	H.P.	2,576	1,286	...	287	10,700	8,532	11,678
Placer Gold	No.	...	...	...	...	...	...	...
	H.P.	...	...	...	...	...	...	...
Nickel-Copper	No.	...	...	...	...	...	...	152
	H.P.	...	...	...	...	...	...	14,332
Molybdenum	No.	...	...	...	...	...	...	12
	H.P.	...	...	...	...	...	...	123
Metallurgical Works	No.	15	26	...	...	10	349	1,267
	H.P.	5,425	12,845	...	...	13,310	15,343	85,687
Total	**No.**	**161**	**90**	**8**	**57**	**65**	**657**	**2,570**
	H.P.	**15,146**	**18,101**	**461**	**4,264**	**35,020**	**28,036**	**162,961**
NON-METALLIC—								
Asbestos	No.	17	2	...	1	...	4	402
	H.P.	1,720	750	...	6	...	500	28,121
Coal	No.	458	539	24	40	2	760	468
	H.P.	79,552	113,283	106	361	12,000	47,972	17,306
Feldspar	No.	10	9	...	4	...	...	...
	H.P.	327	360	...	67	...	...	...
Graphite	No.	3	4	...	1	3	10	...
	H.P.	260	260	...	20	300	399	...
Gypsum	No.	13	25	...	18	...	26	52
	H.P.	1,315	1,638	...	677	...	453	2,439
Natural abrasives	No.	6	7	...	3	...	...	...
	H.P.	275	255	...	46	...	...	...
Mica	No.	4	3	...	...	1	5	2
	H.P.	230	132	...	...	200	120	4
Natural Gas	No.	18	13	129	9	...	16	9
	H.P.	942	424	1,066	18	...	227	43
Oxides, Iron	No.	...	...	...	2	...	...	4
	H.P.	...	...	...	60	...	...	117
Petroleum	No.	17	13	28	2	...	...	50
	H.P.	880	218	1,106	12	...	...	467
Quartz	No.	5	12	...	...	...	6	8
	H.P.	750	613	...	...	...	120	413
Salt	No.	25	30	...	4	...	2	48
	H.P.	3,950	717	...	71	...	52	658
Talc	No.	3	7	...	5	...	4	9
	H.P.	180	84	...	69	...	225	320
Other Non-Metallic	No.	6	3	...	6	...	3	30
	H.P.	267	130	...	49	...	67	1,303
Total	**No.**	**585**	**667**	**181**	**95**	**6**	**836**	**1,082**
	H.P.	**90,648**	**118,864**	**2,278**	**1,456**	**12,500**	**50,135**	**51,191**
STRUCTURAL MATERIALS AND CLAY PRODUCTS—								
Cement	No.	16	4	4	9	6	129	838
	H.P.	2,577	2,386	120	214	700	5,536	47,107
Clay Products	No.	119	94	14	15	1	27	313
	H.P.	9,831	7,402	416	388	150	942	12,930
Lime	No.	23	22	2	5	1	23	126
	H.P.	1,338	1,052	24	48	30	264	2,449
Sand and Gravel	No.	46	62	...	39	5	7	67
	H.P.	5,252	3,920	...	865	239	485	1,383
Stone	No.	84	217	...	52	11	28	560
	H.P.	4,461	3,777	...	1,089	800	865	18,001
Total	**No.**	**288**	**399**	**20**	**120**	**24**	**214**	**1,904**
	H.P.	**23,459**	**18,537**	**560**	**2,604**	**1,919**	**8,092**	**81,870**
Grand Total	**No.**	**1,034**	**1,156**	**209**	**272**	**95**	**1,707**	**5,556**
	H.P.	**129,253**	**155,502**	**3,299**	**8,324**	**49,439**	**86,263**	**296,022**

UNITED STATES TARIFF RATES ON MINERAL PRODUCTS IMPORTED

Since Canadian producers of mineral products market a large part of their annual output in the United States it was thought it might be of value to readers of this report to have at hand a guide to United States Tariff and the following tables were therefore compiled. These have been checked by the Customs Division of the United States Treasury Department at Washington, D.C., U.S.A.

Table 242.—United States Tariff

Item Number	Material	Duty
	(a) On Metals and Manufactures of	
1508	Antimony ore	Free
1547	Chromite—Chromite or chrome ore	Free
1550	Cobalt metal and ore	Free
29	Cobalt linoleate	10c. per lb.
29	Cobalt, oxide of	20c. per lo.
29	Cobalt salts and compounds (all other)	30% ad val.
29	Cobalt sulphate	10c. per lb.
1457	Cobalt ore waste	10% ad val.
1556	Copper ore, regulus of, and black or coarse copper, and cement copper, old copper, fit only for remanufacture, copper scale, clippings from new copper, and copper in plates, bars, ingots, or pigs not manufactured or specially provided for	Free.
1557	Copper sulphate or blue vitriol, copper acetate and subacetate	Free.
381	Copper in rolls, rods or sheets	2½c. per lb.
	Engravers plates, not ground and seamless copper tubes and tubing	7c. per lb.
	Engravers plates, ground, and brazed copper tubes	11c. per lb.
	Brass rods, sheet brass, brass plates, bars, and strips, Muntz or yellow metal sheets, metal sheathing, bolts, piston rods and shafting	4c. per lb.
	Seamless brass tubes	8c. per lb.
	Brazed brass tubes, angles and channels	12c. per lb.
	Bronze rods and sheets	4c. per lb.
	Bronze tubes	8c. per lb.
1539	Bullion gold or silver	Free.
1634	Gold ores and sweepings	Free.
1597	Iron ore including manganiferous iron ore and residuum from burnt pyrites	Free.
1677	Sulphur in any form, and sulphur ore, and spent oxide of iron containing more than 25 per centum of sulphur	Free.
392	Lead bearing ores and mattes—duty applied on lead contents, such duty shall not be applied to the lead contained in copper mattes unless actually recovered	1½c. per lb.
393	Lead bullion or base bullion, lead in pigs and bars, dross, reclaimed lead, scrap lead, antimonial lead, antimonial scrap lead, type metal, Babbitt, solder and all other combinations not specially provided for, duty to apply on lead contents	2½c. per lb.
	Lead in sheets, pipe, shot, glazier's lead and lead wire	2½c. per lb.
47	Lead, linoleate of	30% ad val.
74	Lead litharge	2½c. per lb.
302	Manganese ore or concentrates containing in excess of 30 per centum of metallic manganese	1c. per lb. on metallic manganese content.
302	Molybdenum ore or concentrates	35c. per lb. on metallic molybdenum content.
302	Tungsten ore or concentrates	45c. per lb. on metallic tungsten content.
1634	Nickel mattes and ores of nickel	Free.
390	Nickel oxide	1c. per lb.
390	Nickel and nickel alloys in pigs, ingots, shot, cubes and similar forms	3c. per lb.
390	Nickel in bars, rods, sheets, strips, tubing, etc	25% ad val.
390	In addition thereto on the foregoing if cold rolled, drawn or worked	10% ad val.
1596	Platinum, palladium and other metals of the platinum group	Free.
391	Zinc-bearing ore of all kinds containing less than 10 per centum of zinc	Free.
	Containing more than 10 per centum of zinc and less than 20 per centum	½c. per lb. on metallic zinc content.
	Containing more than 20 per centum of zinc and less than 25 per centum	1c. per lb. on metallic zinc content.
	Containing 25 per centum of zinc or over	1½c. per lb. on metallic zinc content.
395	Zinc in blocks, pigs or slabs and zinc dust	1½c. per lb.
395	Zinc in sheets	2c. per lb.
395	Zinc scrap for re-manufacturing	1½c. per lb.
	(b) On Non-Metallic Minerals	
1619	Actinolite—crude, classified as "minerals, crude, not specially provided for"	Free.
214	Actinolite—ground, classified as "earthy or mineral substances, wholly or partly manufactured, not specially provided for"	30% ad val.
1513	Arsenic—white or arsenious acid	Free.
1512	Arsenic—Sulphide of	Free.
379	Arsenic—Metallic	6c. per lb.
1515	Asbestos—crudes, fibres, sand	Free.
1401	Asbestos—yarn	30% ad val.
69	Barytes—ore, crude	$4 per ton
69	Barytes—ore, ground	$7.50 per ton.
	Calcite—not mentioned by this name in the tariff. Chalk, crude, is free (Item 1545) and chalk, ground, is dutiable at 25% ad valorem (Item 20).	
1570	Corundum—ore	Free.

Table 242.—United States Tariff—Concluded

Item Number	Material	Duty
	(b) On Non-Metallic Minerals—Concluded	
1415	Corundum—ground	1c. per lb.
1619	Feldspar—crude, classified as "minerals, crude not specially provided for"	Free
214	Feldspar—ground, dutiable as "earthy or mineral substances, wholly or partly manufactured, not specially provided for"	30% ad val.
207	Fluorspar	$5.60 per ton
213	Graphite or plumbago—crude or refined—amorphous	10% ad val.
213	Graphite or plumbago—crude or refined—crystalline lump, chip or dust	20% ad val.
213	Graphite or plumbago—crude or refined—crystalline flake	1½c. per lb.
236	Grindstones—finished or unfinished	$1.75 per ton
1643	Gypsum—crude	Free
205	Gypsum—ground	$1.40 pe. ton
75	Iron oxides—ochers, crude	½c. per lb.
75	Iron oxides—ochers, washed or ground	½c. per lb.
75	Iron oxides—"iron-oxide pigments not specially provided for"	20% ad val.
204	Magnesite—crude	5/16c. per lb.
204	Magnesite—caustic calcined	5/8c. per lb.
204	Magnesite—dead burned and grain	23/40c. per lb.
50	Magnesium sulphate—(Epsom salts)	¼c. per lb.
208	Mica—unmanufactured, valued at not above 15 cents per pound	4c. per lb.
208	Mica—unmanufactured, valued above 15 cents per pound	25% ad val.
208	Mica—cut or trimmed, and mica splittings	30% ad val.
208	Mica—ground	20% ad val.
808	Mineral waters	10c. per gal.
1640	Phosphate—"phosphates, crude"	Free
1677	Pyrites—"sulphur ore, such as pyrites or sulphuret of iron in its natural state, and spent oxide of iron, containing more than 25% of sulphur"	Free
83	Salt—in bags, sacks, barrels, or other packages	11c. per cwt.
83	Salt—in bulk	7c. per cwt.
83	Sodium sulphate—crystallized or Glauber's salt	$1.00 per ton
1667	Sodium sulphate, crude or salt cake	Free
207	Silica—crude, not specially provided for	$4 per ton
207	Silica—for use as pigment, not specially provided for	$7.50 per ton
209	Talc—crude	¼c. per lb.
209	Talc—ground, washed, powdered, or pulverized (except toilet preparations)	25% ad. val.
1675	Tripoli—crude or manufactured, not specially provided for	Free
	(c) On Structural Materials and Clay Products	
	Clay Products—	
201	Brick—bath, chrome and fire, n.s.p.f.	25% ad val.
	Magnesite brick	¾c. per lb. and 10% ad. val.
1536	Brick—not specially provided for	*Free
207	China clay or Kaolin	$2.50 per ton
207	Clays or earths, unwrought or unmanufactured, including common blue clay and Gross-Almerode glass pot clay, n.s.p.f.	$1.00 per ton
207	Clays or earths, wrought or manufactured, n.s.p.f.	$2.00 per ton
210	Earthenware—common yellow, brown or gray made of natural, unwashed, and unmixed clay, plain or embossed; common salt-glazed stoneware; stoneware and earthenware crucibles; all the foregoing not ornamented, incised, or decorated in any manner	15% ad val.
210	Earthenware—ornamented, incised, or decorated in any manner and manufactures wholly or in chief value of such ware, n.s.p.f.	20% ad val.
210	Earthenware—Rockingham	25% ad val.
203	Lime—not specially provided for, including weight of container	10c. per cwt.
203	Lime—hydrated, including weight of container	12c. per cwt.
237	Slates—slate chimney pieces, mantles, slabs for tables, roofing slates, and all other manufactures of slate, n.s.p.f.	15% ad val.
	Stone—	
203	Limestone—(not suitable for use as monumental or building stone) crude, or crushed but not pulverized	5c. per cwt.
235	Limestone, freestone, granite, sandstone, lava and all other stone suitable for use as monumental or building stone, except marble, breccia, and onyx, n.s.p.f., hewn, dressed, or polished, or otherwise manufactured	50% ad val.
235	Unmanufactured, or not dressed, hewn or polished	15c. per cubic ft.
232	Marble, breccia and onyx, in block, rough or squared only	65c. per cubic ft.
232	Marble, breccia and onyx, sawed or dressed, over two inches in thickness	$1.00 per cubic ft.
232	Marble, breccia and onyx slabs and paving tiles, containing not less than four superficial inches, if not more than one inch in taickness	8c. per superficial foot.
	If more than one inch and not more than one and one-half inches in thickness	10c. per superficial foot.
	If more than one and one-half inches and not more than two inches in thickness	13c. per superficial foot.
	If rubbed in whole or in part	3c. per superficial foot in addition.
	Mosaic cubes of marble, breccia, or onyx, not exceeding two cubic inches in size, if loose	One-fourth of one cent per lb. and 20% ad val.
	If attached to paper or other material	5c. per superficial foot and 35% ad val.
1675	Stone and sand: burrstone in blocks, rough or unmanufactured; quartzite; traprock; rottenstones; tripoli and sand, crude or manufactured; cliff stone; freestone; granite and sandstones; unmanufactured, and not suitable for use as monumental or building stone; all of the foregoing not specially provided for	Free

*Except on imports from countries which impose a duty on similar products imported from U.S. On imports of these commodities a corresponding duty is levied.

METALLIC MINERAL INDUSTRIES

THE GOLD INDUSTRY IN CANADA—1925

1. General Review:
   - (*a*) Definition of the Industry.
   - (*b*) Historical.
   - (*c*) Sources of Gold.
   - (*d*) Importance of the Industry.
2. Reviews of the Gold Mining Industry by Areas:
   - (*a*) Ontario.
   - (*b*) British Columbia.
   - (*c*) Yukon.
   - (*d*) Prairie Provinces.
   - (*e*) Quebec.
   - (*f*) Nova Scotia.
3. The Alluvial Gold Mining Industry.
4. The Auriferous Quartz Mining Industry.
5. The Copper-Gold-Silver Mining Industry.

I. General Review

(*a*) **Definition of the Industry.**—Canada's gold mining industry falls naturally into two main divisions: the winning of placer gold, or the "Alluvial Gold Mining Industry", and the recovery of free-milling gold from auriferous quartz mines, described under the title "The Auriferous Quartz Mining Industry." In the treatment of ores containing metals other than gold in commercial values, such as copper and silver, gold is often recovered as a by-product; in making up production figures, this gold obtained from the treatment of Canadian ores of every kind, is included in the total. Descriptions of these other industries, which do not obtain gold as their main product, are given in other sections of this report. In particular, the one entitled "Copper-Gold-Silver Mining Industry" may be mentioned, as most of the other lode mines producing gold in quantity are included in this group.

(*b*) **Historical.**—During the early history of the industry in Canada, most of the gold produced was obtained from placer deposits in the province of British Columbia. Later, in 1898, the famous Yukon placers were discovered, and for some time these deposits constituted the principal source of Canada's gold. Recent developments in lode mining, however, have somewhat overshadowed the placer workings; as the placer yields declined, lode gold recovered increased until now this constitutes the principal source of supply. During the past ten or eleven years the province of Ontario has come to the front as a gold-producer, through the development of the rich gold quartz mines of the Porcupine and Kirkland Lake districts; the output from British Columbia mines has been improving for several years; new fields, particularly in the Rouyn area in Quebec, are being watched closely as the next gold-producing district.

(*c*) **Sources.**—In 1925, the auriferous quartz mines yielded 85 per cent of the total production; alluvial deposits provided 4 per cent; Canadian copper and lead smelters recovered 2 per cent; and gold obtained by foreign smelters in the treatment of Canadian ores of various kinds, amounted to 9 per cent of the total Dominion production of gold.

(*d*) **Importance of the Industry.**—Among Canada's mineral products, gold holds second place in point of value, being surpassed only by coal. In 1925, gold represented 15.8 per cent of the total value of Canada's mineral output.

Steady progress, too, has been made by Canada as a world producer, and for the past four years, Canada has held third place; the Union of South Africa and the United States continue to hold first and second places, respectively. South Africa production provides more than half the world's output while Canada produces more than three-fifths as much as the United States and more than twice as much as Australia or South America and one and one-half times as much as the continent of Asia.

2. Reviews of the Gold Mining Industry by Areas

(*a*) **Ontario.**—Ontario with its rich mines in the Porcupine and Kirkland Lake areas continues to hold the lead among the gold-producing provinces, contributing 84.2 per cent of the total gold production for Canada in 1925. In the same year Ontario's gold output represented 34.3 per cent of the aggregate value of the mineral production for the province.

Some idea of the phenomenal growth in gold mining in Ontario may be had from the facts that in 1903 the gold output of the province totalled only 9,096 ounces, or 1 per cent of the Canadian aggregate for this metal; in 1913, the output of 219,801 ounces was 27.4 per cent of Canada's total production; while in 1925, as already noted, Ontario's share at 1,461,039 ounces, represented 84.2 per cent of the total for the Dominion.

In 1925, there were in the Porcupine area 6 producing mines of importance, headed by the Hollinger, now one of the world's greatest mines. The others in order of their production values were: Dome, McIntyre, Vipond, Night Hawk Peninsular, and Consolidated West Dome Lake. Gold production from the Porcupine area amounted to 1,196,199 fine ounces or four-fifths of the total for the province. To the end of 1925, the aggregate yield of gold from the Porcupine area reached a value of more than $160,000,000.

Kirkland Lake, Ontario's second most important gold-producing area, discovered in 1911 and more actively developed since 1919, yielded 260,552 fine ounces in 1925. Wright-Hargreaves and Lake Shore are the two principal producers; others of importance in this camp are: Teck Hughes, Tough Oakes Burnside and Argonaut, and the Barry Hollinger of the Boston Creek camp, in addition to which there are many smaller properties being developed.

The immediate outlook is for further increase in the production of gold. Mines at present producing are steadily increasing the capacity of their mills, enlarging the operations of their mines and acquiring additional property. Hydro-electric power plants have been increased and the supply is now sufficient for enlarged operations.

Several deposits within the area of the Porcupine and Kirkland Lake camps, although not producing, are being vigorously developed and may be expected to add to the general output. Discoveries of gold ores, made from time to time in many parts of this province, also add greatly to the probability of increased production.

Late in 1925 some apparently important discoveries of gold were made following some earlier efforts, near Red Lake in the District of Patricia, Ontario. This place is near the Manitoba boundary line more than 100 miles north of the National Transcontinental Railway line and a somewhat less distance east of Bull Dog Lake in Manitoba. Several leading gold mining companies have become seriously interested in the district and thorough exploration is in progress. Attention had already been called to the locality by the Geological Survey over thirty years ago and more recently by the Ontario Bureau of Mines. Geologically, the area is a Precambrian complex. Keewatin lavas and later sediments (conglomerate and slate) are intruded by granite and porphyry. Quartz veins occur, and lavas in contact with quartz porphyry intrusions are characteristically altered. Owing to the keen interest this field has aroused, its merits should soon become definitely known.

The knowledge and experience gained in the successful development of gold mining in Ontario during the past thirteen or fourteen years is now leading to re-examination of many localities that were unsuccessfully opened at earlier times, especially those along the main line of the Canadian Pacific Railway north of the Great Lakes and in the district of the Lake of the Woods. The Goudreau and Michipicoten areas are among those which are receiving renewed attention. Well-known mining companies are engaged in exploration and development work and results so far obtained are reported as promising.

The producing gold deposits of Ontario occur under somewhat uniform conditions but with local variations. All are in rock of Precambrian age and the principal producing deposits are associated with acid intrusives of Algoman age in volcanic or sedimentary rocks of earlier age.

(*b*) **British Columbia.**—British Columbia, holding second place among the gold-producing provinces, contributes about 13 per cent of the Dominion total for this metal, but most of this yield is obtained from the smelting of ores in which other metals predominate. In

the early days, placer production from the Cassiar and Cariboo districts was of greater importance than it has been in recent years. From 1858 to 1892 yields from the placer deposits of British Columbia made up the entire production of gold from the province; in 1895 the recovery of gold lode deposits was greater than from the placers. In 1925 placer gold production represented only 6 per cent of the total; gold from milling ores made up 9 per cent; gold obtained in the smelting of gold-bearing ores, treated primarily for other metals, constituted 19 per cent; and gold in similar ores exported for treatment made up the balance or 66 per cent.

In lode mining the Portland Canal division furnishes a large production of gold. In 1925 it gave more than 56 per cent of the gold output of the province. This district includes the Premier mine. Trail (Rossland), Skeena, Boundary-Yale, Nass River and Coast divisions follow in importance. The deposits of Portland Canal, Trail, Skeena and Nass are complex ores, which are important for their content of silver or base metals as well as for gold.

The gold lodes of British Columbia are either in or associated with igneous rock, especially where these invade rocks of earlier age. Such conditions obtain over vast areas along the border of the Coast range and also in other parts of the province. Since the main geological features are on a large scale and the province is but sparsely inhabited, it follows that many such zones of contact that are favourable for the occurrence of minerals of value, are still little known in detail over great distances. Consequently the province offers a field for prospecting that is of great magnitude and promise and increased production may be looked for with confidence.

(*c*) **Yukon.**—Still holding third place among Canada's gold producing geographical divisions, Yukon Territory produced 47,817 ounces of fine gold in 1925 from placer gold recoveries. Following the discovery of placer gold in the Yukon in 1896, there was a great rush to this new field and the placer gold output from the Territory increased enormously in the next few years, reaching a maximum in 1900 when the yield totalled more than a million ounces of fine gold. For a few years, production continued on a large scale but by 1908 the annual output had dropped to about 174,000 fine ounces. Lode mining was undertaken in a small way about 1910, but production from this source never reached very great proportions. During the years 1909 to 1913 there was once more a steady upward trend due to increased placer workings. In the following year a recession set in, and the output has shown a continual shrinkage year by year, from 1914 until 1925, when there was again a slight upward turn to production; the output amounted to 47,817 fine ounces as compared with a total of 34,825 fine ounces for 1924. In 1925, there were 5 companies and approximately 93 individual operators working placer deposits in the Yukon. During the year, work was done on 120 miles of ditches and the quantity of material handled was estimated at 2,721,992 cubic yards. In crude placer gold, about 80 per cent of the weight is fine gold, 18 per cent silver, and 2 per cent base metal or material of no value.

(*d*) **Prairie Provinces.**—Manitoba, Saskatchewan and Alberta.—The major part of the settled portions of the prairie provinces, Alberta, Saskatchewan and Manitoba, is underlain by rocks of sedimentary origin and of comparatively late age. It is, therefore, not likely to contain deposits of the precious metals. Alluvial gold is found in the Saskatchewan river in Alberta, but its recovery has not been found profitable.

The northeastern part of each of these provinces, however, occupies a portion of the Laurentian plateau which is underlain by rocks of Precambrian age and in many places is favourable for the occurrence of gold or other valuable minerals.

In Alberta the Precambrian area is small, about 5,000 square miles, and as yet no gold occurrences have been reported from it. In Saskatchewan, it occupies about one-third of the province and in Manitoba it is still larger, comprising perhaps two-thirds of that province.

Near the margin of the Precambrian, adjacent to the Manitoba-Saskatchewan boundary, is an area known as The Pas district, in which gold, along with copper and pyrites, is found over a wide area, in bodies, some of which are large. A small amount of gold was recovered from some rich copper ores that were mined for a time at the Mandy mine in

this district. Free milling gold was also mined for a time at the Rex mine, in the Herb or Wekusko lake district, eighty miles northeast of The Pas.

Other deposits of both classes of ore are found in the region and have received more or less development. Enormous deposits of copper-bearing pyrites at Flin Flon, one hundred miles north of The Pas also have an appreciable gold content. This property has lately changed hands and is under investigation by the new owners with a view to operation.

In Manitoba, east of Lake Winnipeg, prospecting has been carried on for as long as ten years. Numerous occurrences of free gold have more or less developed in the vicinity of Rice, Gold, and Long Lakes, and more recently at Bull Dog Lake, near the Ontario boundary line. Intensive work was carried on in the Long and Bull Dog lake areas throughout 1925 by strong mining companies of successful experience; the outlook is hopeful for an important mining camp.

Geological conditions are broadly similar to those of other parts of the Precambrian complex in which gold is found.

(*e*) **Quebec.**—So far, Quebec has not been a great producer of gold or gold-bearing ores, but recent work in the Rouyn field indicates that in the near future, this province will become of much more importance as a producer of metals, including gold, than it has ever been in the past. In reviewing the situation in Quebec, the fact that the ores of the Rouyn area are largely copper-gold, with some containing zinc as well, makes it necessary to consider the problem in connection with the production in other provinces from similar ores; this is done in the section on the "Copper-Gold-Silver Industry," which should be read in conjunction with this review.

Suffice it to say, here, that the gold production from Quebec ores, to date, has been recovered from gold-bearing pyritic ores sold primarily as a source of sulphur for acid manufacture, and from lead ores, usually exported for treatment,

(*f*) **Nova Scotia.**—Gold, obtained mostly from free-milling ores, and partly from gold-bearing ores containing arsenic, continued to be one of Nova Scotia's important items of mineral production from about 1862 until 1903 and during these years many deposits were worked, the annual yields varying from 6,863 fine ounces in 1862 to 30,348 fine ounces in 1902, with an average production of possibly 20,000 ounces each year. In 1904, production dropped to 10,362 ounces, and the output held around this figure until 1910; since then there has been no appreciable revival in production and in 1925 the total output was only 1,626 ounces.

Nova Scotia possesses a large number of small gold lodes in quartzites and slates of Precambrian age. In places these yield very rich ore. They have been worked irregularly during the past sixty years and have made a total production little short of $19,000,000.

Several of these mines have been recently re-opened. There is renewed interest in the region and further activity may be expected. Hydro-electric power is now available in most parts of the province.

3. The Alluvial Gold Mining Industry

It is very difficult to secure complete information on placer mining in Canada, since placer fields are mostly remote and except in a few cases, are operated by small numbers of men of no fixed abode. Dredging companies and hydraulicking companies send annual returns to the Bureau and with the aid of the *Mining Lands Branch* of the Department of the Interior, some definite information is thus obtainable regarding the Yukon territory.

Statistics on the production of placer gold in British Columbia are obtained from the reports of the resident mining engineers in each of the mining districts who are in close touch with the mining operations in their districts; this figure for placer gold is believed to be approximately correct. In 1925, the output was reported as 16,476 crude ounces. Analyses show that placer gold contains, on the average about 80 per cent gold, 18 per cent silver, and 2 per cent base metal, so that the fine gold in the output amounted to 13,181 fine ounces worth $272,475 when valued at the standing rate ($20.671,834) for an ounce of fine gold. One dredging company operating in the Cariboo district employed 25 men and paid $39,876 in wages, for the recovery of 5,533 ounces of crude gold from 381,900 cubic

yards of material. The remaining placer production of British Columbia came from the work of individuals operating in the Atlin, Liard, Stikine, Cariboo, Quesnel, Ominica, Peace River and other smaller districts.

During 1925 in the Yukon, 5 companies recovered 45,156 crude ounces or about 75 per cent of the total quantity won, and employed 245 workers to whom wages amounting to $307,572 were paid. The total amount of earth handled by these operators was 2,721,992 cubic yards in the working of some 120 miles of ditches. There were also 93 prospectors or individual lessees who carried on work during the season, accounting for approximately 15,000 crude ounces of gold.

Table 243.—Summary Statistics of Placer Mining in the Yukon Territory, 1924 and 1925

Item	1924	*1925
Time in operation ... months	6–8	6–8
Number of wage-earners	264	363
Wages paid	$389,079	$347,448
Crude ounces gold recovered	37,946	76,250
Value of gold and silver	$617,263	$1,270,419
Quicksilver purchased ... lb.	...	...
Quantity of material handled ... cubic yards	2,888,918	3,103,892
Length of ditches ... miles	122	120

*1925 figures include one large operator in British Columbia and the quantity and value of placer gold produced in British Columbia.

Table 244.—Location of Principal Operators in the Yukon Territory and British Columbia, 1925

Name of company	Claim operated
YUKON—	
New North West Corporation	900 placer claims.
Burrall and Baird, Ltd.	78 placer claims, 3 leases.
Yukon Gold Company	340 placer claims, 3 leases.
A. E. Weinberg	Miller Creek Concession.
North American Transportation and Trading Co.	Dominion Creek.
45 prospectors	Bonanza Creek.
11 prospectors	Thistle Creek.
11 prospectors	Kirkman Creek.
26 prospectors	Dominion and Sulphur Creek.
BRITISH COLUMBIA—	
Kafue Copper Development Co.	Antler Creek and Cunnigham Pass.
No record of small operators.	

4. The Auriferous Quartz Mining Industry

In 1925 there were 52 auriferous quartz mines operating in Canada, and of these 27 produced bullion or shipped ores while 25 carried on development work only. There were 36 mines operating in Ontario, 11 in British Columbia, 4 in Nova Scotia and one in Manitoba. The corresponding data for 1924 were: Ontario, 41; British Columbia, 11; Nova Scotia, 6; Manitoba, 2; and Quebec, 10. (All the properties mentioned as gold properties operating in the province of Quebec during 1924 were re-classified as belonging to the copper-gold-silver group in 1925.) Ontario mines produced over 90 per cent of the total gold recovered from the auriferous quartz mines of Canada.

In 1925, the ore mined totalled 3,646,460 tons of which 3,527,021 tons were put through the mills and 3,458,451 tons were cyanided. About 181,515 crude ounces were recovered by amalgamation and 1,713,903 crude ounces, by cyanidation. Shipments of bullion having a total net value of $30,742,475 amounted to 1,895,047 crude ounces containing 1,482,294 fine ounces of gold and 254,514 fine ounces of silver. Ores and residues and high-grade slags shipped to smelters were valued at $4,292,886.

The total capital employed in this industry in Canada in 1925 amounted to $84,964,062 as against $83,982,765 in the previous year. Of this total approximately 74.5 million dollars was invested in Ontario and about 10 million dollars in British Columbia. There was also a small amount reported as invested in gold mines in Nova Scotia and Manitoba.

Salaries and wages paid in 1925 amounted to 11.9 million dollars as against 10.5 million dollars in 1924. Employees in operating mines numbered 7,052 of whom 445 were on salary, 1,871 were wage-earners working on surface, 4,146 worked underground and 590 were employed in the concentrators. Of this total number employed, 6,248 were in Ontario gold mines, 702 in British Columbia, 49 in Nova Scotia and 53 in Manitoba.

Gold production in 1925 was the greatest of any year on record, and with the increase in milling capacity, the development of prospects into mines, improved mechanical equipment and the advance in metallurgical knowledge and practice, there is little doubt that Canada's gold output will continue to show steady growth.

Table 245.—Principal Statistics of the Auriferous Quartz Mining Industry in Canada, 1921-1925

Year	Number of active operators	Number of operating plants or mines	Capital employed	Number of employees	Salaries and wages paid	Miscellaneous expenses*	Cost of fuel and electricity	Net value of bullion ore, concentrates or residues shipped from the mines
			$		$	$	$	$
1921	57	59	48,043,363	3,889	6,072,318	5,474,607	455,015	16,689,784
1922	79	79	35,368,094	5,441	8,011,682	7,383,516	353,453	26,082,169
1923	65	65	77,574,976	5,524	8,961,434	5,661,661	1,497,197	25,021,837
1924	70	70	83,982,765	6,738	10,500,140	6,925,027	1,559,406	31,298,107
1925	52	52	84,964,062	7,052	11,931,948	(†)	1,836,050	35,035,361

*For 1921 and 1922 cost of electricity is included with miscellaneous expenses.
†For 1925 data not available.

Table 246.—Capital Employed by Provinces in the Auriferous Quartz Mining Industry in Canada, 1924 and 1925

—	Nova Scotia		Quebec		Ontario		Manitoba		British Columbia		Canada	
	No.	$	No.	$	No.	$	No.	$	No.	$	No.	$
1924												
Producing	3	70,000	....	.....	15	53,833,245	1	124,069	9	10,336,029	28	64,363,343
Operating but not producing	3	46,293	10	1,335,748	26	14,860,973	1	3,294,296	2	82,112	42	19,619,422
Total	**6**	**116,293**	**10**	**1,335,748**	**41**	**68,694,218**	**2**	**3,418,365**	**11**	**10,418,141**	**70**	**83,982,765**
1925												
Producing	4	99,150	....	.....	13	58,757,165	1	124,069	9	10,283,075	27	69,263,459
Operating but not producing	....	.....	....	.....	23	15,646,769	....	.....	2	53,834	25	15,700,603
Total	**4**	**99,150**	....	.....	**36**	**74,403,934**	**1**	**124,069**	**11**	**10,336,909**	**52**	**84,964,062**

Table 247.—Employees, Salaries and Wages Paid in the Auriferous Quartz Mining Industry in Canada by Provinces, 1924 and 1925

Province	1924						1925					
	Number of employees					Salaries and wages	Number of employees					Salaries and wages
	On salary	Wage-earners			Total employees		On salary	Wage-earners			Total employees	
		Surface	Underground	Mill				Surface	Underground	Mill		
						$						$
Nova Scotia	6	31	21	2	60	32,660	2	23	20	4	49	24,809
Quebec	27	179	52	.....	258	334,728	....	.....	.....	.....	.....	.....
Ontario	360	1,574	3,381	470	5,785	9,040,272	368	1,536	3,845	499	6,248	10,634,273
Manitoba	11	57	20	5	93	136,605	3	23	22	5	53	57,138
British Columbia	55	209	208	70	542	955,875	72	289	259	82	702	1,215,728
Canada	**459**	**2,050**	**3,682**	**547**	**6,738**	**10,500,140**	**445**	**1,871**	**4,146**	**590**	**7,052**	**11,931,948**

Table 248.—Number of Wage-Earners in the Auriferous Quartz Mining Industry in Canada by Months, 1924 and 1925

Month	1924				1925			
	Mine		Mill	Total	Mine		Mill	Total
	Surface	Underground			Surface	Underground		
January	1,610	3,425	524	5,559	1,624	3,766	544	5,934
February	1,845	3,466	518	5,829	1,536	3,831	549	5,916
March	1,829	3,487	499	5,815	1,560	3,963	562	6,085
April	1,915	3,438	522	5,875	1,652	4,008	556	6,216
May	1,975	3,515	528	6,018	1,708	4,050	577	6,335
June	2,100	3,522	522	6,144	1,785	4,200	589	6,574
July	2,057	3,676	510	6,243	1,826	4,195	570	6,591
August	2,170	3,728	527	6,425	1,792	4,139	567	6,498
September	2,218	3,742	525	6,485	1,800	4,087	581	6,468
October	2,195	3,819	548	6,562	1,844	4,231	598	6,673
November	2,048	3,741	563	6,352	1,704	4,221	616	6,541
December	1,834	3,626	547	6,007	1,635	4,117	588	6,340
Average	**2,050**	**3,682**	**547**	**6,279**	**1,871**	**4,146**	**590**	**6,607**

Table 249.—Ores Mined and Milled, Crude Bullion Produced and Shipped from the Gold Mines in Canada, by Provinces, 1924 and 1925

—	Nova Scotia	Ontario	Manitoba	British Columbia	Canada
1924					
Number of producing mines	3	15	1	9	28
Ore mined ... tons		2,884,519	2,669	209,102	3,096,290
Ore milled ... tons		2,875,760	2,669	211,440	3,089,869
Bullion recovered by amalgamation ... crude oz.		142,715	1,321	50	144,086
Ores cyanided ... tons		2,867,646		99,510	2,967,156
Bullion recovered by cyanidation ... crude oz.		1,436,992		23,303	1,460,295
Bullion shipped ... crude oz.	681	1,579,987	1,398	23,359	1,605,425
Contents of bullion shipped—Gold ... fine oz.	595	1,236,126	(a) 1,180	15,361	1,253,262
Silver ... fine oz.	44	208,454	143	742	209,383
Net value ... $	12,346	25,692,570	24,490	316,763	26,046,169
(b) Net value of ores, slags and residues sold ... $	24,587	32,756		4,996,595	5,053,938
Amount of exchange premium ... $		196,748		1,252	198,000
Total net receipts ... $	**36,933**	**25,922,074**	**24,490**	**5,314,610**	**31,298,107**
1925					
Number of producing mines	4	13	1	9	27
Ore mined ... tons	9,842	3,400,973	7,132	228,513	3,646,460
Ore milled ... tons	9,593	3,394,924	7,132	115,372	3,527,021
Bullion recovered by amalgamation ... crude oz.	1,715	168,174	4,946	6,680	181,515
Ores cyanided ... tons		3,358,234		100,217	3,458,451
Bullion recovered by cyanidation ... crude oz.		1,682,592		31,311	1,713,903
Bullion shipped ... crude oz.	1,644	1,850,466	4,946	37,991	1,895,047
Contents of bullion shipped—Gold ... fine oz.	1,564	1,457,023	4,300	19,407	1,482,294
Silver ... fine oz.	75	251,830	446	2,163	254,514
Net value ... $	32,342	30,224,456	89,210	399,305	30,745,313
Net value of ores slags and residues sold ... $		83,420	1,644	4,207,822	4,292,886
Amount of exchange discount ... $		2,838			2,838
Total net receipts ... $	**32,342**	**30,305,038**	**90,854**	**4,607,127**	**35,035,361**

(a) Includes 49 oz. received by the Royal Mint from individuals.

(b) Includes $16,978 value of arsenic produced in B.C.

Table 250—Ores, Concentrates and Slags Shipped from the Gold Mines of Canada, 1924 and 1925

Item	Ontario, Manitoba and Nova Scotia mines shipping		British Columbia mines shipping		Canada
	To Canadian smelters	To Foreign smelters	To Canadian smelters	To Foreign smelters	
1924					
Number of mines	1	3	6	3	*11
Tons of ore, etc., shipped	39	1,145	21,449	86,719	109,352
Metal content—					
Gold ... oz.	107	1,820	17,250	129,326	148,503
Silver ... oz.	107	6,288	429,290	2,604,538	3,040,223
Copper ... lb.	.....	1,232	432	.....	1,664
Lead ... lb.	.....	1,250	334	452,010	453,594
Arsenic ... lb.	.....	381,092	.....	495,250	876,342
Net value ... $	1,837	55,506	619,094	4,377,501	5,053,938
1925					
Number of mines	1	3	6	4	*13
Tons of ore, etc., shipped	26	845	29,285	98,497	128,653
Metal content—					
Gold ... oz.	86	3,415	20,509	107,132	131,142
Silver ... oz.	26	3,992	414,035	2,088,538	2,506,591
Copper ... lb.	.....	344,928	633	180	345,741
Lead ... lb.	.....	.....	1,300	870,971	872,271
Arsenic ... lb.	.....	.....	.....	1,277,696	1,277,696
Net value ... $	1,644	83,420	659,208	3,548,614	4,292,886

*During 1924 two companies and in 1925 one company in British Columbia shipped to both Foreign and Canadian smelters.

5. The Copper-Gold-Silver Mining Industry

The copper-gold-silver mining industry comprises a group of mines producing ore containing gold, silver and copper, in which the copper values predominate. The largest mines and the greatest number of this type are located in British Columbia; Manitoba is known to have big ore reserves of copper but as yet these have not been fully developed owing to the lack of adequate transportation and smelting facilities; Ontario has several small properties of this class, but they are mostly idle. In the province of Quebec the Eustis mine is at present the only producing property in this group, but recent developments in the section of the province adjacent to the Kirkland lake area in Ontario bid fair to make Quebec, an outstanding copper-gold producer in the very near future. British Columbia is the largest copper-producing province of the Dominion.

Ores from the principal mines in this group are handled as follows: the Granby Consolidated Mining, Smelting and Power Company mine and smelt on the property at Anyox on the Portland canal; the Britannia Mining and Smelting Company situated at Britannia Beach on Howe sound; and the Belmont Surf Inlet Mining Company, Ltd., export ore and concentrates to the Tacoma smelter of the American Smelting and Refining Company. From the mines of the Rossland district, which are mainly owned and operated by the Consolidated Mining and Smelting Company, ore is shipped to the smelter at Trail. The Allenby Copper Company which is mining at Copper Mountain near Princeton, B.C., concentrate the ore in their own mill and ship the concentrates to the smelter at Trail.

In all, 41 mines of this class were reported in 1925; of these, 9 were producing, 8 being located in British Columbia and one in Quebec. Of the remaining 32 mines which were operating, but not producing, 28 were located in the province of Quebec and 4 in British Columbia.

Because of close interplant relations, some companies do not find it possible to separate the capital invested in mines from that invested in their smelting operations. The Granby Consolidated is one of these and the total capital employed by this company has been credited in this report to "Metallurgical Works," in which total also the capital employed by the Consolidated Mining and Smelting Company in their smelter at Trail has been

included, but the amount invested in different mining properties have been accounted for separately, some in the copper-gold-silver group and some in the silver-lead-zinc group. With these limitations, the capital employed in the copper-gold-silver industry in 1925 amounted to approximately $23,000,000 of which over $9,000,000 was invested in the province of Quebec, and $14,000,000 in British Columbia. Shipments of ores and concentrates from the copper-gold-silver mines in Canada amounted to slightly less than a million tons valued at approximately 7.7 millions of dollars. Foreign shipments amounted to over 113,000 tons valued at about 5 million dollars. Shipments to Canadian smelters amounted to 850,000 tons having a value of about 2.6 million dollars.

Salaries and wages paid in the industry amounted to $3,555,844 and employees numbered 2,374 persons. Of the wage-earners, 861 were employed on the surface, 1,055 underground and 247 in the mills. Bituminous coal, coke, gasoline, oil, etc. consumed, cost over $152,000 and the electric power used was valued at slightly more than $261,000. Power equipment employed numbered 400 units having a total rating of 32,483 h.p.

Table 251.—Principal Statistics of the Copper-Gold-Silver Industry in Canada, 1921-1925

Year	Number of active operators	Number of operating plants or mines	Capital employed	Number of employees	Salaries and wages paid	Miscellaneous expenses	Cost of fuel and *electricity	Net value of bullion, ore, concentrates or residues shipped from the mines and smelters
			$		$	$	$	$
1921	14	18	5,256,051	1,222	1,573,221	1,192,018	76,663	2,589,314
1922	18	18	6,519,516	826	1,150,275	385,493	77,231	2,031,671
1923	14	14	19,108,072	1,790	3,004,292	726,613	334,696	4,361,486
1924	15	15	19,099,845	2,118	3,292,228	1,855,511	366,153	5,226,859
1925	40	41	23,200,580	2,374	3,555,844	†	413,767	7,558,990

*For 1921 and 1922 cost of electricity is included with miscellaneous expenses.
†No data available.

Table 252.—Capital Employed in the Copper-Gold-Silver Mining Industry in Canada 1924 and 1925

—	British Columbia				Quebec				Canada			
	1924		1925		1924		1925		1924		1925	
	No.	$	No.	$	No.	$	No.	$	No.	$	No.	$
Producing mines	10	a17,196,699	8	14,150,743	1	1,796,332	1	1,516,660	11	a18,993,031	9	15,667,403
Operating but not producing mines	4	106,814	4	156,213	....	.....	28	7,376,964	4	106,814	32	7,533,177
Total	14	17,303,513	12	14,306,956	1	1,796,332	29	8,893,624	15	19,099,845	41	23,200,580

a Does not include the capital of Granby Co. Anyox, B.C.

Table 253.—Employees, Salaries and Wages in the Copper-Gold-Silver Mining Industry in Canada, 1924 and 1925

—	1924			1925		
	Number of employees		Salaries and wages	Number of employees		Salaries and wages
	Male	Female	$	Male	Female	$
SALARIED EMPLOYEES—						
Total	105	7	267,196	194	17	416,065
WAGE-EARNERS—						
Surface	834	.....	3,025,032	1,108	.....	3,139,779
Underground	1,172	.....		1,055	.....	
Total	2,006	.....	3,025,032	2,163	.....	3,139,779
Grand Total	2,111	7	3,292,228	2,357	17	3,555,844

Table 254.—Number of Wage-Earners in the Copper-Gold-Silver Mining Industry in Canada, by Months, 1924 and 1925

Month	1924			1925		
	Number of wage-earners			Number of wage-earners		
	Surface	Underground	Total	Surface	Underground	Total
January	813	1,152	1,965	786	1,203	1,989
February	826	1,161	1,987	810	1,087	1,897
March	838	1,120	1,958	804	1,071	1,875
April	861	1,172	2,033	830	954	1,784
May	900	1,245	2,145	889	912	1,801
June	910	1,141	2,051	998	939	1,937
July	728	1,173	1,901	1,023	936	1,959
August	808	1,106	1,914	1,054	956	2,010
September	806	1,154	1,960	1,085	1,012	2,097
October	801	1,143	1,944	1,092	1,058	2,150
November	758	1,170	1,928	1,067	1,124	2,191
December	740	1,077	1,817	1,043	1,173	2,216
Average	**834**	**1,172**	**2,006**	**1,108**	**1,055**	**2,163**

Table 255.—Shipments from the Copper-Gold-Silver Mines of Canada, 1924 and 1925

Destination	Quantity	Net Value	Content as determined by settlement assay			
			Gold	Silver	Copper	Sulphur
	Tons	$	Fine oz.	Fine oz.	Pounds	Tons
1924						
6 mines shipped to Canadian smelters—						
Ores	966,264	1,474,674	44,436	535,000	42,518,595	.....
*Concentrates	6,770	41,253	66	3,483	2,070,594	1,976
5 mines shipped to foreign smelters—						
Ores	.....	.....	.....	.....	.....	.....
Concentrates	100,114	3,710,932	37,468	152,430	33,174,018	.....
Total	**1,073,148**	**5,226,859**	**81,970**	**690,913**	**77,763,207**	**1,976**
1925						
7 mines shipped to Canadian smelters—						
Ores	828,806	2,106,149	17,465	358,736	28,863,739	.....
*Concentrates	23,468	511,738	330	26,366	4,883,476	6,125
4 mines shipped to foreign smelters—						
Ores	.....	.....	.....	.....	.....	.....
Concentrates	113,180	5,141,103	44,606	182,657	39,942,730	.....
Total	**965,454**	**7,758,990**	**62,401**	**567,759**	**73,689,945**	**6,125**

* Includes 4,032 tons of sulphur concentrates containing 49% sulphur, in 1924, and 12,250 tons containing 50% sulphur in 1925, shipped from the Eustis Mine of Quebec province.

THE SILVER MINING INDUSTRY IN CANADA

(Including the Silver-Cobalt Mining Industry and the Silver-Lead-Zinc Mining Industry.)

1. Definition of the Industry.
2. Historical.
3. Sources of silver, lead, zinc and cobalt.
4. Importance of these metals.
5. The Silver-Cobalt Industry—Ontario.
6. The Silver-Lead-Zinc Industry.
   (*a*) British Columbia.
   (*b*) Yukon.
   (*c*) Quebec.
   (*d*) General Statistics.

1. **Definition of the Industry.**—Silver mining is not a distinct industry in Canada as silver is found only in association with other metals such as lead and zinc, particularly in the West, with cobalt in northern Ontario, and with lode and placer gold, copper and other

metals in various localities. Industrial reviews concerning the production of silver must therefore be limited to a discussion on the sources of supply and to general statistics on each of the contributing sections of the mining industry. Silver-lead-zinc mining is a very important industry in British Columbia, the Yukon Territory, Quebec and to a less extent in Ontario, whereas the mining of silver-cobalt ores is carried on in Canada only in the province of Ontario. While silver is the predominating metal in some ores of the silver-lead-zinc group there are other mines which yield an ore carrying lead and zinc in greater values so that the silver content is of secondary importance. Silver values are the governing feature in the silver-cobalt ores of Ontario. Alluvial and lode gold and ores containing copper and gold usually contain commercial values in silver also, but in these ores, the metals other than silver are generally of greater importance.

2. **Historical.**—Silver production in Canada dates back many years, the earliest account being that of the finding of argentiferous-lead on the Quebec side of lake Temiskaming about 1686; it is somewhat remarkable that the cobalt area lying within a short distance of this property, and which later became one of the richest silver camps in the world was not known until 1903. In 1868, Thomas McFarlane, working on a rock about 80 or 90 feet in diameter, off Thunder Cape in lake Superior, discovered a vein containing galena and silver which was afterwards worked as the Silver Islet mine; this property yielded about 3.5 million dollars' worth of silver before it was flooded by the waters of the lake. Then in 1903 the next big find was made. Long Lake, later called "Cobalt Lake" was the centre of the area which became known as the "Cobalt-Silver camp." This camp and the allied camps of Gowganda and South Lorrain have been in continuous operation since that time and at the end of 1925 had yielded upwards of 364 million ounces of silver.

In British Columbia the main source of silver for many years was from the silver-lead-zinc ores of the east and west Kootenay districts. These ores were complex and because of the finely-disseminated sulphides, were very hard to treat. The Consolidated Mining and Smelting Company of Trail, B.C., has been the pioneer in Canada in the treatment of these ores. For years the zinc content of British Columbia ores was regarded as detrimental, and treatment of these ores by the smelter could only be carried on profitably by the imposition of penalty charges based on the zinc content. But as the result of an exhaustive research covering a period of years, a method of concentrating and treatment was evolved whereby the ores could be handled more economically. Enhanced prices of lead and zinc in the last few years also proved to be the means of bringing back into a paying position many mines that formerly had been unable to operate at a profit.

In the Yukon, the rich silver-lead ores of the Keno Hill district provide the principal source of the silver production from that section of Canada. Quebec province also, in the last few years, has added its quota in the output of these metals; considerable work is being done on prospects in the Gaspé peninsula.

Nova Scotia and the Prairie Provinces have yielded only small quantities of these metals up to the present time, but development and investigational work is being carried on at a zinc property in Cape Breton Island and it is anticipated that Nova Scotia will soon be a contributing factor in Canada's zinc production.

3. **Sources of Silver, Lead, Zinc and Cobalt.**—In 1925 the total production of silver from Canadian ores of all kinds, amounted to 20,228,988 fine ounces and included (*a*) silver contained in silver and gold bullion produced, 9,157,412 fine ounces or 45.2 per cent of the total, (*b*) silver contained in blister copper or lead bullion made, 6,177,075 fine ounces or 30.5 per cent, and (*c*) silver estimated as recoverable from ores of all kinds exported for treatment in foreign smelters, 4,894,501 fine ounces or 24.3 per cent.

The production of lead during the same year amounted to 253,590,578 pounds, an advance of 44.5 per cent above the previous high record of 175,485,499 pounds set up in 1924. Of the total, 227,136,734 pounds were contained in the base bullion produced at Trail; the remaining 26,453,844 pounds included lead estimated as recoverable from those silver-lead-zinc ores which were exported from British Columbia, the Yukon and Quebec, and pig lead made at Galetta in Ontario with also small quantities of lead contained in silver-lead-bismuth bullion recovered by the smelters treating cobalt ores.

Zinc production during the same year amounted to 109,268,511 pounds, an increase of 10.4 per cent over the Canadian production of 98,909,077 pounds in 1924. Most of Canada's

zinc output is in the form of metallic zinc produced by the Consolidated Mining and Smelting Company at Trail, B.C. The remainder represents zinc estimated as recoverable from ores and residues exported for treatment in foreign smelters.

Computed as the sum of the cobalt contained in metal, oxides, salts, ores, concentrates and residues marketed in 1925, the production of cobalt amounted to 1,116,492 pounds valued at $2,328,517.

4. **Importance of these Metals.**—Lead production in Canada holds third place, silver seventh place and zinc ninth place in point of value among the metals and minerals produced. In 1925, Canada ranked fourth among the world's silver-producing countries: Mexico produced 92 million ounces; United States, 61 million ounces; and Peru, 21 million ounces. In the production of lead, Canada was surpassed by United States, Mexico, Australia and Spain. In smelter output of zinc, the United States had the highest production of any country, being followed by Belgium, Upper Silesia, France, Germany, Australia, Great Britain and Canada in the order named.

For the past two decades Canada has been the main source of the world's supply of cobalt. It is reported that the Union Miniere de Haut Katanga of South Africa is now also producing cobalt and it is probable that this production will have some effect on world prices and sales of this metal.

5. **The Silver-Cobalt Industry (Ontario).**—Ontario with its wonderful silver deposits at Cobalt, South Lorrain and Gowganda, continues to lead among the silver-producing provinces and at the end of 1925 was still the largest producer of cobalt in the world. Some of the older properties around Cobalt have been worked out but new discoveries in the South Lorrain field and further development in the Gowganda district assist in keeping production fairly constant.

After the remarkable Silver Islet production, comparatively little silver was produced in Ontario until the discovery of the mineral wealth of the Cobalt area in 1903. From 1905 when the output of silver was over 2,000,000 ounces, the production increased rapidly until the peak year of 1911 was reached. In that year the recorded production was 30,540,754 ounces. It dropped down to 29,000,000 ounces in the following year and followed a generally downward trend until 1921 when less than 10,000,000 ounces was reported; there has been little change in the volume of output during recent years. In 1925, in the Cobalt area there were 18 producing mines; in the South Lorrain field, 4 mines, were on the producing list; and in Gowganda, 4 mines. The Nipissing mine was the principal silver producer in these districts. Other large mines in order of production were Keeley, Frontier Lorrain, Castle Tretheway, Mining Corporation, O'Brien, Trout Lake and McKinley-Darragh-Savage.

Mining and milling only are being considered in this review; smelting of the cobalt ores in so far as Canadian operations are concerned will be reviewed in the section on the metallurgical industry. Only two mining companies, namely, the Mining Corporation of Canada, Ltd., and the Nipissing Mining Company, Ltd., produced refined silver bullion in 1925. Other mines shipped ores either to one of these companies or to the Deloro Smelting and Refining Company or to foreign smelters. The greater part of the silver from the ores and concentrates treated by the two companies mentioned above is extracted by cyanidation and the residues which may contain arsenic, cobalt, nickel and some silver, are either sent to the Deloro Smelting and Refining Company or are exported for treatment to foreign smelters. There were 26 shipping mines in the silver-cobalt industry in 1925. The output of ore was 357,029 tons, the quantity milled amounted to 359,788 tons, and the concentrates produced totalled 6,449 tons. There were 176,511 tons of material cyanided. Silver bullion production amounted to 6,079,142 ounces.

Shipments of ores and concentrates to points outside the camp amounted to 8,086 tons in 1925 as against 7,231 tons during 1924.

Salaried officials numbered 136 in 1925 as against 132 in 1924. Wage-earners increased in number to 1,652 persons from the total of 1,637 in the previous year. Salaries and wages totalled $2,576,414. Fuel used cost $498,874 at the mines; this sum included $258,000 spent for electric power. Power equipment employed consisted of 225 units having a total rating of 8,897 h.p.

Table 256.—Principal Statistics of the Silver-Cobalt Mining Industry in Canada, 1921-1925

Year	Number of active operators	Number of operating plants or mines	Capital employed	Number of employees	Salaries and wages paid	Miscellaneous expenses	Cost of fuel and *electricity	Net value of bullion, ore, concentrates or residues shipped from the mines and smelters
			$		$	$	$	$
1921	33	39	31,198,418	1,224	1,739,706	1,799,458	108,573	6,316,812
1922	26	30	29,459,603	1,403	1,532,736	2,271,186	98,242	8,222,303
1923	18	24	31,334,050	1,408	1,949,738	2,132,114	410,089	6,521,853
1924	26	34	41,013,466	1,769	2,534,304	2,479,316	468,651	6,594,032
1925	33	38	44,045,619	1,788	2,576,414	†	498,874	6,611,644

* For 1921 and 1922 cost of electricity is included with miscellaneous expenses.
† No data available.

Table 257.—Capital Employed in the Silver-Cobalt Mining Industry in Canada, 1924 and 1925

—	1924	1925
	$	$
Capital employed as represented by—		
Cost of lands, buildings, and equipment	31,846,993	34,024,247
Cost of supplies and stock on hand	1,588,429	1,657,085
Cash, trading and operating accounts and bills receivable	7,578,044	8,364,287
Total	**41,013,466**	**44,045,619**

Table 258.—Employees, Salaries and Wages in the Silver-Cobalt Mining Industry in Canada, 1924 and 1925

—	1924		1925	
	Number	Salaries and wages	Number	Salaries and wages
		$		$
Salaried Employees	132	307,159	136	358,190
Wage-Earners—				
Mine	1,359	2,227,145	1,488	2,218,224
Mill	278		164	
Total	1,637	2,227,145	1,652	2,218,224
Grand Total	**1,769**	**2,534,304**	**1,788**	**2,576,414**

Table 259.—Number of Wage-Earners in the Silver-Cobalt Mining Industry in Canada by Months, 1924 and 1925

Month	1924				1925			
	Mine		Mill	Total	Mine		Mill	Total
	Surface	Underground			Surface	Underground		
January	385	814	255	1,454	403	954	174	1,531
February	412	821	257	1,490	392	913	169	1,474
March	429	831	258	1,518	389	922	173	1,484
April	401	855	262	1,518	414	956	170	1,540
May	397	900	271	1,568	416	966	166	1,548
June	371	820	255	1,446	447	992	163	1,602
July	400	791	253	1,444	409	1,030	164	1,603
August	408	802	253	1,463	468	1,002	162	1,632
September	405	828	257	1,490	491	1,008	163	1,662
October	453	865	261	1,579	502	1,030	162	1,694
November	428	867	258	1,553	508	1,008	159	1,675
December	406	875	262	1,543	462	981	160	1,603
Average	**400**	**899**	**278**	**1,637**	**482**	**1,006**	**164**	**1,652**

Table 260.—Principal Statistics of Silver-Cobalt Mines and Mills Operating in Canada, 1924 and 1925

—		1924	1925
Number of mines in operation		34	38
Ore mined	Tons	433,176	357,029
Ores treated	Tons	428,509	359,788
Tailings treated	Tons	.....	.....
Concentrates produced	Tons	7,360	6,449
Quantity of material cyanided	Tons	168,193	176,511
Bullion recovered	Fine ounces	5,577,875	6,079,142
Bullion sold	Fine ounces	5,004,992	5,551,112
Net value to operators	$	3,369,664	3,823,921

Table 261.—Shipments of Ores, Concentrates and Residues from the Cobalt Camp 1924 and 1925

Kind	Quantity	Gross value (a)	Net value (b)	Metallic content paid for		
				Silver	Cobalt	Copper
1924	Tons	$	$	fine oz.	lb.	lb.
To Canadian Smelters—						
Ores	929	1,292,277	1,232,557	(c)1,835,764	143,952	.....
Concentrates and residues	3,890	1,580,128	1,435,032	2,098,941	581,380	.....
To Foreign Smelters—						
Concentrates	2,412	741,161	556,779	886,292	93,780	107,252
Total	7,231	3,613,566	(d)3,224,368	4,820,997	819,112	107,252
1925						
To Canadian Smelters—						
Ores	1,921	1,011,011	977,495	(e)1,320,503	460,567	.....
Concentrates and residues	3,074	(f)1,252,378	(f)1,136,025	1,708,152	261,886	.....
To Foreign Smelters—						
Concentrates	3,091	796,764	674,203	1,090,242	105,094	154,661
Total	8,086	3,060,123	(f)2,787,723	4,118,897	827,547	154,661

(a) Gross value means value of the metals paid for before deducting transportation and treatment charges, and includes exchange premium received.
(b) Net value is actual amount received by operator.
(c) Includes 15,406 ounces silver in nuggets shipped to Ontario Provincial Government.
(d) Includes $10,398 paid for nuggets shipped to Ontario Provincial Government.
(e) Includes 910 ounces shipped to Ontario Provincial Government.
(f) Includes $674 paid for nuggets shipped to Ontario Provincial Government.

6. The Silver-Lead-Zinc Industry

6. **The Silver-Lead-Zinc Industry.**—(*a*) **British Columbia.**—British Columbia which held second place among the silver-producing provinces in 1925, and first place among the provinces producing lead and zinc, contributed about 42.5 per cent of the Dominion total of silver, 96 per cent of the lead, and 90.7 per cent of the zinc; most of this yield being obtained from the smelting of silver-lead-zinc ores. In this province, production of these three metals has increased remarkably during the past three years. With the early development of the silver-lead ores of the Kootenays silver production reached about the 5 million ounce mark in 1897, only to fall away to about 3 million ounces in 1899. Again, in 1901, the 5 million mark was reached but by 1911 production had fallen to less than 2 million ounces. From that time forward, the output increased; first through the demand created by the war, and later as a result of the development of the Premier mine in Northern British Columbia ,and also because of the application of flotation methods in the treatment of silver-lead-zinc ores. Another factor contributing to the growth was the rise in the prices of lead and zinc and the maintenance of the prices at generally high levels. Increased production of the famous Sullivan lead

and zinc mine also added appreciably to the silver output; indeed, this mine, though nominally a lead-zinc property, was in 1925 the largest silver-producing mine in Canada.

The Trail smelter buys silver-lead-zinc ores but much silver and some lead are contained in ores exported by the mines on the coast; most of these ores are mined primarily for their copper and gold values but the other associated metals, including silver, are recovered in the smelting process.

(*b*) **Yukon.**—In the Yukon, the Keno Hill district is the principal producer of silver and lead. According to a report given to the Mining Lands Branch of the Department of the Interior by the Gold Commissioner of the Yukon it has been shown that ore values continue with depth. The Treadwell Yukon Company, Limited, is the largest producer in this district, having shipped 1,457 tons of ore and concentrates during 1925. The mill which was completed in the summer of 1925 has worked to full capacity since it was started and has treated ores from other mines in addition to those from the company's own mines. This has been of great assistance to the smaller operators who have thus been enabled to continue development work with the proceeds.

(*c*) **Quebec.**—Production of silver-lead-zinc ores in Quebec is carried on in the vicinity of Notre Dame des Anges where ore was discovered in 1910. Several early attempts to concentrate this ore failed but more recently, as the result of a selective flotation process, worked out by the Mines Branch, Ottawa, about the end of 1924, production has been carried on successfully and about four times as much ore was shipped in 1925 as in 1924.

Although a small amount of lead is produced from the silver-cobalt ores, the greater part of Ontario's lead production is derived from the lead mine at Galetta in Carleton county. The ore of this mine carries no silver and only a small amount of zinc. A separation is made of the zinc and lead concentrates, the zinc concentrates being accumulated for shipment to foreign smelters; the galena is smelted to high-grade pig lead on the property.

(*d*) **Industry.—General Statistics.**—Producing, concentrating, smelting and refining of ores of the silver-lead-zinc group is an industry that is fairly well confined to the province of British Columbia. But as already noted there are lead-zinc properties in the Yukon, the Galetta property in Ontario and the Tetreault mine at Notre Dame des Anges in Quebec.

As thus defined the silver-lead-zinc industry represented 94 mines operated by 89 concerns in 1925. Ore raised from 82 of these mines totalled 1,474,764 tons, of which 1,392,892 tons were milled, yielding 173,665 tons of lead concentrates and 173,894 tons of zinc concentrates. Shipments of lead ores, lead concentrates, zinc ore, zinc concentrates and dry ore from the mines during the year totalled 381,760 tons valued at $21,902,686. As determined by settlement assay the total metal contents of these shipments included 2,356 ounces of gold, 6,701,313 ounces of silver, 250,184,565 pounds of lead and 177,401,660 pounds of zinc.

Comparable statistics for 1924 show that 94 mines were operated by 82 concerns. Of this number 83 mines raised ore totalling 1,200,039 tons, of which 1,087,583 tons were milled, yielding 133,984 tons of lead concentrates and 130,365 tons of zinc concentrates. Shipments of lead ores, lead concentrates, zinc ore, zinc concentrates and dry ore from the mines during 1924 totalled 344,765 tons valued at $16,600,970. As determined by settlement assay the total metal contents of these shipments included 1,691 ounces of gold, 5,096,395 ounces of silver, 202,559,745 pounds of lead and 147,395,308 pounds of zinc.

Capital employed in this industry in 1925 was $15,735,930 including over 11 million dollars in costs of buildings, plant, machinery and tools, about 1 million dollars for costs of supplies and stocks on hand, and 3.4 million dollars in cash, trading and operating accounts. Salaries totalling over $322,000 were paid to 150 people, and wages amounting to over 3.5 million dollars were distributed among 2,388 workers. Fuel used during the year cost $584,000 of which $307,000 was paid out for electric power. Of the total capital invested, over 9 million dollars was employed in British Columbia; and of the total wages more than 3 million dollars were paid out in the same province, thus lending emphasis to the statement made above, regarding the importance of silver-lead-zinc mining in British Columbia.

Table 262.—Principal Statistics of the Silver-Lead-Zinc Industry in Canada, 1921-1925

Year	Number of active operators	Number of operating plants or mines	Capital employed	Number of employees	Salaries and wages paid	Miscellaneous expenses	Cost of fuel and *electricity	Net value of bullion, ore concentrate or residues shipped from the mines and smelters
			$		$	$	$	$
1921	61	72	9,888,421	789	966,171	441,752	78,923	2,177,053
1922	75	91	6,828,980	994	1,371,645	1,150,595	83,530	4,173,812
1923	87	93	9,203,997	1,352	2,024,752	1,667,932	257,574	6,620,067
1924	82	94	12,328,511	1,936	2,943,635	802,882	474,343	16,600,970
1925	89	94	15,735,930	2,538	3,867,613	†	584,121	21,902,686

*For 1921 and 1922 cost of electricity included in miscellaneous expenses.
†No data available.

Table 263.—Capital Employed in the Silver-Lead-Zinc Mining Industry in Canada, 1924 and 1925

Province	Capital employed as represented by			
	Cost of lands, buildings and equipment	Cost of supplies and stock on hand	Cash, trading and operating accounts and bills receivable	**Total**
1924	$	$	$	$
Quebec	150,000	5,000	.....	**155,000**
Ontario	866,640	264,678	5,834	**1,137,152**
British Columbia	7,624,835	633,342	360,088	**8,618,265**
Yukon	1,893,091	309,548	215,455	**2,418,094**
Canada	**10,534,566**	**1,212,568**	**581,377**	**12,328,511**
1925				
Quebec	2,852,755	41,100	348,789	**3,242,644**
Ontario	867,256	68,567	13,910	**949,733**
British Columbia	5,775,632	658,466	2,751,499	**9,185,597**
Yukon	1,777,045	274,626	306,285	**2,357,956**
Canada	**11,272,688**	**1,042,759**	**3,420,483**	**15,735,930**

Table 264.—Employees, Salaries and Wages in the Silver-Lead-Zinc Mining Industry in Canada 1924 and 1925

Province	1924						1925					
	Number of employees					Salaries and wages	Number of employees					Salaries and wages
	On salary	Wage earners			**Total employees**		On salary	Wage earners			**Total employees**	
		Surface	Underground	Mill				Surface	Underground	Mill		
	No.	No.	No.	No.	No.	$	No.	No.	No.	No.	No.	$
Quebec	9	17	70	39	**135**	76,753	11	74	130	69	**284**	262,838
Ontario	8	8	109	41	**166**	219,211	9	8	119	38	**174**	249,314
British Columbia	100	403	730	277	**1,510**	2,372,457	120	627	890	323	**1,960**	3,138,905
Yukon	9	59	57	....	**125**	275,214	10	53	47	10	**120**	216,496
Canada	**126**	**487**	**966**	**357**	**1,936**	**2,943,635**	**150**	**762**	**1,186**	**440**	**2,538**	**3,867,613**

Table 265.—Number of Wage-Earners Employed in the Silver-Lead-Zinc Mining Industry in Canada, by Months, 1924 and 1925

Month	1924			1925		
	Surface	Underground	Total	Surface	Underground	Total
January	619	789	1,408	845	946	1,791
February	655	799	1,454	845	971	1,816
March	692	851	1,543	877	942	1,819
April	722	860	1,582	932	943	1,875
May	778	945	1,723	1,048	968	2,016
June	818	961	1,779	1,128	1,058	2,186
July	796	994	1,790	1,153	1,068	2,221
August	822	1,002	1,824	1,193	1,154	2,347
September	874	1,045	1,919	1,271	1,204	2,475
October	908	903	1,811	1,308	1,244	2,552
November	904	894	1,798	1,263	1,226	2,489
December	699	815	1,514	1,066	1,169	2,235
Average	844	966	1,810	1,202	1,186	2,388

Table 266.—Ore Mined and Milled in the Silver-Lead-Zinc Mining Industry, 1924 and 1925

Production	Ontario and Quebec	British Columbia	Yukon	Canada
1924	Tons	Tons	Tons	Tons
Ore mined	74,932	1,121,343	764	1,200,039
Ore milled	74,932	1,012,651	.....	1,087,583
Concentrates produced—lead	3,286	130,698	.....	133,984
" " zinc	.....	130,365	.....	130,365
1925				
Ore mined	163,634	1,282,741	28,389	1,474,764
Ore milled	163,634	1,188,823	40,435	1,392,892
Concentrates produced—lead	6,682	164,459	2,524	173,665
" " zinc	15,157	158,737	.....	173,894

Table 267.—Products Shipped by Silver-Lead-Zinc Mines in Canada, 1924 and 1925

Location of mines	No. of mines shipping	Product shipped	Quantity shipped	Net value at shipping point	Total metal content as determined by settlement assay			
					Gold	Silver	Lead	Zinc
1924			tons	$	oz.	oz.	lb.	lb.
Quebec and Ontario	3	Lead ore	.....	.....	.....	.....	.....	.....
		Lead concentrates	4,505	506,797	833	83,383	6,059,733	7,700
		Zinc concentrates	3,034	90,674	.....	.....	136,400	3,628,560
		Total	7,539	597,471	833	83,383	6,196,133	3,636,260
British Columbia	76	Lead ore	16,732	937,150	521	1,029,675	7,583,748	1,419,429
		Lead concentrates	130,630	10,672,543	197	2,982,073	165,532,094	16,303,481
		Zinc ore	57,771	337,036	6	262,635	11,840,375	13,539,465
		Zinc concentrates	130,564	3,882,561	106	485,517	10,395,846	112,475,606
		Dry ore	207	14,062	28	22,689	7,638	1,050
		Total	335,904	15,843,352	858	4,782,589	195,359,701	143,739,031
Yukon	4	Lead ore	1,322	160,147	.....	230,423	1,003,911	20,017
Canada	83		344,765	16,600,970	1,691	5,096,395	202,559,745	147,395,308
1925								
Quebec and Ontario	3	Lead ore	.....	.....	.....	.....	.....	.....
		Lead concentrates	7,291	821,728	1,090	166,500	9,425,591	437,900
		Zinc concentrates	13,531	515,645	744	66,700	304,300	12,644,431
		Total	20,822	1,337,373	1,834	233,200	9,729,891	13,082,331
British Columbia	77	Lead ore	33,952	1,860,599	306	1,129,892	18,959,165	3,228,064
		Lead concentrates	164,428	11,988,836	146	3,757,375	207,202,725	19,755,026
		Zinc ore	886	39,107	15	46,196	62,017	639,683
		Zinc concentrates	158,755	5,927,178	55	564,204	12,142,037	140,696,514
		Dry ore	1,009	14,761	.....	29,252	4,000	42
		Total	359,030	19,830,481	522	5,526,919	238,370,844	164,319,329
Yukon	2	Lead ore	616	120,618	.....	150,271	730,353	.....
		Lead concentrates	1,292	614,184	.....	790,923	1,353,477	.....
		Total	1,908	734,832	.....	941,194	2,083,830	.....
Canada	82		381,760	21,902,686	2,356	6,701,313	250,184,565	177,401,660

Table 268.—Shipments of Lead Ores, Concentrates and Dry Ore from Canadian Mines, 1913-1925

Year	Shipments		Lead content in pounds	Silver content in ounces
	Tons	Value		
		$		
1913	85,978	3,276,812	53,807,570	2,564,155
1914	70,207	2,652,802	50,527,130	2,501,820
1915	73,752	2,958,394	48,708,005	2,954,175
1916	84,516	4,568,500	54,124,628	2,582,952
1917	46,799	3,866,862	38,696,116	1,670,064
1918	75,256	4,705,573	46,843,602	2,314,542
1919	54,508	3,044,839	32,147,989	2,185,376
1920	69,493	2,985,848	36,325,507	2,882,178
1921	15,259	671,313	9,517,616	989,374
1922	27,203	1,803,575	21,335,850	2,163,637
1923	76,886	4,692,755	66,770,926	3,745,129
1924	153,396	12,290,699	180,187,124	4,348,243
1925	208,588	15,420,756	237,675,311	6,024,132

Table 269.—Shipments of Zinc Ores from Canadian Mines, 1898-1925

Year	Zinc ore shipped		Metallic zinc in ore shipped	Year	Zinc ore shipped		Metallic zinc in ore shipped
	Tons	Value	Pounds		Tons	Value	Pounds
		$				$	
1898	1,162	11,000	788,000	1912	6,415	215,149	5,354,700
1899	865	18,165	814,000	1913	7,889	186,827	7,069,800
1900	261	4,810	212,000	1914	10,893	262,563	9,101,460
1901*				1915	14,895	554,938	12,231,439
1902	158	1,659	142,200	1916	82,077	1,086,249	48,498,078
1903	1,000	10,500	900,000	1917	116,489	1,323,985	64,655,713
1904	597	3,700	477,568	1918	121,200	1,228,195	63,026,464
1905	9,413	139,200	*	1919	135,535	1,049,493	59,959,709
1906	1,154	23,800	*	1920	249,336	1,157,844	91,033,202
1907	1,573	49,100	*	1921	297,406	1,498,716	98,799,093
1908	452	3,215	*	1922	356,096	2,357,849	102,975,964
1909†	18,371	242,699	16,468,204	1923	279,229	1,853,114	96,148,734
1910	5,063	120,003	4,361,712	1924	191,369	4,310,271	129,613,631
1911	2,590	101,072	2,346,849	1925	173,172	6,481,930	153,980,628

*Figures not available. †Includes 7,424 tons shipped late in 1908.

Table 270.—Destination of Shipments from Silver-Lead-Zinc Mines in Canada, 1924 and 1925

Product shipped	Tons shipped	Net value at shipping point	Total metal content as determined by settlement assay			
			Gold	Silver	Lead	Zinc
1924		$	oz.	oz.	lb.	lb.
To Canadian Smelters—						
Lead ore	15,149	788,337	237	784,244	6,893,298	1,419,145
Lead concentrates	133,916	11,054,512	197	2,982,073	170,551,579	16,303,481
Zinc ore	57,771	337,036	6	262,635	11,849,375	13,539,465
Zinc concentrates	73,529	2,211,546	106	368,495	6,110,769	61,085,803
Dry ore	207	14,062	28	22,689	7,638	1,050
Total	**280,572**	**14,405,493**	**574**	**4,420,136**	**195,403,659**	**92,348,944**
To Foreign Smelters—						
Lead ore	2,905	308,966	284	475,854	1,694,361	20,301
Lead concentrates	1,219	124,828	833	83,383	1,040,248	7,700
Zinc ore						
Zinc concentrates	60,069	1,761,689		117,022	4,421,477	55,018,363
Total	**64,193**	**2,195,477**	**1,117**	**676,259**	**7,156,086**	**55,046,364**
1925						
To Canadian Smelters—						
Lead ore	33,699	1,825,748	286	1,093,184	18,938,416	3,206,969
Lead concentrates	158,620	11,846,201	146	3,550,724	201,066,238	18,439,838
Zinc ore	886	39,107	15	46,196	62,017	639,683
Zinc concentrates	129,099	4,837,320	55	518,912	10,004,727	112,910,307
Dry ore	1,009	14,761		29,252	4,000	42
Total	**323,313**	**18,573,137**	**502**	**5,238,268**	**230,075,398**	**135,196,839**
To Foreign Smelters—						
Lead ore	869	145,499	20	186,979	751,102	21,095
Lead concentrates	14,391	1,578,547	1,090	1,164,074	16,915,555	1,753,088
Zinc ore						
Zinc concentrates	43,187	1,605,503	744	111,992	2,442,510	40,430,638
Total	**58,447**	**3,329,549**	**1,854**	**1,463,045**	**20,109,167**	**42,204,821**

THE NICKEL-COPPER INDUSTRY

Definition of the Industry.—The nickel-copper industry in Canada includes the mining, smelting, and to a certain extent, the refining of the nickel-copper ores of the Sudbury district of the province of Ontario. Smelting operations are carried on in close proximity to the mines, while of the two companies operating, one refines in Ontario at Port Colborne and the other at Clydach, Wales.

Historical.—Construction of Canadian railways has been responsible in several cases for the discovery of valuable mineral deposits and one of the most outstanding is the discovery of the nickel-copper ores when the Canadian Pacific Railway was being built through the Sudbury district in 1883. The first ores that were discovered were high in copper and were worked primarily in 1886 for the copper content, the presence of nickel not being detected until 1887. Just about this time the use of nickel in the manufacture of nickel steel was introduced and the resulting demand for nickel was the main reason for the successful development of this large industry. Nickel steel was made in large quantities for armament purposes, and nickel production reached its peak during the great war. After hostilities ceased, the demand for nickel was considerably reduced and the nickel industry was depressed. Aggressive research and extensive advertising led to new uses for the metal and thus being found new demands were created, with the result that the nickel industry is now established on a firm peace-time basis and production is gradually approaching the peak production of war-time. During the year 1925 there were 1,264,748 tons of ore raised and shipped either to the concentrator or direct to the smelter, the metallic content being about 22,000 tons of copper and 42,600 tons of nickel.

Sources of Nickel.—More than 85 per cent of the world's supply of nickel is mined in Canada and the remainder comes from New Caledonia and Norway. A small amount of nickel is found in the ores of the Cobalt district and is recovered by the smelters operating on the products of the mines from that area.

Mining.—During 1925 the Mond Nickel Company operated the Garson, Worthington, Levack and Frood Extension mines, while the International Nickel Company of Canada operated the Creighton mine. Some ore was also raised from the Frood mine for experimental purposes. The ore in the Sudbury district averages from 2 to 4 per cent of nickel and from 1 to 3 per cent of copper, and is a mixture of the sulphides of copper and nickel and iron in the form of pyrrhotite and chalcopyrite associated with norite, a basic intrusive rock. Open pit methods of mining were first used, but later, underground workings were adopted. Shafts are sunk and haulage ways are driven into a solid foot wall, the ore being intersected at intervals by cross cuts. The ore is usually hoisted to rock houses where in most cases it is crushed and hand-sorted, giving a high-grade smelting product. The handling of the ore from the Frood Mine is an exception to this practice, as it cannot be hand-sorted satisfactorily because the valuable minerals are finely disseminated through the enclosing rock, making it necessary to crush and concentrate before smelting.

Smelting.—The operating companies use different methods in the preparation of the ore for smelter. The International Nickel Company heap-roasts the coarse ore before smelting, and the Mond Nickel Company roasts only the fines and flue dust on Dwight-Lloyd Sintering machines. Both companies smelt in water-jacketed furnaces, producing a slag which goes to the dump and a matte which contains 15 to 25 per cent of copper-nickel. The matte is then sent to a basic converter where practically all of the iron and part of the sulphur are eliminated. The product of these converters, which is known as bessemer matte, contains about 80 per cent copper-nickel, 19.5 per cent sulphur and 0.5 per cent iron, and is then shipped to the refineries for further treatment.

The International Nickel Company ships some matte to the Port Colborne refinery, where converter copper, electrolytic nickel, refined nickel and nickel oxide are produced; residues from the electrolytic process containing gold, silver, platinum, palladium and other precious metals are exported to the United States for further treatment. The remainder of the matte is shipped to Huntingdon, West Virginia, U.S.A., to be manufactured into monel metal, an alloy of copper and nickel in which the constituents are present in the

same proportions in which they occur in the ore and are not separated during refining process. A considerable market has been built up for this alloy because of its resistance to corrosion. Chemical works, creameries, and other plants of a similar nature, are gradually increasing their uses of this metal.

The Mond Nickel Company ships the smelter product to the refinery at Clydach, Wales, where nickel metal of very high purity is made. The copper is converted to copper sulphate, the market for this material being in southern France and Italy, where it is used as an insecticide in vineyards of those countries.

In 1925 nickel smelters received 1,264,748 tons of ore and smelted 1,258,849 tons from which 70,286 tons of matte were made containing 36,596 tons of nickel and 19,636 tons of copper. Shipments during the year to Canadian refineries amounted to 38,567 tons of copper-nickel matte and to United States and British refineries, 32,397 tons.

The capital employed in the nickel-copper mining, smelting and refining industry amounted to approximately 66 million dollars and included the cost of lands, buildings, plant, machinery and tools, supplies and product on hand, cash, trading and operating accounts at the different mines, smelters and refineries.

Salaried employees numbered 163 persons, who received $455,055 for their services. There was an average of 3,270 wage-earners, 1,392 of whom worked in and about the mine and 1,878 around the smelters and refinery; the wages paid to these were in the neighbourhood of 4.5 million dollars.

The total fuel and electricity used amounted to more than 2.5 million dollars in value, of which $242,000 was expended for electric power, over 1.5 million dollars for coke, $500,000 for bituminous coal, $300,000 for fuel oil, the remainder being made up of minor fuel, such as anthracite coal, gasoline, wood and gas. Miscellaneous expenses amounted to nearly 3 million dollars which included taxes, royalties paid and other sundry expenses.

Table 271.—Principal Statistics of the Nickel-Copper Mining Industry in Canada 1921-1925

Year	Number of operators	Number of operating plants or mines	Capital employed	Number of employees	Salaries and wages	Miscellaneous expenses	Cost of fuel and *electricity	Net value of bullion ore, concentrates or residues shipped from the mines and smelters
			$		$	$	$	$
1921	3	8	8,107,245	855	734,236	641,036	52,551	1,575,558
1922	2	5	8,455,183	440	582,042	608,809	5,828	1,557,414
1923	3	4	23,168,812	1,081	1,421,086	1,386,605	181,729	3,562,065
1924	3	7	37,189,778	1,421	1,880,823	1,673,492	150,460	4,235,934
1925	2	6	38,691,594	1,412	1,867,217	874,323	105,570	3,794,244

* For 1921 and 1922 cost of electricity is included with miscellaneous expenses.

Table 272.—Capital Employed in the Nickel-Copper Industry in Canada, 1924 and 1925

—	1924	1925
	$	$
Lands, buildings, plant machinery and tools:—		
Mines	36,778,684	38,316,904
Smelters	14,769,823	10,835,724
Refineries	9,600,702	6,370,480
Cost of materials and supplies on hand	7,653,042	4,907,157
Cash, trading and operating accounts and bills receivable	1,954,218	5,315,404
Total	**70,756,469**	**65,745,669**

Table 273.—Salaried Employees by Classes, and Salaries Paid in the Nickel-Copper Industry in Canada, 1924 and 1925

—	At the mines		At the smelters		At the refineries		Total	
	No.	Salaries	No.	Salaries	No.	Salaries	No.	Salaries
		$		$		$		$
1924								
Superintendents, managers, etc.	7	35,050	25	97,022	7	39,095	39	171,167
Technical employees—								
Engineers, surveyors, chemists, draughtsmen, etc.	9	13,913	29	60,358	33	43,800	71	118,071
Clerks, stenographers, etc.	11	16,923	45	75,949	67	125,493	123	218,365
Total	27	65,886	99	233,329	107	208,388	233	507,603
1925								
Superintendents, managers, etc.	7	36,300	12	88,200	3	25,200	22	149,700
Technical employees—								
Engineers, surveyors, chemists draughtsmen, etc.	7	14,154	24	69,741	12	21,002	43	104,897
Clerks, stenographers, etc.	6	14,284	35	63,651	57	122,523	98	200,458
Total	20	64,738	71	221,592	72	168,725	163	455,055

Table 274.—Number of Employees by Months and Wages Paid in the Nickel-Copper Industry in Canada, 1924 and 1925

—	At the mines			At the smelters	At the refineries	Total
	Surface	Under ground	Total			
	No.	No.	No.	No.	No.	No.
1924						
January	393	937	1,330	1,597	911	3,838
February	420	968	1,388	1,618	982	3,988
March	505	1,066	1,571	1,636	949	4,156
April	501	1,064	1,565	1,632	925	4,122
May	523	1,073	1,596	1,649	994	4,239
June	524	1,111	1,635	1,673	943	4,251
July	543	1,123	1,666	1,622	786	4,074
August	403	788	1,191	1,135	384	2,710
September	401	761	1,162	1,136	369	2,667
October	425	792	1,217	1,123	449	2,789
November	441	779	1,220	1,168	483	2,871
December	410	784	1,194	1,188	572	2,954
Total wages 1924 $	.....	.....	1,814,937	1,867,712	1,044,662	4,727,311
1925						
January	441	868	1,309	1,201	526	3,036
February	463	904	1,367	1,202	610	3,179
March	503	907	1,410	1,236	594	3,240
April	523	904	1,427	1,255	479	3,161
May	509	892	1,401	1,253	593	3,247
June	519	892	1,411	1,231	609	3,251
July	494	877	1,371	1,235	441	3,047
August	641	845	1,486	1,268	584	3,338
September	561	865	1,426	1,308	627	3,361
October	549	873	1,422	1,333	609	3,364
November	500	921	1,421	1,278	572	3,271
December	472	895	1,367	1,301	594	3,262
Total wages 1925 $	.....	.....	1,802,479	1,684,571	917,794	4,404,844

Table 275.—Output from Nickel-Copper Mines and Smelters in Canada, 1924 and 1925

—		1924	1925
Ore mined	Tons	1,411,978	1,264,748
Ore shipped	"	1,354,650	1,264,748
Content of ores, etc., shipped:			
Copper	Lb.	42,349,039	44,007,830
Nickel	"	81,068,547	85,305,242
Ores and concentrates treated at smelters	Tons	1,307,693	1,258,849
Matte produced	"	65,944	70,286
Content of matte:			
Copper	Lb.	36,979,424	39,272,899
Nickel	"	69,276,313	73,191,262
Matte shipped to Canadian refineries	Tons	34,835	38,567
Matte exported to foreign refineries	"	26,565	32,397

Table 276.—Output from Nickel-Copper Refineries in Canada, 1924 and 1925

—		1924		1925	
		Quantity	Value	Quantity	Value
			$		$
Matte received	Tons	34,428	.....	38,534	.....
Matte treated	"	37,613	.....	38,352	.....
Products made—					
Refined nickel	Lb.	a 25,448,868	5,313,582	31,765,325	7,267,004
Nickel oxide	"	12,064,870	2,056,259	11,329,713	2,686,395
Converter and refined copper	"	17,918,911	2,258,846	20,139,746	2,701,360
Gold	Fine oz.	878	17,531	866	17,326
Silver	"	58,145	38,607	66,323	45,716
Platinum	"	1,353	139,102	468	48,081
Palladium	"	1,744	117,887	677	48,765
Iridium and rhodium	"	593	51,120	432	40,242
Total value		.....	**9,992,934**	.....	**12,854,889**

(a) Electrolytic nickel and nickel shot.

THE NON-FERROUS SMELTING AND REFINING INDUSTRY

Definition of the Industry.—In this report the only metallurgical industries considered are those which operate mainly on Canadian ores; these include the smelting of copper ores, smelting and refining of silver-lead-zinc ores, smelting and refining of nickel-copper ores, and the smelting and refining of the silver-cobalt ores. Cyaniding of gold and silver ores has been considered a part of mining operations as it has been found impossible to draw any line of demarcation between the mining proper and operations carried on above ground that give treatment of one kind or another to the crude ore after it is mined.

Location of the Smelters.—Canadian smelters generally have been built by mining companies desiring to treat their own ores and to buy customs' ore as well. Smelter locations in most cases have been governed by the proximity of the ore to be treated; for instance, at Anyox, B.C., copper ore from the Hidden Creek mine is smelted by the Granby Consolidated Mining, Smelting and Power Company, Limited. The Hidden Creek mine is in a position to supply the raw material which keeps the smelter going but customs' ore is treated there as well. The blister copper containing some silver and gold made at this smelter is shipped to United States refineries for further treatment. At Trail, B.C., the Consolidated Mining and Smelting Company treats silver-lead-zinc ores and copper-gold-silver ores from its own properties as well as from other mines. Ore from the Sullivan mine is the main source of supply at present and the enormous increase in production from this property has been the reason for the enlargement of the Trail smelter during the past few years. This company produces refined zinc, lead, copper, silver and gold and a small amount of copper sulphate, and also exports some base bullion.

In Ontario the Mond Nickel Company, Limited, and the International Nickel Company of Canada, Limited, treat the copper ores of the Sudbury district at Coniston and Copper Cliff respectively, making a copper-nickel matte. The International Nickel Company operates a refinery at Port Colborne where electrolytic nickel, nickel shot, nickel oxide and converter copper are produced. Residues from the electrolytic plant at the refinery contain gold, silver, platinum, palladium, rhodium, ruthenium, osmium and iridium and are shipped to the refineries in the United States for separation. The Mond Nickel Company exports matte to Clydach, Wales, where a high-grade nickel metal is made. The copper in the matte is recovered as copper sulphate and is sold for insecticidal and fungicidal purposes in the vineyards of southern France and Italy.

The silver-cobalt-nickel ores of the Cobalt district are either treated in Canada by the Deloro Smelting and Refining Company at Deloro, or are exported to the United States or Europe. The Canadian smelter treating these ores produces fine silver, white arsenic, cobalt and nickel oxides, cobalt and nickel salts, cobalt and nickel metal and an alloy of cobalt, chromium and tungsten known as "stellite" which is used as a high-speed cutting tool in machine shops. Another departure, instituted by this company during the last few years, is the manufacture of insecticides, such as paris green, lead arsenate, lime arsenate, and different dusting materials.

A small smelter is operated in Ontario by the Kingdon Mining, Smelting and Manufacturing Company in conjunction with the mining of galena at Galetta, in Carleton county. As the smelting of this ore is comparatively easy and of minor importance when compared with the mining and milling operations and as it is difficult to separate the general statistics dealing with the mining, milling and smelting operations of this company, smelter statistics have been included with mining and milling and are omitted in the figures hereafter given.

General Statistics.—Capital actually employed in the metallurgical plants of Canada during 1925 amounted to approximately 62 million dollars as against 66 million dollars in 1924. This amount was made up of approximately 39 million dollars in lands, buildings, plant, machinery and tools, 13 millions in supplies on hand, finished products, ore waiting to be treated, and 10 millions in cash, trading and operating accounts and bills receivable.

There were 5,104 salaried workers and wage-earners employed in the industry to whom $8,568,997 was paid.

Fuel used during the period amounted to over 5 million dollars in value and included about $800,000 worth of bituminous coal, $2,600,000 worth of coke and over $500,000 worth of fuel oil. The cost of electric power consumed was over $1,200,000. Miscellaneous expenses totalled nearly 6 million dollars. Products sold by the smelters reached a value of about 56.6 million dollars and the cost of ores treated was estimated at about 27 million dollars.

Table 277.—Principal Statistics of the Metallurgical Industry in Canada, 1921-1925

Year	Number of active operators	Number of operating plants or mines	Capital employed	Number of employees	Salaries and wages paid	Miscellaneous expenses	Cost of fuel and electricity	Net Value of bullion, ore, concentrates or residues shipped from the mines and smelters
			$		$	$	$	$
1921	9	14	82,206,253	3,682	4,406,957	6,538,522	3,097,514	15,332,277
1922	8	13	63,160,551	3,384	5,042,787	8,140,628	1,031,572	16,465,205
1923	8	10	64,290,931	4,968	7,930,236	6,472,676	5,221,278	20,414,963
1924	7	9	66,337,664	5,521	8,136,251	6,884,890	4,765,483	21,760,273
1925	5	6	61,691,928	5,104	8,568,997	5,740,829	5,280,674	29,304,384

Table 278.—Capital Actually Employed in the Metallurgical Plants of Canada, 1924 and 1925

Item	1924				1925			
	Lands, buildings plant, machinery and tools	Materials on hand, supplies, finished products, ore on dump	Cash, trading, and operating accounts, bills receivable	Total	Lands, buildings, plant, machinery and tools	Materials on hand, supplies, finished products, ore on dump	Cash trading and operating accounts, bills receivable	Total
	$	$	$	$	$	$	$	$
Nickel-copper smelters and refineries	24,370,525	7,241,948	1,954,218	33,566,691	17,206,204	4,532,467	5,315,404	27,054,075
Silver-cobalt smelters	1,176,220	398,585	2,423,752	3,998,557	1,267,267	414,229	1,958,589	3,640,085
Copper, lead and zinc smelters and refineries	21,394,591	6,216,852	1,160,973	28,772,416	20,796,550	7,712,499	2,488,719	30,997,768
Total	46,941,336	13,857,385	5,538,943	66,337,664	39,270,021	12,659,195	9,762,712	61,691,928

Table 279.—Employees, Salaries and Wages in the Metallurgical Works in Canada, 1924 and 1925

Group	1924				1925			
	On smelter pay-roll		On refinery pay-roll		On smelter pay-roll		On refinery pay-roll	
	No. of employees	Salaries and wages	No. of employees	Salaries and wages	No. of employees	Salaries and wages	No. of employees	Salaries and wages
		$		$		$		$
Nickel-Copper Smelters and Refineries—								
Salaried employees	99	233,329	107	208,388	71	221,592	72	168,725
Wage-earners	1,640	1,867,712	883	1,044,662	1,308	1,684,571	570	917,794
Silver-Cobalt-Nickel Smelters and Refineries Combined—								
Salaried employees	56	131,795	.....	.....	43	123,396	.....	.....
Wage-earners	372	341,513	.....	.....	367	339,676	.....	.....
Copper-Lead-Zinc Smelters and Refineries—								
Salaried employees	257	605,673	.....	.....	251	565,529	.....	.....
Wage-earners	2,107	3,703,179	.....	.....	2,422	4,547,714	.....	.....
All the Metallurgical Works—								
Superintendents	70	337,286	7	39,095	55	300,361	3	25,200
Technical employees: engineers, chemists, draughtsmen, etc.	180	369,869	33	43,800	158	358,036	12	21,002
Clerks, stenographers, etc.	162	263,642	67	125,493	152	252,120	57	122,523
Total—Salaried employees	412	970,797	107	208,388	365	910,517	72	168,725
Wage-earners	4,119	5,912,404	883	1,044,662	4,097	6,571,961	570	917,794
Total	**4,531**	**6,883,201**	**990**	**1,253,050**	**4,462**	**7,482,478**	**642**	**1,086,519**

Table 280.—Number of Wage-Earners in the Metallurgical Works in Canada, by Months, 1924 and 1925

Month	1924				1925			
	Nickel-copper smelters an refineries	Silver-cobalt-nickel smelters and refineries	Copper-lead-zinc smelters and refineries	**Total**	Nickel copper smelters and refienries	Silver-cobalt-nickel smelters and refineries	Copper-lead-zinc smelters and refineries	**Total**
January	2,508	412	1,792	**4,712**	1,727	310	2,383	**4,420**
February	2,600	345	1,878	**4,823**	1,812	320	2,361	**4,493**
March	2,585	342	1,927	**4,854**	1,830	334	2,380	**4,544**
April	2,557	346	1,912	**4,815**	1,734	385	2,485	**4,604**
May	2,643	376	1,936	**4,955**	1,846	370	2,291	**4,507**
June	2,616	363	2,080	**5,059**	1,840	362	2,415	**4,617**
July	2,408	378	2,198	**4,984**	1,676	365	2,432	**4,473**
August	1,519	362	2,289	**4,170**	1,852	382	2,405	**4,639**
September	1,505	342	2,270	**4,117**	1,935	381	2,456	**4,772**
October	1,572	332	2,311	**4,215**	1,942	409	2,516	**4,867**
November	1,651	233	2,381	**4,265**	1,850	404	2,470	**4,724**
December	1,760	242	2,297	**4,299**	1,895	377	2,472	**4,744**
Average	**2,523**	**372**	**2,107**	**5,002**	**1,878**	**367**	**2,422**	**4,667**

Table 281.—Ores, Concentrates, etc., Treated in Canadian Smelters, 1924 and 1925

Group	1924	1925
	Tons	Tons
Nickel-Copper—		
Ores treated	1,307,694	1,258,849
Matte produced	65,944	70,286
Matte exported for refining	26,565	32,397
Matte shipped to Canadian Refineries	34,835	38,567
Matte treated in Canadian refineries	37,613	38,352
Silver-Cobalt-Nickel—		
Ores treated	523	1,038
Concentrates treated	3,032	2,311
Residues treated	1,698	852
Other material	.....	28
Copper-Lead-Zinc—		
Copper, ores and concentrates	861,847	850,932
Lead ores	18,036	34,517
Lead concentrates	118,978	158,021
Gold ores (imported)	14,677	18,137
Zinc residues	53,253	77,521
Other ores	571	938
Zinc ore	1,270	1,980
Zinc concentrates	86,768	123,760
" ore (imported)	.....	18

Table 282.—Summary of Expenditures in Metallurgical Works in Canada, 1924 and 1925

Item	1924	1925
	$	$
Estimated cost of ores, etc., treated, in silver-cobalt smelters	2,208,812	2,045,803
Estimated cost of ores, etc., treated, in nickel-copper smelters	3,923,082	3,776,547
Estimated cost of ores, etc., treated, in copper, lead and zinc smelters	14,262,641	21,507,059
Total salaries and wages	8,136,251	8,568,997
Cost of fuel and electricity	*4,765,483	5,280,674
Miscellaneous expenses	6,884,890	5,740,829
Total	**40,181,159**	**46,919,909**

* Includes $945,404 expended for electric power in 1924 and $1,232,120 in 1925.

Table 283.—Products Sold by the Metallurgical Works in Canada, 1925

Industry and Material		Sold	
		Quantity	Value
			$
NICKEL-COPPER SMELTERS AND REFINERIES—			
Matte	tons	32,397	7,884,661
Nickel, nickel oxide and copper		.....	12,654,759
Residues containing gold, silver, platinum, palladium, etc.		.....	1,852,105
Total		.....	22,391,525
SILVER-COBALT SMELTERS AND REFINERIES—			
Silver bullion (fine)	fine oz.	2,813,071	1,985,755
Arsenic As_2O_3	lb.	2,005,252	108,789
Cobalt metal, oxide, salts (metal content)	lb.	823,019	2,114,835
Nickel metal, oxide, salts (metal content)	lb.	441,326	91,462
Speiss residues exported	tons	541	211,991
Copper sulphate	lb.	13,834	692
Silver-lead-bismuth-bullion	lb.	98,714	103,638
Cleanup material	tons	29	32,205
Total		.....	4,649,367
COPPER-LEAD-ZINC SMELTERS—			
Blister copper, refined copper and copper sulphate (copper content)	lb.	30,677,523	4,702,349
Gold	fine oz.	18,441	379,394
Silver	"	4,068,072	2,810,253
Lead and zinc and lead bullion and zinc residues		.....	21,700,905
Total		.....	29,592,901
Total Sales		.....	**56,633,793**

NON-METALLIC MINERAL INDUSTRIES

ASBESTOS

The eastern townships area in the province of Quebec supplies about 85 per cent of the world's production of asbestos. Rhodesia, the second producer, markets only the longer fibre stocks, and is therefore an important competitor, as Canadian mines ship both long and short fibre. The Union of South Africa and Russia have also become more important sources of supply, particularly to European markets. In South Africa, the Transvaal production consists principally of chrysotile, although small quantities of amosite (long fibre) and crocidolite (blue) are also produced; the Cape production is exclusively crocidolite. Cyprus, Italy, the United States, China and Australia also produce small tonnages of asbestos.

Asbestos, owing to its fibrous structure and to the fact that it will not burn, finds many uses as a fireproofing material, particularly in felts, sheets, theatre-drop curtains, mitts, etc., and also as a principal component of roofings, shingles, pipe-coverings, brake linings and wall board, to mention only a few of the better-known uses. In the 1921 issue of this report, there was a description of the method used in grading asbestos in the Quebec mills.

The industry in Canada was represented in 1925 by 14 firms. The amount of capital employed, comprising the value of lands, buildings, plant equipment, cost of materials and supplies on hand at the end of the year, and working capital including cash balances and bills receivable, was $38,133,046.

Employment was furnished to 2,582 persons including 117 salaried employees, and the total disbursements in salaries and wages amounted to $2,997,107. The peak of employment was in November, when 2,661 men were on the rolls.

United States asbestos operators reported a production of 1,123 long tons in 1925. The Rhodesian output in 1925 advanced to a record total for this country of 30,669 long tons, while the quantity of asbestos produced in the Union of South Africa increased slightly to a total of 9,078 long tons.

One of the most valuable developments in the asbestos industry was brought about by the incorporation of the new company which merged many of the segregated operators in Quebec. The Asbestos Corporation, Ltd., obtained a federal charter in November, 1924, under which it acquired control of the following companies: Asbestos Corporation of Canada, Limited; Consolidated Asbestos Limited (owning the Thetford, Belmina and Berlin mines); Federal Asbestos Company; Asbestos Mines Limited; Thetford-Vimy Limited; Maple Leaf Asbestos Corporation Limited; and the Black Lake Asbestos and Chrome Company, Limited. The provisions of this charter, which became operative on January 1, 1926, give the company power to conduct operations throughout Canada.

Table 284.—Principal Statistics of the Asbestos Industry in Canada, 1921-1925

Year	Number of firms	Capital employed	Number of employees	Salaries and wages	Cost of fuel	Miscellaneous expenses	Selling value of products
		$		$	$	$	$
1921	15	41,357,161	2,694	2,657,425	318,633	2,713,440	4,906,230
1922	12	43,997,252	2,572	2,581,644	265,962	2,704,462	5,552,723
1923	14	42,715,557	3,165	3,607,178	442,459	2,524,610	7,522,506
1924	15	43,216,966	2,597	2,977,301	293,533	2,173,991	6,710,830
1925	14	38,133,046	2,582	2,997,107	377,064	(*)	8,988,360

(*) Data not available.

Table 285.—Capital Employed in the Asbestos Industry in Canada, 1923, 1924 and 1925

—	1923	1924	1925
	$	$	$
CAPITAL EMPLOYED AS REPRESENTED BY—			
Cost of lands, buildings, plant machinery and tools	36,234,918	37,286,894	33,066,779
Cost of supplies and stock on hand	2,965,687	2,437,151	1,907,057
Cash, trading and operating accounts and bills receivable	3,514,952	3,492,921	3,159,210
Total	**42,715,557**	**43,216,966**	**38,133,046**

Table 286.—Employees, Salaries and Wages in the Asbestos Industry in Canada, 1924 and 1925

—	1924				1925			
	Number			Salaries and wages	Number			Salaries and wages
	Male	Female	Total		Male	Female	Total	
				$				$
SALARIED EMPLOYEES—Total	115	10	125	288,459	107	10	117	280,085
WAGE-EARNERS—								
Mine	1,429	.....	1,429	2,688,845	1,315	.....	1,315	2,717,022
Mill	1,043	.....	1,043		1,150	.....	1,150	
Total	2,472	.....	2,472	2,688,845	2,465	.....	2,465	2,717,022
Grand Total	**2,587**	**10**	**2,597**	**2,977,304**	**2,572**	**10**	**2,582**	**2,997,107**

Table 287.—Number of Wage-Earners in the Asbestos Industry in Canada by Months, 1924 and 1925

Month	1924		1925		Month	1924		1925	
	Mine	Mill	Mine	Mill		Mine	Mill	Mine	Mill
January	1,404	1,046	1,055	1,004	July	1,308	947	1,267	1,184
February	1,429	1,037	1,018	1,027	August	1,189	1,014	1,326	1,197
March	1,577	1,119	1,051	1,033	September	1,242	909	1,288	1,194
April	1,808	1,186	1,063	1,035	October	1,244	1,005	1,342	1,233
May	1,806	1,228	1,054	1,068	November	1,248	1,028	1,380	1,272
June	1,519	1,079	1,213	1,170	December	1,255	1,008	1,323	1,223

Average for 1924 2,472
Average for 1925 2,465

Table 288.—Monthly Average Prices of Asbestos by Grades, 1924 and 1925

(Price per short ton)

(Computed from quotations in the *Engineering and Mining Journal*)

Month	Crude No. 1	Crude No. 2	Spinning fibres	Magnesia and compressed sheet fibres	Shingle stock	Paper stock	Cement stock	Floats stock
1924	$	$	$	$	$	$	$	$
January	388	225	113	75	60	35	19	9
February	350	200	108	75	60	36	23	8
March	350	200	118	75	60	37	23	8
April	350	200	118	75	60	37	23	9
May	350	200	118	75	60	37	23	11
June	363	213	120	85	60	38	23	10
July	363	213	120	85	60	38	23	10
August	350	188	120	76	57	35	18	10
September	313	175	108	70	50	33	20	9
October	350	175	108	65	50	35	20	11
November	350	175	108	65	50	35	20	11
December	313	195	108	65	48	33	20	11
Average	**349**	**197**	**114**	**74**	**56**	**36**	**21**	**10**
1925								
January	363	195	108	78	50	38	20	11
February	363	225	125	83	50	38	20	11
March	388	238	137	83	50	38	20	11
April	400	275	158	90	60	38	20	11
May	410	265	152	90	60	38	20	11
June	413	263	150	90	60	38	20	11
July	450	263	155	90	63	38	10	11
August	450	273	161	98	65	39	11	10
September	425	275	163	95	63	40	10	10
October	425	275	143	93	63	40	10	10
November	450	275	175	125	60	40	25	.....
December	475	288	188	125	70	43	25	.....
Average	**418**	**259**	**151**	**95**	**60**	**39**	**18**	**11**

COAL

Canada's coal reserves are estimated to constitute more than 16 per cent of the world's known available supply and most of these deposits are located in the western provinces although coal of good quality has been mined in the maritime provinces for a great many years, and it is probable that operations in that field will be continued for many years to come.

In 1925, there were 511 coal mines operated in Canada, of which 353 were in Alberta, 55 in Saskatchewan, 47 in Nova Scotia, 16 in New Brunswick, 39 in British Columbia, and 1 in the Yukon.

The total capital employed by these mines amounted to $145,006,440, of which 54.1 million dollars was invested in Nova Scotia mines; 53.1 million dollars in Alberta mines and 32.9 million dollars in British Columbia properties.

Owing largely to labour troubles in the eastern coal mines, the average number of employees on Canadian coal mine staffs in 1925 dropped to 25,032 as compared with an average of 27,183, for the preceding year. Salaries and wages showed a fall of almost 2 million dollars to $33,200,309 as compared with $35,123,490 in 1924. The fluctuations in coal-mine employment as shown in the dominion total, corresponded almost exactly with the changes observed in employment in the eastern mines. In Nova Scotia, the average number employed during the year dropped to 8,853 as compared with 12,994 on the rolls in 1924; Alberta's average was 9,345 as against 7,783 in the preceding year. British Columbia mines employed 5,622 men as compared with 5,203 in the preceding year.

Closely related in point of interest to the number of employees, are the data concerning the number of days' work done and the wages paid. In 1925, excluding the salaried employees, there were 23,490 men working in the coal mines of Canada; of these 5,787 worked on the surface, and 17,703 underground. Surface men worked on the average 261 days during the year; underground men, 221 days. The total number of man-days' work done during the year was 5,429,531; this number divided into the total sum of wages paid during the year, showed average earnings per man, of $5.51 per working day. In 1924, the average computed on the same basis was $5.62 per day and in 1923 it was $5.57.

Table 289.—Capital Employed in the Coal Mines of Canada by Provinces as at December 15, 1924 and 1925

Province	1924				1925			
	Capital employed as represented by				Capital employed as represented by			
	Cost of lands buildings, plant machinery and tools	Cost of supplies and stock on hand	Cash trading and operating accounts and bills receivable	Total	Cost of lands buildings, plant machinery and tools	Cost of supplies and stock on hand	Cash trading and operating accounts and bills receivable	Total
	$	$	$	$	$	$	$	$
Nova Scotia	48,096,232	3,108,035	3,503,977	54,708,244	47,691,027	2,660,857	3,797,594	54,149,478
New Brunswick	1,242,828	43,236	522,290	1,808,354	1,229,267	33,348	459,961	1,722,576
Saskatchewan	2,545,523	59,384	297,913	2,902,820	2,543,226	58,990	224,621	2,826,837
Alberta	44,474,725	1,152,713	7,075,493	52,702,931	44,946,996	1,101,274	7,069,303	53,117,573
British Columbia	31,896,185	774,181	1,716,316	34,386,682	30,474,850	768,744	1,743,582	32,987,176
Yukon	202,500	.....	.....	202,500	202,500	300	.....	202,800
Canada	**128,457,993**	**5,137,549**	**13,115,989**	**146,711,531**	**127,087,866**	**4,623,513**	**13,295,061**	**145,006,440**

Table 290.—Number of Employees, Salaries and Wages Paid in the Coal Mines in Canada, by Provinces, 1925

Province	Average number of employees					Salaries and wages		
	Salaried employees		Wage-earners		Total	Salaries	Wages	Total
	Male	Female	Surface	Underground				
						$	$	$
Nova Scotia	486	34	1,644	6,689	8,853	965,997	10,707,656	11,673,653
New Brunswick	24	2	146	468	640	59,036	536,871	595,907
Saskatchewan	47	4	125	392	568	85,305	471,546	556,851
Alberta	630	29	2,248	6,438	9,345	1,496,981	10,980,196	12,477,177
British Columbia	265	21	1,623	3,713	5,622	694,494	7,199,205	7,893,699
Yukon	.....	.....	1	3	4	.....	3,022	3,022
Canada	**1,452**	**90**	**5,787**	**17,703**	**25,032**	**3,301,813**	**29,898,496**	**33,200,309**

Table 291.—Number of Wage-Earners in the Coal Mines of Canada by Months and by Provinces, 1924 and 1925

Month		Nova Scotia	New Brunswick	Saskatchewan	Alberta	British Columbia	Yukon	Canada
January	1924	13,144	603	728	12,047	5,978	.....	**32,500**
	1925	12,233	642	755	11,938	5,494	.....	**31,062**
February	1924	12,928	621	636	11,234	6,023	.....	**31,442**
	1925	12,223	632	647	10,440	5,504	.....	**29,446**
March	1924	13,253	649	537	9,614	5,682	.....	**29,735**
	1925	9,327	570	547	8,648	5,428	.....	**24,520**
April	1924	13,371	622	420	2,650	4,350	.....	**21,413**
	1925	2,448	620	369	6,717	5,355	4	**15,513**
May	1924	13,051	629	376	2,758	4,260	.....	**21,074**
	1925	2,330	628	300	6,216	5,014	4	**14,492**
June	1924	12,721	612	380	2,978	4,205	.....	**20,896**
	1925	2,325	651	309	6,634	5,072	4	**14,995**
July	1924	11,587	624	327	2,879	4,234	2	**19,657**
	1925	2,422	619	324	6,247	5,188	4	**14,804**
August	1924	11,476	570	336	3,716	4,227	2	**20,331**
	1925	9,935	627	309	7,069	5,213	4	**23,157**
September	1924	11,753	585	386	4,911	4,314	2	**21,955**
	1925	11,398	589	431	8,590	5,308	4	**26,320**
October	1924	12,199	577	574	10,078	5,180	.....	**28,608**
	1925	11,595	588	713	9,682	5,360	.....	**27,938**
November	1924	12,317	598	757	11,090	5,039	.....	**29,801**
	1925	11,938	590	768	10,862	5,514	.....	**29,672**
December	1924	12,201	613	760	12,008	5,503	.....	**31,091**
	1925	11,831	617	727	11,181	5,582	.....	**29,938**
Average	**1924**	**12,500**	**608**	**519**	**7,163**	**4,916**	**2**	**25,708**
	1925	**8,333**	**614**	**517**	**8,686**	**5,336**	**4**	**23,490**

Table 292.—Average Number of Wage-Earners, Employed in the Coal Mines of Canada, by Classes and by Provinces, 1925

Classification	Province						Canada		
	Nova Scotia	New Brunswick	Saskatchewan	Alberta	British Columbia	Yukon	Surface	Underground	Total
SURFACE—									
Administration	82	14	9	108	37	.....	**223**	**27**	**250**
Foremen and clerks	119	22	17	212	116	.....	**470**	**16**	**486**
Screenmen and loaders	383	15	39	582	182	.....	**1,199**	**2**	**1,201**
UNDERGROUND—									
Officials	290	2	12	333	159	.....	**10**	**786**	**796**
Hand cutters and helpers	1,536	407	250	2,440	1,759	3	**7**	**6,388**	**6,395**
Machine cutters	807	9	12	367	48	.....	.....	**1,243**	**1,243**
Machine loaders and helpers	988	13	38	1,304	92	.....	**2**	**2,433**	**2,435**
Horse haulage employees	493	2	46	636	407	.....	**37**	**1,547**	**1,584**
Mechanical haulage employees	919	.....	2	328	365	.....	**61**	**1,552**	**1,614**
Ventilation employees	233	.....	1	89	54	.....	**5**	**372**	**377**
Roadmakers	179	3	15	170	104	.....	**4**	**467**	**471**
Timbermen	398	17	6	288	173	.....	**17**	**865**	**882**
Pumpmen	99	5	6	51	47	.....	**11**	**197**	**208**
MISCELLANEOUS—									
Enginemen	166	12	12	172	87	1	**436**	**14**	**450**
Firemen	133	3	12	117	70	.....	**335**	.....	**335**
Machinists	180	1	2	74	77	.....	**328**	**6**	**334**
Carpenters and masons	85	3	5	71	80	.....	**243**	**1**	**244**
Other mechanics	146	3	2	119	136	.....	**384**	**102**	**486**
All other white employees	1,097	83	31	1,225	837	.....	**1,835**	**1,438**	**3,273**
Japanese	.....	.....	.....	.....	88	.....	**24**	**64**	**88**
Chinese	.....	.....	.....	.....	416	.....	**235**	**181**	**416**
Indians	.....	.....	.....	.....	2	.....	**1**	**1**	**2**
Total	**8,333**	**614**	**517**	**8,686**	**5,336**	**4**	**5,787**	**17,703**	**23,490**

Table 293.—Number of Wage-Earners, Work Done by Months, and Wages Paid in the Coal Mines of Canada, 1925

Month	Number of employees			Days' work done			Total wages
	Surface	Underground	Total	Surface	Underground	Total	
							$
January	6,987	24,075	31,062	153,946	428,359	582,305	Monthly records not available
February	6,635	22,811	29,446	126,481	344,964	471,445	
March	6,049	18,471	24,520	100,695	230,847	331,542	
April	4,456	11,057	15,513	91,116	175,490	266,606	
May	4,311	10,181	14,492	93,123	188,442	281,565	
June	4,416	10,579	14,995	103,346	215,754	319,100	
July	4,290	10,514	14,804	105,269	220,120	325,389	
August	5,881	17,276	23,157	127,239	316,853	444,092	
September	6,312	20,008	26,320	136,112	387,681	523,793	
October	6,503	21,435	27,938	157,978	474,287	632,265	
November	6,798	22,874	29,672	159,917	481,262	641,179	
December	6,819	23,119	29,938	155,617	454,633	610,250	
Total	.....	.....	.....	**1,510,839**	**3,918,692**	**5,429,531**	**29,898,496**
Average	**5,787**	**17,703**	**22,490**	**261 days per year**	**221 days per year**	**231 days per year**	**$ 5·51 per day**

Table 294.—Power Employed in the Coal Mines of Canada, by Provinces, 1925

—	Nova Scotia		New Brunswick		Saskatchewan		Alberta		British Columbia		Canada	
	No. of units	Total H.P. rated	No. of units	Total H.P. rated	No. of units	Total H.P. rated	No. of units	Total H.P. rated	No. of units	Total H.P. rated	No. of units	Total H.P. rated
Stationary engines (including those used for hoisting, pumping, etc.):—												
Steam engines and turbines	112	60,535	15	873	33	1,700	258	29,593	121	20,582	539	113,283
Gas engines	.....	.....	.....	.....	.....	.....	24	106	.....	.....	24	106
Oil and gasoline engines	3	26	.....	.....	5	20	28	234	4	81	40	361
Hydraulic turbines or water wheels	.....	.....	.....	.....	.....	.....	.....	.....	2	12,000	2	12,000
Electric motors:—												
Operated by power generated by the establishment	260	26,231	24	373	15	289	258	6,973	203	14,106	760	47,972
Operated by purchased power	122	2,759	.....	.....	3	18	343	14,529	.....	.....	468	17,306
Boilers installed	159	42,615	10	865	13	1,630	185	20,852	91	13,590	458	79,552
Electric power used during the year—												
Quantity in kilowatt-hours	53,669,155		1,150,000		203,600		22,830,419		18,867,270		96,720,444	
Value $	763,648		30,169		4,120		506,919		266,100		1,570,956	

FELDSPAR

The first record of production in the feldspar industry in Canada dates back to about the year 1890. Production during that year was approximately 700 tons; since that date the records show an increase until in 1924 the maximum production of 44,804 tons was reached.

Development work in this industry was first done on deposits located in Templeton and Hull townships, in the province of Quebec. In the townships of Bedford and Portland, Ontario, near Bedford and Verona, development work was started on large feldspar deposits in 1900. The activities of these Ontario feldspar properties during the next few years, owing to their proximity to the American market (potteries located in New Jersey), were responsible for the almost complete cessation of work on Quebec deposits. A small quantity of high-grade dental spar has been produced from the Villeneuve quarry in Portland township, Quebec, for a number of years.

Plants for the fine-grinding of feldspar in Canada are located at Kingston, Toronto and Oshawa; the first two establishments were operated during 1925, producing about 1,800 tons of ground spar. The grinding capacity of these two plants is approximately 7,500 tons per annum.

Although feldspar occurs in many deposits throughout Canada, operations in this industry in 1925 were confined to the provinces of Ontario and Quebec. A large percentage of the Canadian output is shipped to United States grinding plants in the form of crude spar for use in the ceramic industry.

Twenty-three firms reported operations in 1925, comprising 9 in Quebec and 14 in the province of Ontario.

The feldspar situation in the United States is summed up in the following excerpt from the Department of Commerce report *"Feldspar in 1925"*:

"The production of crude spar in 1925, following overproduction in 1924, and in spite of smaller imports, decreased 9 per cent. The quantity of ground spar sold by merchant mills, on the other hand, increased considerably—12 per cent—but the average value per ton of both crude and ground domestic spar was lower than in 1924. Several mills were added to the already growing list, and the addition of further grinding plants is promised for 1926. The value of the total output of ground feldspar increased 10 per cent compared with 1924.

"Imports of crude feldspar decreased in even greater proportion than did production. In 1925 they constituted less than one-eighth of the total supply of feldspar."

Table 295.—Principal Statistics of the Feldspar Industry in Canada, 1921-1925

Year	Number of firms	Capital employed	Number of employees	Salaries and wages	Cost of fuel	Miscellaneous expenses	Selling value of products
		$		$	$	$	$
1921	23	484,633	143	146,776	4,237	55,628	230,754
1922	25	388,310	225	127,182	5,231	60,829	248,402
1923	25	948,973	298	193,001	13,965	55,542	237,601
1924	25	953,525	290	223,937	16,866	*	358,540
1925	23	712,329	240	165,766	11,141	*	235,789

(*) Data not available.

Table 296.—Capital Employed in the Feldspar Industry in Canada, 1924 and 1925

—	1924	1925
	$	$
CAPITAL EMPLOYED AS REPRESENTED BY:		
Cost of lands, buildings, plant machinery and tools	890,337	648,400
Cost of supplies and stock on hand	38,534	18,430
Cash, trading and operating accounts and bills receivable	24,654	45,499
Total	**953,525**	**712,329**

Table 297.—Employees, Salaries and Wages in the Feldspar Industry in Canada, 1924 and 1925

	Year	Number			Salaries and wages
		Male	Female	Total	
					$
SALARIED EMPLOYEES—Total	1924	9	1	10	20,580
	1925	11	.....	11	19,507
WAGE-EARNERS—Total	1924	280	.....	280	203,357
	1925	229	.....	229	146,259
Grand total	**1924**	**289**	**1**	**290**	**223,937**
	1925	**240**	.....	**240**	**165,766**

Table 298.—Number of Wage-Earners in the Feldspar Industry in Canada, by Months, 1924 and 1925

Month	Number		Month	Number	
	1924	1925		1924	1925
January	218	153	July	298	197
February	205	204	August	276	188
March	191	214	September	240	158
April	176	127	October	251	182
May	247	177	November	220	211
June	279	211	December	166	173
Average for 1924					230
Average for 1925					229

GYPSUM

The first record of the production of gypsum in Canada shows that in 1822 minor operations, consisting of the extraction of a few tons of this commodity for use as fertilizer, were conducted on a bed of gypsum near Paris, Ontario. The first mill for manufacturing gypsum was erected in 1823. Since that date operations in this district have been carried on almost continuously. At the present time the Ontario Gypsum Company, operating at Lythmore and Caledonia, is the only producer.

Prior to 1833, activities in the gypsum industry in Nova Scotia consisted principally of minor operations carried on by individual producers. The crude material was shipped to mills located in the United States. Several attempts were made by local producers to work up the crude rock, but these were not successful owing to the almost total dependence on the American market, and when the United States duty on imports was made prohibitive, all local milling operations ceased. In Nova Scotia the deposits now being worked, in Hants and Victoria counties, yielded 74.4 per cent of the total Canadian production in 1925. The major portion of the gypsum quarried, is shipped as crude material to the United States where it is in demand, as products from Nova Scotia gypsum are considered superior to those produced from the general run of United States rock. Advantageous locations, with nearby rail and seaboard facilities, assisted materially in the continued expansion of this industry in Nova Scotia

The centre of activities in the gypsum industry in New Brunswick is near Hillsborough, Albert county. Operations have been carried on in this district since 1847. In 1854 there was a change in the ownership of the quarries, and shortly after this date a plaster mill was erected to supply both local and export trade. At the present time only one company is carrying on operations in this district. Very pure quality gypsum is produced from the Hillsborough deposits; products made from this material consist of hard wall plaster, finishing plaster and dental plaster of different grades. In addition to shipments to the Canadian markets, considerable quantities are exported to the United States, Australia and New Zealand.

Developments in the gypsum industry in Manitoba are of comparatively recent date, the year 1901 marking the first active work on deposits in the province. The Manitoba Union Mining Company in that year erected a crushing and calcining mill at the head of Portage bay on lake Manitoba. In 1925, the production of gypsum from the deposit at Gypsumville, Manitoba, increased approximately 20 per cent.

In Ontario and Manitoba the raw gypsum was used in 1925, mainly in the manufacture of cement, wall plaster, wall-board, fireproof tile and blocks, and plaster of paris. The British Columbia product was sold as land plaster for agricultural purposes.

Comparative figures for the capital employed by operating gypsum companies in 1924 and 1925 are shown in the following table. As Ontario, Manitoba, and British Columbia were each represented by only one operator, statistics regarding the companies in these provinces have been combined.

Table 299.—Principal Statistics of the Gypsum Industry in Canada, 1921-1925

Year	Number of firms	Capital employed	Number of employees	Salaries and wages	Cost of fuel	Miscellaneous expenses	Selling value of products
		$		$	$	$	$
1921	11	3,849,776	1,039	774,551	116,554	565,839	1,785,538
1922	13	4,092,090	1,055	909,072	127,246	436,705	2,160,898
1923	15	4,249,628	1,225	1,017,556	190,906	552,990	2,243,100
1924	14	4,423,697	1,219	1,114,468	141,818	458,268	2,208,108
1925	15	4,506,995	1,039	1,018,585	131,790	*	2,389,891

*Data not available.

Table 300.—Capital Employed in the Gypsum Industry in Canada by Provinces, 1924 and 1925

—	1924				1925		
	Nova Scotia	New Brunswick	Ontario, Manitoba and British Columbia	**Canada**	Nova Scotia	New Brunswick, Ontario, and Manitoba	**Canada**
	$	$	$	$	$	$	$
CAPITAL EMPLOYED AS REPRESENTED BY—							
Cost of lands, buildings, plant machinery and tools	1,999,854	444,364	1,356,767	**3,800,985**	2,132,294	1,705,235	**3,837,529**
Cost of all materials and supplies on hand	168,500	94,335	126,771	**389,606**	134,096	216,672	**350,768**
Cash, trading and operating accounts and bills receivable	51,586	30,553	150,967	**233,106**	62,999	255,699	**318,698**
Total	**2,219,940**	**569,252**	**1,634,505**	**4,423,697**	**2,329,389**	**2,177,606**	**4,506,995**

Table 301.—Employees, Salaries and Wages in the Gypsum Industry in Canada, 1924 and 1925

—	1924				1925			
	Number			Salaries and wages	Number			Salaries and wages
	Male	Female	Total		Male	Female	Total	
				$				$
SALARIED EMPLOYEES— Total	49	9	58	126,306	41	10	51	127,417
WAGE-EARNERS—								
Mine	913	.....	913	988,162	726	.....	726	891,168
Mill	248	.....	248		262	.....	262	
Total	1,161	.....	1,161	988,162	988	.....	988	891,168
Grand total	**1,210**	**9**	**1,219**	**1,114,468**	**1,029**	**10**	**1,039**	**1,018,585**

Table 302.—Average Number of Wage-Earners in the Gypsum Industry in Canada by Provinces 1925,

Month	Nova Scotia		New Brunswick		Ontario		Manitoba		**Canada**	
	Mine	Mill	Mine	Mill	Mine	Mill	Mine	Mill	**Mine**	**Mill**
January	186	33	75	70	61	62	30	51	**352**	**216**
February	197	34	70	72	52	77	12	61	**331**	**244**
March	176	37	94	72	77	75	17	59	**364**	**243**
April	503	41	95	75	74	83	19	60	**691**	**259**
May	678	49	95	80	81	77	48	60	**902**	**266**
June	720	54	105	85	55	63	45	57	**925**	**259**
July	698	56	84	93	56	79	18	75	**856**	**303**
August	743	56	75	92	57	68	18	73	**893**	**289**
September	728	53	65	90	61	66	17	54	**871**	**263**
October	621	51	60	82	57	65	16	52	**754**	**250**
November	670	45	50	77	42	56	14	50	**776**	**228**
December	603	39	50	80	44	56	7	45	**704**	**220**
Average	**558**	**47**	**76**	**81**	**70**	**76**	**22**	**58**	**726**	**262**

MICA

Important deposits of mica in Canada are located in the counties of Hull and Labelle in Quebec, and Lanark, Leeds and Frontenac in Ontario. The product of these mines, in the main part, is shipped first to mica-trimming shops, conveniently located, where it is either rough-cobbed or split and trimmed prior to exportation to the United States or Great Britain.

Large quantities of scrap mica were shipped to the United States to be ground for use in the manufacture of prepared roofings. According to a survey made in 1923, the consumption of mica by Canadian industries in that year, was as follows: roofing materials, 359 tons; wallpaper, 200 tons; electrical goods, 31 tons; and rubber, 22 tons.

Thirty-six operators in Canada reported shipments of mica during 1925. Of this number 21 were in Quebec, and 15 in Ontario.

Statistics relating to the extensive mica-trimming shops in Ontario and Quebec have not been included in this report, but have been treated under a separate heading in the report on *Manufactures of Non-Metallic Minerals.*

India, United States, Canada, South Africa and Madagascar are the principal mica-producing countries. Only muscovite is produced in each of the first two countries; the Canadian output consists of phlogopite, while the Madagascar production is made up of one-fifth muscovite and the balance phlogopite. It will be seen that the last named country is Canada's chief competitor. Phlogopite or amber mica is used in the construction of electrical equipment in preference to muscovite.

Table 303.—Principal Statistics of the Mica Industry in Canada, 1921-1925

Year	Number of firms	Capital employed	Number of employees	Salaries and wages	Cost of fuel	Miscellaneous expenses	Selling value of products
		$		$	$	$	$
1921	20	576,237	104	74,432	4,354	19,743	70,063
1922	20	441,802	147	64,641	1,807	45,825	152,263
1923	33	223,650	219	112,469	4,772	60,216	326,974
1924	50	249,876	223	127,201	5,532	(*)	357,272
1925	36	190,144	269	123,079	4,528	(*)	261,463

(*) Data not available.

Table 304.—Capital Employed in the Mica Mining Industry in Canada by Provinces, 1924 and 1925

	1924			1925		
	Quebec	Ontario	Canada	Quebec	Ontario	Canada
	$	$	$	$	$	$
CAPITAL EMPLOYED AS REPRESENTED BY—						
Cost of lands, buildings, plant machinery and tools	29,621	32,078	**61,699**	61,638	27,134	**88,772**
Cost of all materials and supplies on hand	49,003	67,822	**116,825**	15,184	54,493	**69,677**
Cash, trading and operating accounts and bills receivable	45,759	25,593	**71,352**	21,708	9,987	**31,695**
Total	**124,383**	**125,493**	**249,876**	**98,530**	**91,614**	**190,144**

Table 305.—Number of Wage-Earners, by Months and Wages Paid in the Mica Industry in Canada, 1924 and 1925

Month	Number		Month	Number	
	1924	1925		1924	1925
January	192	131	July	196	267
February	175	137	August	179	277
March	177	146	September	155	278
April	192	138	October	130	245
May	198	198	November	142	207
June	190	246	December	146	183

Average for 1924	**220**	**Total wages paid in 1924**	**$ 124,668**
Average for 1925	**260**	**Total wages paid in 1925**	**$ 110,753**

NATURAL GAS

No records are available prior to 1892, as to the production of natural gas in Canada. An estimate of the value of gas produced during that year placed the total at $150,000.

The extensive developments of the oilfields in Ontario made available for consumption large quantities of natural gas. From 1892 to 1902 inclusive, Ontario was the only contributor of this commodity. In 1903, the first production from other provinces was recorded. The value of natural gas produced during 1903 was approximately $202,000 and from that year onward there was an annual increase in production until in 1917, the total value was $5,045,298. From that date until 1922, considerable decreases in valuation were recorded. In 1925, the total value of the natural gas produced in this province amounted to $3,958,006.

The principal producing fields in Alberta, during 1925 were the Medicine Hat; Bow Island (about 40 miles west of Medicine Hat); Viking field (80 miles southeast of Edmonton) and the Turner Valley field (about 35 miles southwest of Calgary). The total number of well reported as producing at the end of the year was 81, as compared with 70 wells reported active in 1924.

Interest has been mainly centred around the developments in the Turner Valley field. The Royalite Company, operating in this field, completed a new 10-in. pipe line to Calgary for the transmission of natural gas. This gas is passed through a scrubbing plant at the field before delivery to the pipe line. A peak load of fourteen million feet per day is assured the consumers in Calgary.

The producing wells in the province of New Brunswick are confined to the Stony Creek field in Albert county, about eight miles south of Moncton. The natural gas produced is used largely for power, domestic heating and lighting purposes in Moncton. At the end of 1925 there were 32 wells in operation, 6 more than were reported active at the beginning of the year.

Table 306.—Principal Statistics of the Natural Gas Industry in Canada, 1921-1925

Year	Number of firms	Number of wells	Capital employed	Number of employees	Salaries and wages	Miscellaneous expenses	Selling value of products
			$		$	$	$
1921	103	2,021	30,368,478	885	882,907	1,405,222	4,594,164
1922	132	1,981	31,373,817	921	939,194	1,458,675	5,846,501
1923	192	2,060	38,722,854	867	1,050,366	1,789,097	5,884,618
1924	186	2,031	50,561,757	1,240	1,315,405	(a)	5,708,636
1925	161	2,236	48,895,802	1,059	1,206,875	(a)	6,833,005

(a) Data not available.

Table 307.—Capital Employed in the Natural Gas Industry in Canada by Provinces, 1924 and 1925

—	1924				1925			
	New Brunswick	Ontario	Alberta	Canada	New Brunswick	Ontario	Alberta	Canada
	$	$	$	$	$	$	$	$
CAPITAL EMPLOYED AS REPRESENTED BY—								
Cost of lands, buildings, plant machinery and tools	.....	22,279,988	22,026,163	44,306,151	.....	22,539,124	18,709,542	41,248,666
Cost of all materials and supplies on hand	.....	369,970	531,612	901,582	.....	467,725	515,382	983,107
Cash, trading and operating accounts and bills receivable	.....	2,131,765	2,960,648	5,092,413	.....	3,104,538	3,293,491	6,398,029
Total	**261,611**	**24,781,723**	**25,518,423**	**50,561,757**	**266,000**	**26,111,387**	**22,518,415**	*48,895,802

*Includes data for New Brunswick.

Table 308.—Employees, Salaries and Wages in the Natural Gas Industry in Canada, 1924 and 1925

—	1924				1925			
	Number			Salaries and wages	Number			Salaries and wages
	Male	Female	Total		Male	Female	Total	
				$				$
Salaried Employees—Total	395	65	460	503,461	327	82	409	497,741
Wage-Earners—Total	780	.....	780	811,944	650	.....	650	709,134
Grand total	**1,175**	**65**	**1,240**	**1,315,405**	**977**	**82**	**1,059**	**1,206,875**

Table 309.—Number of Wage-Earners in the Natural Gas Industry in Canada, by Months and by Provinces, 1925

Month	New Brunswick	Ontario	Alberta	Canada
January	8	280	175	**463**
February	8	274	149	**431**
March	21	287	192	**500**
April	30	344	258	**632**
May	28	343	264	**635**
June	29	405	351	**785**
July	28	430	323	**781**
August	26	426	283	**735**
September	26	438	325	**789**
October	25	399	284	**708**
November	24	407	190	**621**
December	21	357	181	**559**
Average	**23**	**381**	**246**	**650**

Table 310.—Number of Gas Wells in Canada, by Provinces, 1924 and 1925

—		New Brunswick	Ontario	Manitoba	Alberta	Canada
Productive wells at beginning of year	1924	21	1,975	1	63	**2,060**
	1925	26	1,934	1	70	**2,031**
Number of productive wells drilled	1924	5	62	.....	9	**76**
	1925	6	75	.....	5	**86**
Number of dry wells drilled	1924	.....	20	.....	.....	**20**
	1925	.....	22	.....	1	**23**
Number of wells abandoned	1924	.....	83	.....	.....	**83**
	1925	.....	176	.....	3	**179**
Productive wells at end of year	1924	26	1,934	1	70	**2,031**
	1925	32	2,117	1	86	**2,236**

Table 311.—Natural Gas Wells in Ontario, by Townships, 1925

Township	No. of producing wells in operation Dec. 31, 1925	No. of wells abandoned this year	No. of dry wells drilled this year	No. of producing wells drilled this year
Amabel	2			
Bayham	43	9		
Bertie	91			
Binbrook	49	14		
Caistor	35	5		
Canboro	142	17		
Cayuga, North	65	4	2	14
Cayuga, South	58	4	1	4
Charlotteville	16			
Crowland	50			
Dawn	5			
Dorchester, North	3			
Dover, West	6	2	1	
Dunn	14	3	2	3
Enniskillen	3			
Euphemia	6			
Gainsboro	5			3
Glanford	23	2		
Gosfield South	10			3
Houghton	3			
Humberstone	96	2	1	3
Mersea	3	1		
Middleton	26	1	3	8
Malahide	2			
Moulton	113	7	3	4
Oakland		1		
Oneida	28	6	1	
Onondaga	32	5		2
Rainham	97	20	3	13
Raleigh	18	2		
Romney	102	3		2
Sarnia	14			
Seneca	136	31		
Sherbrooke	13			
Tilbury, East	135	9		5
Townsend	1			1
Wainfleet	42	4	1	2
Walpole	146	17	3	6
Walsingham, North	6			
Walsingham, South	13			2
Windham	4			
Willoughby	39			
Woodhouse	53	7	1	
Private wells (estimated)	300			
Surface wells	69			
Total	**2,117**	**176**	**22**	**75**

PETROLEUM

Petroleum production in Canada dates back to 1857 when a shallow well was dug near Enniskillen (now known as Oil Springs), in the province of Ontario. Early in January, 1862, a pioneer oil prospector brought in the first flowing well at Oil Springs, Ontario, and before the fall of the same year there were approximately 35 producing wells in operation. According to available information some of these wells produced 3,000 to 6,000 barrels per day.

In 1865, Petrolia came into existence as a large producer and since that date has maintained its position among the leading oil-fields in Canada. Prior to this discovery, oil deposits were located in Kent County, at Bothwell. Although Petrolia, Oil Springs and Bothwell are by far the oldest producing fields in Canada, these three fields continue to rank as the premier producers in Ontario.

On December 31, 1925, there were 2,862 wells in operation in Ontario, while at the close of the previous year, 2,456 wells were active.

The first attempt to develop the oil deposits in Westmoreland county in New Brunswick, was made in 1859. The four wells drilled then were not successful as fresh water seeped in, ruining them. No further drilling was attempted until 1879, then two more wells were sunk, one at St. Joseph and the other at Dover. From 1900 to 1906 some 72 wells were drilled, as follows: 67 in Westmoreland county, 4 in Albert county and 1 in Kent county. This marked the opening up of the present Stony Creek oil and gas field. Fourteen petroleum wells were in operation in this district on December 31, 1925.

Since May, 1914, considerable interest has been taken in the Turner Valley oil field in Alberta. The centre of this field is about 25 miles south of Calgary. In 1925 only 5 companies, operating 9 wells, reported production in this district.

Drilling was commenced early in 1920, in the Mackenzie district about 40 miles below Fort Norman. Operations in this field have been suspended for the present.

In the Coutts-Sweetgrass district, southern Alberta, a number of companies continued drilling operations through 1925, although no production was reported.

Data regarding wells located in New Brunswick have been included in the section on "Natural Gas."

Table 312.—Principal Statistics of the Petroleum Industry in Canada, 1921-1925

Year	Number of firms	Number of wells	Capital employed	Number of employees	Salaries and wages	Miscellaneous expenses	Selling value of products
			$		$	$	$
1921	120	3,009	3,214,159	190	215,791	136,277	641,533
1922	120	2,880	2,764,099	160	167,176	116,678	611,176
1923	117	2,694	2,934,213	151	118,231	79,019	522,018
1924	119	2,473	5,650,086	158	152,957	(*)	467,400
1925	180	2,885	7,954,722	259	318,101	(*)	1,250,705

(*) Data not available.

Table 313.—Capital Employed in the Petroleum Industry in Canada, by Provinces, 1924 and 1925

—	1924			1925		
	Ontario	Alberta	Canada	Ontario	Alberta	Canada
	$	$	$	$	$	$
CAPITAL EMPLOYED AS REPRESENTED BY—						
Cost of lands, buildings, plant machinery and tools	2,011,173	3,530,922	5,542,095	1,917,943	4,964,026	6,881,969
Cost of all materials and supplies on hand	24,883	15,497	40,380	22,745	190,491	213,236
Cash, trading and operating accounts and bills receivable	33,135	34,476	67,611	28,428	831,089	859,517
Total	**2,069,191**	**3,580,895**	**5,650,086**	**1,969,116**	**5,985,606**	**7,954,722**

Table 314.—Employees, Salaries and Wages in the Petroleum Industry in Canada, by Provinces, 1924 and 1925

—	1924			1925		
	Ontario	Alberta	Canada	Ontario	Alberta	Canada
SALARIED EMPLOYEES—						
Total ... No.	24	5	29	14	11	25
Salaries $	18,046	6,190	24,236	15,928	17,794	33,722
WAGE-EARNERS—						
Total ... No.	110	19	129	112	122	234
Wages $	89,590	39,131	128,721	99,203	185,176	284,379
Grand total ... No.	**134**	**24**	**158**	**126**	**133**	**259**
Salaries and wages $	**107,636**	**45,321**	**152,957**	**115,131**	**202,970**	**318,101**

Table 315.—Monthly Average Number of Wage-Earners in the Petroleum Industry in Canada, by Provinces, 1924 and 1925

Month	1924			1925		
	Ontario	Alberta	**Canada**	Ontario	Alberta	**Canada**
January	98	25	**123**	108	57	**165**
February	103	23	**126**	111	67	**178**
March	107	35	**142**	109	67	**176**
April	108	25	**133**	108	90	**198**
May	111	24	**135**	106	114	**220**
June	110	18	**128**	115	137	**252**
July	112	17	**129**	111	165	**276**
August	113	15	**128**	111	165	**276**
September	120	11	**131**	111	141	**252**
October	116	7	**123**	107	135	**242**
November	108	5	**113**	106	152	**258**
December	108	5	**113**	105	141	**246**
Average	**110**	**19**	**129**	**112**	**122**	**234**

Table 316.—Petroleum Wells in Canada, 1924 and 1925

—		New Brunswick	Ontario	Alberta	**Canada**
Productive wells at beginning of year	1924	9	2,681	4	**2,694**
	1925	14	2,456	3	**2,473**
Number of productive wells drilled	1924	4	9	.....	**13**
	1925	.....	.....	.....	.....
Number of wells abandoned	1924	.....	58	.....	**58**
	1925	.....	.....	.....	.....
Number of productive wells at end of year	1924	14	2,456	3	**2,473**
	1925	14	2,862	9	**2,885**

SALT

The production of salt in the province of Ontario was first recorded in 1866 when a company was formed to drill for oil on the north bank of the Maitland river, and, while no success attended the efforts of the drillers in their search for oil, a bed of rock salt was found at a depth of 964 feet. In September, 1866, this company (incorporated under the name of the Goderich Petroleum Company, later changed to "Goderich Salt Company") commenced pumping brine. In the initial working in connection with these deposits the refining was done by the kettle method, which was soon discarded and replaced by the pan method of evaporation.

Wells were drilled and plants erected at Clinton and Seaforth, Ontario, and four refineries were in operation at Goderich in 1879; at the present time only one firm is operating at Goderich.

In 1925, wells were operated in Ontario at Windsor, Sandwich, Courtright, Exeter, Goderich, Kincardine, Sarnia, Warwick, Wingham and in Anderdon township. Mining of rock salt was carried on by one firm in Nova Scotia, at Malagash, Cumberland County. The Alberta Salt Company commenced production in the Fort McMurray district, Alberta, during 1925.

For the whole of Canada twelve firms, operating thirteen salt works, reported activity during 1925. Two of these plants were engaged primarily in the production of brine for use in the manufacture of caustic soda and soda ash in the chemical works of the producing companies.

Table 317.—Principal Statistics of the Salt Industry in Canada, 1921-1925

Year	Number of firms	Capital employed	Number of employees	Salaries and wages	Cost of fuel	Miscellaneous expenses	Selling value of products
		$		$	$	$	$
1921	12	2,267,708	277	411,832	527,013	381,126	1,673,685
1922	10	2,205,184	371	432,261	369,000	407,105	1,628,323
1923	11	2,406,992	368	412,597	356,794	404,046	1,713,516
1924	11	2,479,563	364	431,618	342,118	424,578	1,374,780
1925	12	2,563,508	402	467,487	296,229	(a)	1,410,697

(a) Data not available.

Table 318.—Capital Employed in the Salt Industry in Canada, 1924 and 1925

—	1924	1925
	$	$
CAPITAL EMPLOYED AS REPRESENTED BY—		
Cost of lands, buildings, machinery and tools	1,584,581	1,787,023
Cost of all materials and supplies on hand	247,412	262,831
Cash, trading and operating accounts and bills receivable	647,570	513,654
Total	**2,479,563**	**2,563,508**

Table 319.—Employees, Salaries and Wages in the Salt Industry in Canada, 1924 and 1925

—	1924				1925			
	Number employees		Total	Salaries and wages	Number of employees		Total	Salaries and wages
	Male	Female			Male	Female		
				$				$
SALARIED EMPLOYEES— Total	37	14	51	113,740	45	12	57	114,960
WAGE-EARNERS— Total	278	35	313	317,878	310	35	345	352,527
Grand total	**315**	**49**	**364**	**431,618**	**355**	**47**	**402**	**467,487**

Table 320.—Number of Wage-Earners in the Salt Industry in Canada, by Months, 1924 and 1925

Month	1924		1925		Month	1924		1925	
	Male	Female	Male	Female		Male	Female	Male	Female
January	227	24	279	27	July	300	34	337	32
February	243	29	271	28	August	283	38	322	31
March	260	28	292	31	September	287	38	329	34
April	300	27	323	30	October	273	37	325	37
May	303	29	319	31	November	279	37	307	40
June	291	29	313	30	December	264	33	285	33

MISCELLANEOUS NON-METALLIC MINERAL INDUSTRIES

Table 321.—Capital Employed in the Miscellaneous Non-Metallic Mineral Industries in Canada, 1924 and 1925

Industry	1924				1925			
	Capital employed as represented by				Capital employed as represented by			
	Lands, buildings, plant machinery and tools	Cost of all materials and supplies, on hand	Cash, trading and operating accounts and bills receivable	Total	Lands, buildings, plant machinery and tools	Cost of all materials and supplies on hand	Cash, trading and operating accounts and bills receivable	Total
	$	$	$	$	$	$	$	$
Graphite	561,354	72,477	14,116	647,947	818,370	44,295	39,645	902,310
Abrasives, natural	86,073	26,073	43,949	156,095	82,118	31,182	41,433	154,733
Iron oxides	151,546	31,527	10,560	193,633	133,659	37,579	2,702	173,940
Quartz	887,590	97,943	6,330	991,863	905,340	84,774	15,015	1,005,159
Talc	522,368	33,294	140,124	695,786	567,298	36,070	140,669	744,037
Other non-metallics*	2,152,035	260,342	16,242	2,428,619	1,933,785	86,229	60,466	2,080,481
Total	**4,360,966**	**521,656**	**231,321**	**5,113,943**	**4,440,571**	**320,129**	**299,960**	**5,060,660**

*Includes actinolite, barytes, fluorspar, mineral waters, natro-alunite, pyrites, sodium carbonate, sodium sulphate, tripolite, and volcanic ash.

Table 322.—Employees, Salaries and Wages in the Miscellaneous Non-Metallic Mineral Industries in Canada, 1924 and 1925

Industry		1924					1925		
		Superintendents and managers	Technical employees	Clerks and stenographers	Wage-earners and wages	Total	Total salaried employees	Wage-earners and wages	Total
Graphite	No.	3	.....	2	70	75	9	97	106
	Salaries $	7,800	.....	2,700	44,949	55,449	14,070	60,951	75,021
Abrasives, natural	No.	5	.....	1	70	76	6	56	62
	Salaries $	12,000	.....	2,000	50,312	64,312	14,000	41,466	55,466
Iron oxides	No.	1	.....	.....	37	38	2	45	47
	Salaries $	3,000	.....	.....	30,221	33,221	3,869	31,585	35,454
Quartz	No.	4	2	3	148	157	15	138	153
	Salaries $	9,134	6,900	5,000	134,828	155,862	33,409	112,085	145,494
Talc	No.	4	1	3	53	61	10	82	92
	Salaries $	8,115	1,300	4,510	45,295	59,220	14,080	60,439	74,519
Other non-metallics*	No.	9	.....	6	124	139	13	205	218
	Salaries $	16,915	.....	4,830	61,192	82,937	29,103	120,552	149,655
Total	**No.**	**26**	**3**	**15**	**502**	**546**	**55**	**623**	**678**
	Salaries $	**56,964**	**8,200**	**19,040**	**366,797**	**451,061**	**108,531**	**427,078**	**535,609**

*Includes actinolite, alunite, barytes, corundum, fluorspar, garnets, graphite, magnesite, magnesium sulphate, mineral waters, pyrites, sodium carbonate, sodium sulphate, tripolite and volcanic ash.

Table 323.—Number of Wage-Earners, by Months, in the Miscellaneous Non-Metallic Mineral Industries in Canada, 1925

Month	Graphite	Natural abrasives	Iron oxides	Quartz	Talc	Other non-metallics	Total
January	36	5	22	61	63	63	250
February	49	5	22	54	66	60	256
March	61	15	24	22	66	73	261
April	64	27	28	57	66	84	326
May	78	92	46	91	72	76	455
June	116	123	55	122	82	87	585
July	133	121	59	111	85	130	639
August	137	75	45	133	77	148	615
September	60	55	47	132	73	171	538
October	67	41	44	132	73	149	506
November	68	23	33	77	61	128	390
December	59	18	22	50	60	148	357
Average	**97**	**56**	**45**	**138**	**82**	**205**	**623**

STRUCTURAL MATERIALS AND CLAY PRODUCTS

CEMENT

Portland cement was produced in Canada during 1925 by 7 companies operating 11 plants with a total daily capacity of 34,900 barrels.

The essential elements entering into the production of Portland cement are lime, silica and alumina. These materials are found in limestone and clay, the Trenton variety of limestone being used principally. Puzzolan cement was produced from blast furnace slag by the Dominion Iron and Steel Company in 1921 but since that date this firm's cement mill has not been in operation.

According to statistics compiled for 1921, the cement industry is controlled almost entirely by Canadian capital. Of the total par value of all securities outstanding in 1921, approximately 86.5 per cent was owned in Canada; 10.6 per cent in Great Britain, 1.9 per cent in United States and the balance in other countries.

Capital employed in the plants of the operating companies in Canada during 1925 totalled $38,081,583 as against a total of $36,766,574 reported in 1924. Fuel and electricity costs amounted to $2,848,904, made up of $2,229,065, expended for fuel and $619,839 for electric power. Plant equipment in use during the year included 967 electric motors with a rating of 52,643 h.p.

Table 324.—Principal Statistics of the Cement Industry in Canada, 1921-1925

Year	Number of plants	Capital employed	Number of employees	Salaries and wages	Cost of fuel	Miscellaneous expenses	Selling value of products
		$		$	$	$	$
1921	14	49,160,180	2,751	3,443,884	2,788,820	2,602,029	14,195,143
1922	11	41,573,737	1,753	2,315,240	2,457,456	2,976,152	15,438,481
1923	10	38,284,494	1,842	2,551,784	2,809,414	2,947,242	15,064,661
1924	10	36,766,574	1,837	2,531,622	2,872,711	1,524,158	13,398,411
1925	11	38,081,583	1,926	2,511,400	2,229,065	1,177,103	14,046,704

Table 325.—Capital Employed in the Cement Industry in Canada, 1924 and 1925

—	1924	1925
	$	$
CAPITAL EMPLOYED AS REPRESENTED BY—		
Cost of lands, buildings, plant, machinery and tools	32,467,170	33,545,100
Cost of materials and supplies on hand	2,897,251	2,857,507
Cash, trading and operating accounts and bills receivable	1,402,153	1,678,976
Total	**36,766,574**	**38,081,583**

Table 326.—Employees, Salaries and Wages in the Cement Industry in Canada, 1924 and 1925

Class	1924		1925	
	Number of employees	Salaries and wages	Number of employees	Salaries and wages
		$		$
SALARIED-EMPLOYEES ... Total	97	205,994	105	213,666
WAGE-EARNERS ... Total	1,740	2,325,628	1,821	2,297,734
Grand Total	**1,837**	**2,531,622**	**1,926**	**2,511,400**

Table 327.—Number of Wage-Earners in the Cement Industry in Canada, by Months; 1924 and 1925

Month	1924	1925	Month	1924	1925
January	1,264	1,142	July	1,833	1,932
February	1,585	1,348	August	1,974	2,000
March	1,460	1,512	September	2,020	2,030
April	1,647	1,658	October	1,955	1,846
May	1,770	1,704	November	1,799	1,786
June	1,851	1,807	December	1,638	1,571
Average for 1924					**1,740**
Average for 1925					**1,821**

CLAY PRODUCTS

Statistics relating to the more important financial aspects and the general conditions of the clay products industry are given in detail in this section. Production data for the past three years are tabulated in Part I of the report.

The clay products industry is divided into five main groups as follows: brick and tile, clay sewer-pipe, fire brick and fire clay, stoneware and pottery, and kaolin and other clays. The number and location by provinces of the plants operating in 1925 are shown in the subjoined tables.

In the tables on the primary mineral production of Canada, statistics relating to the clay products industry include only data supplied by companies using Canadian clays either alone or with imported clays. But there are a few other companies in Canada producing clay products from imported clays exclusively. For this reason, and to complete the survey of the industry as a whole, additional tables have been prepared which contain information regarding the operations of these latter companies.

Tables 328 to 332 relate to data included in mineral production; tables 333 to 336 show corresponding information concerning companies using imported clays only.

Capital employed, as represented by the value of lands, buildings, fixtures, machinery and tools, finished stocks on hand and available cash, for the clay products industry totalled $27,760,864 in 1925 as compared with $29,810,994 in 1924.

The principal fuel employed was bituminous coal, and as most of the important brick plants are located in the neighbourhood of the large industrial centres of Ontario and Quebec, the industry is largely dependent on imported coal. Wood is used by many of the smaller plants in outlying parts.

Natural gas is of material assistance to the clay industries at Medicine Hat and Redcliff, Alberta. The Medalta Potteries at Medicine Hat bring their clays in from Saskatchewan, and, owing to their low cost, are able to ship stoneware into Ontario and Quebec markets in competition with the potteries of those provinces. The clays near Redcliff are obtained by mining and are consequently very difficult to dry and burn; the advantage of having cheap fuel at hand enables the operators to produce pressed brick at reasonable costs.

Table 328.—Principal Statistics of the Clay Products* Industry in Canada, 1924 and 1925

—	1924				1925			
	Brick and tile	Clay sewer pipe	Firebrick and fireclay	Stoneware and pottery	Brick and tile	Clay sewer pipe	Firebrick and fireclay	Stoneware and pottery
Number of active plants	192	5	7	6	173	5	6	4
Capital employed $	24,423,104	3,149,838	1,850,385	387,667	22,410,450	2,810,782	2,114,738	424,894
Salaried employees	268	28	27	8	240	24	27	10
Salaries paid $	480,139	96,385	71,100	10,984	464,207	78,842	74,680	13,064
Average number of wage-earners	3,064	439	181	105	3,154	358	193	121
Wages paid $	2,591,240	500,213	187,316	103,941	2,703,719	382,685	200,239	116,639
Fuel cost $	1,508,573	28,148	74,431	14,642	1,565,341	240,038	88,552	15,660
Value of products sold or used $	7,046,355	1,343,197	584,838	240,687	7,374,551	1,182,454	702,707	269,979

*Not including kaolin and other clays.

Table 329.—Establishments Reporting Shipments in the Clay Products Industry in Canada, by Provinces, 1925

Province	Number of establishments in groups indicated				
	Brick and tile	Clay sewer pipe	Firebrick and fireclay	Stoneware and pottery	Total
Prince Edward Island	1	.....	.....	.....	1
Nova Scotia	5	1	2	.....	8
New Brunswick	2	.....	.....	1	3
Quebec	17	1	1	.....	19
Ontario	121	3	2	2	128
Manitoba	5	.....	.....	.....	5
Saskatchewan	5	.....	.....	.....	5
Alberta	5	.....	1	1	7
British Columbia	7	.....	.....	.....	7
Canada	**168**	**5**	**6**	**4**	**183**

Table 330.—Capital Employed in the Clay Products Industry in Canada, by Provinces, 1924 and 1925

—	1924				1925			
	Capital employed as represented by				Capital employed as represented by			
	Lands, buildings, plant machinery and tools	Cost of supplies and products on hand	Cash, trading and operating accounts	Total	Lands, buildings, plant machinery and tools	Cost of supplies and products on hand	Cash, trading and operating accounts	Total
	$	$	$	$	$	$	$	$
By Industries—								
Brick and tile—								
Nova Scotia	546,313	19,121	7,945	**573,379**	549,806	12,632	15,975	**578,413**
New Brunswick	94,699	2,500	.....	**97,199**	57,771	8,660	12,039	**78,470**
Quebec	7,827,840	562,906	347,737	**8,738,483**	7,792,573	602,669	280,233	**8,675,475**
Ontario	9,468,472	1,235,732	1,553,463	**12,257,667**	8,473,163	1,241,168	764,404	**10,478,735**
Manitoba	123,344	89,704	39,454	**252,502**	114,244	47,100	39,900	**201,244**
Saskatchewan	644,582	73,535	3,345	**721,462**	525,006	80,515	6,388	**611,909**
Alberta	654,141	114,787	29,847	**798,775**	657,777	109,684	47,944	**815,405**
British Columbia	769,123	140,623	73,891	**983,637**	785,862	125,676	59,261	**970,799**
Total for Canada	20,128,514	2,238,908	2,055,682	**24,423,104**	18,956,202	2,228,104	1,226,144	**22,410,450**
Clay sewer pipe—								
Total for Canada	2,223,563	568,921	357,354	**3,149,838**	2,040,019	456,159	314,604	**2,810,782**
Firebrick and fireclay products—								
Total for Canada	1,155,833	321,088	373,464	**1,850,385**	1,358,011	348,193	408,534	**2,114,738**
Stoneware and pottery—								
Total for Canada	185,759	82,340	119,568	**387,667**	173,031	79,622	172,241	**424,894**
By Provinces—								
Total for clay and clay products—								
Nova Scotia	1,055,085	142,677	10,514	**1,208,276**	1,398,872	113,532	18,413	**1,530,817**
New Brunswick	110,077	25,637	9,635	**145,349**	70,746	26,838	18,329	**115,913**
Quebec	8,545,161	733,378	586,825	**9,865,364**	8,253,178	702,356	511,142	**9,466,676**
Ontario	11,407,739	1,653,952	1,890,482	**14,952,173**	10,273,421	1,680,208	1,120,385	**13,074,014**
Manitoba	123,344	89,704	39,454	**252,502**	114,244	47,100	39,900	**201,244**
Saskatchewan	644,582	73,535	3,345	**721,462**	525,006	80,515	6,388	**611,909**
Alberta	1,038,558	351,751	291,922	**1,682,231**	1,105,934	335,853	347,705	**1,789,492**
British Columbia	769,123	140,623	73,891	**983,637**	785,862	125,676	59,261	**970,799**
Canada	**23,693,669**	**3,211,257**	**2,906,068**	**29,810,994**	**22,527,263**	**3,112,078**	**2,121,523**	**27,760,864**

Table 331.—Employees, Salaries, and Wages in the Clay Products Industry in Canada 1924 and 1925

—	1924				1925			
	Number			Salaries and wages	Number			Salaries and wages
	Male	Female	Total		Male	Female	Total	
				$				$
Salaried Employees—Total	297	34	331	658,608	272	38	310	630,793
Wage-Earners—Total	3,778	11	3,789	3,382,710	3,803	23	3,826	3,403,282
and total	**4,075**	**45**	**4,120**	**4,041,318**	**4,075**	**61**	**4,136**	**4,034,075**

Table 332.—Number of Wage-Earners in the Clay Products Industry in Canada, by Months and by Industries, 1925

Month	Brick and tile	Clay sewer pipe	Firebrick and fireclay	Stoneware and pottery	Total for clay and clay products
January	1,241	360	153	117	1,871
February	1,309	345	117	118	1,889
March	1,812	281	156	120	2,369
April	2,432	282	256	124	3,094
May	3,261	376	248	126	4,011
June	3,719	386	222	119	4,446
July	3,765	381	193	118	4,457
August	3,431	377	196	121	4,125
September	3,092	374	162	121	3,749
October	2,590	378	180	124	3,272
November	2,208	377	180	119	2,884
December	1,913	368	161	118	2,560
***Average for 1925**	**3,154**	**358**	**193**	**121**	**3,826**
***Average for 1924**	**3,064**	**439**	**181**	**105**	**3,789**

*Average computed by totalling the average number of wage-earners employed by each reporting company.

Table 333.—Capital Employed by Companies in Canada Using Only Imported Clays, 1924 and 1925

—	1924	1925
	$	$
CAPITAL EMPLOYED AS REPRESENTED BY—		
Cost of lands, buildings, plant machinery and tools	961,927	1,516,143
Cost of supplies and stock on hand	415,535	699,105
Cash, trading and operating accounts	300,071	547,703
Total	**1,677,533**	**2,762,951**

Table 334.—Employees, Salaries and Wages Paid by Companies in Canada Using Only Imported Clays, 1924 and 1925

—	1924				1925			
	Number employed			Salaries and wages	Number employed			Salaries and wages
	Male	Female	Total		Male	Female	Total	
				$				$
SALARIED EMPLOYEES—Total	36	9	45	104,277	54	11	65	149,888
WAGE-EARNERS—Total	424	20	444	462,866	444	43	487	503,323
Grand total	**460**	**29**	**489**	**567,143**	**498**	**54**	**552**	**653,211**

Table 335.—Number of Wage-Earners Employed by Companies in Canada Using Only Imported Clays, by Months, 1924 and 1925

Month	Number		Month	Number	
	1924	1925		1924	1925
January	520	465	July	410	483
February	513	467	August	415	458
March	479	481	September	422	499
April	471	486	October	420	507
May	444	492	November	440	509
June	411	478	December	364	509

Average 1924	**444**
Average 1925	**487**

Table 336.—Fuel and Electricity Used by Companies in Canada Using Only Imported Clays, 1924 and 1925

—		1924		1925	
		Quantity	Value	Quantity	Value
			$		$
Bituminous coal	short tons	11,294	84,552	15,264	107,156
Anthracite coal	"	3,167	40,296	1,871	21,637
Coke	"	201	2,156	336	3,668
Oil (fuel)	imp. gal.	48,191	3,353	213,885	14,815
Wood	cord	262	1,499	241	2,165
Gas	M cu.ft.	699	489	957	670
Electricity	k.w.h.	847,732	9,016	1,241,190	20,130
Other fuel		.....	130	.....	98
Total		.....	**141,491**	.....	**170,339**

LIME BURNING

The greatest development in Canada in the business of lime burning has been in Ontario and to a less extent in Quebec. Apart from the fact that the chemical and physical properties of the limestone in these provinces, make it suitable for burning in kilns, the more extensive building and construction operations carried on, provide a ready market for the burned lime.

This industry was represented in Canada in 1925 by 62 producing plants, 27 plants being located in Ontario, 21 in Quebec, 1 in Nova Scotia, 5 in New Brunswick, 3 in Manitoba, 2 in Alberta and 3 in British Columbia. The total capital employed in the lime industry amounted to over 5.1 million dollars. The 48 plants in Ontario and Quebec reported $3,201,604, capital employed, while the 3 plants in British Columbia showed $1,090,731 under this item.

Returns received from operators in 1923 showed 197 active kilns, the daily capacity of which was 2,456 tons. Eight hydrators were in operation during that year, comprising four Clyde, one Shaffer, one Kritser and one special type. High calcium limestone was used by 45 firms, dolomite by 10 firms, and both high calcium and dolomite by one operator.

In the manufacture of lime, wood was widely used throughout Ontario and Quebec where the supply is plentiful and where many of the kilns are small, but considerable quantities of coal were also used. In the British Columbia plants, wood only was used.

Table 337.—Principal Statistics of the Lime Industry in Canada, 1921-1925

Year	Number of firms	Capital employed	Number of employees	Salaries and wages	Cost of fuel	Miscellaneous expenses	Selling value of products
		$		$	$	$	$
1921	66	4,990,969	931	949,966	698,992	407,620	2,781,197
1922	63	4,984,910	1,110	1,013,486	725,168	522,222	3,165,005
1923	50	6,050,954	1,197	1,191,416	953,709	806,916	3,266,608
1924	49	5,165,964	927	970,672	740,878	757,898	3,178,541
1925	56	5,154,046	1,006	960,434	717,940	673,447	3,387,652

Table 338.—Capital Employed in the Lime Industry in Canada, by Provinces, 1924 and 1925

Province	1924				1925			
	Capital employed as represented by				Capital employed as represented by			
	Lands, buildings plant machinery and tools	Cost of supplies and products on hand	Cash, trading and operating accounts	Total	Lands, buildings plant machinery and tools	Cost of supplies and products on hand	Cash, trading and operating accounts	Total
	$	$	$	$	$	$	$	$
Nova Scotia					11,000	700		11,700
New Brunswick	210,483	36,939	29,725	277,147	193,712	27,352	27,708	248,772
Quebec	916,965	112,848	138,928	1,168,741	1,030,409	113,441	176,290	1,320,140
Ontario	1,565,850	159,893	144,641	1,870,384	1,520,717	226,693	134,054	1,881,464
Manitoba	405,884	26,916	4,500	437,300	398,849	21,621	12,605	433,075
Alberta	134,563	8,617	16,602	159,782	134,142	15,565	18,457	168,164
British Columbia	1,108,148	66,754	77,708	1,252,610	935,190	32,193	123,348	1,090,731
Canada	**4,341,893**	**411,967**	**412,104**	**5,165,964**	**4,224,019**	**437,565**	**492,462**	**5,154,046**

Table 339.—Employees, Salaries and Wages in the Lime Industry in Canada, by Provinces, 1924 and 1925

—		*New Brunswick	Quebec	Ontario	Manitoba	Alberta	British Columbia	Canada
1924								
SALARIED EMPLOYEES—								
Total	No.	15	19	39	6	2	10	**91**
	$	21,735	37,575	74,320	9,140	4,750	21,357	**168,877**
WAGE-EARNERS—								
Total—								
Male	No.	77	180	398	56	12	113	**836**
Wages	$	56,592	158,968	402,292	38,232	13,370	132,341	**801,795**
Total—Employees	**No.**	**92**	**199**	**437**	**62**	**14**	**123**	**927**
Salaries and Wages	**$**	**78,327**	**196,543**	**476,612**	**47,372**	**18,120**	**153,698**	**970,672**
1925								
SALARIED EMPLOYEES:—								
Total	No.	16	15	40	4	4	10	**89**
	$	15,791	25,104	77,186	5,950	4,700	17,252	**145,983**
WAGE-EARNERS—								
Total—								
Male	No.	51	253	427	63	13	110	**917**
Wages	$	32,259	178,588	437,676	48,339	13,781	103,808	**814,451**
Total—Employees	**No.**	**67**	**268**	**467**	**67**	**17**	**120**	**1,006**
Salaries and Wages	**$**	**48,050**	**203,692**	**514,862**	**54,289**	**18,481**	**121,060**	**960,434**

*Includes data for Nova Scotia.

Table 340.—Number of Wage-Earners in the Lime Industry in Canada, by Provinces and by Months, 1925

Month	*New Brunswick	Quebec	Ontario	Manitoba	Alberta	British Columbia	Canada
January	13	195	377	47	5	95	**733**
February	18	201	341	47	11	96	**714**
March	41	198	373	55	16	94	**777**
April	63	222	402	78	14	108	**887**
May	55	271	419	68	14	104	**931**
June	51	287	409	72	14	115	**948**
July	53	293	384	69	17	112	**928**
August	39	242	401	62	17	106	**867**
September	52	259	400	61	15	108	**895**
October	46	265	433	69	15	111	**939**
November	40	162	437	59	9	110	**817**
December	44	166	426	57	6	119	**818**
Average for 1925	**51**	**253**	**427**	**63**	**13**	**110**	**917**
Average for 1924	**77**	**180**	**398**	**56**	**12**	**113**	**836**

*Includes data for Nova Scotia.

SAND AND GRAVEL

For statistical purposes, the sand and gravel industry has been divided into two parts comprising the operations of (1) railway companies producing sand and gravel for ballast and other purposes; (2) all other producers.

The figures given in the following tables do not include the operations of railway companies except where specifically mentioned. The railway companies were not asked to furnish any statistics for this industry other than the figures for production, as, owing to the varied nature of their operations, it would have been impossible for them to give the detailed data generally required. Among the other operating plants in this industry, of which there were 622, in Canada in 1925, it was found that the production of sand and gravel was often a subsidiary part of the business transacted. On this account the figures shown for capital employed in 1925 refer in small part to other industries, but on the whole, relate as closely as possible to the industry under review.

It will be readily apparent from an inspection of the tables on employees that totals do not represent the actual number of persons engaged in the industry as a great many of the small operators had no paid help. Also, in some instances the labour was provided by those requiring sand and gravel. The following tables which show comparative figures for salaried officials, wage-earners, and fuel costs are self-explanatory.

Table 341.—Principal Statitstics of the Sand and Gravel Industry in Canada, 1921-1925

Year	Number of firms	Capital employed	Number of employees	Salaries and wages	Cost of fuel	Miscellaneous expenses	Selling value of products
		$		$	$	$	$
1921	218	(a)	590	454,910	47,641	265,403	2,537,249
1922	342	4,098,928	750	684,626	99,069	445,222	3,502,935
1923	598	4,487,005	801	692,161	99,409	270,554	3,016,518
1924	558	5,194,037	927	848,741	134,378	(a)	3,181,083
1925	622	5,286,268	1,650	1,231,856	158,645	(a)	3,220,410

(a) Data not available.

Table 342.—Capital Employed in the Sand and Gravel Industry in Canada, by Provinces, 1924 and 1925

Province	1924				1925			
	Capital employed as represented by				Capital employed as represented by			
	Lands, buildings plant machinery and tools	Cost of supplies and products on hand	Cash, trading and operating accounts	**Total**	Lands, buildings plant machinery and tools	Cost of supplies and products on hand	Cash, trading and operating accounts	**Total**
	$	$	$	$	$	$	$	$
Nova Scotia	16,500	2,500	3,000	**22,000**	.....	.....	.....	.....
New Brunswick	5,500	51	.....	**5,551**	.....	.....	.....	.....
Quebec	267,727	2,922	33,890	**304,539**	464,255	11,725	75,325	**551,305**
Ontario	3,148,359	56,491	257,178	**3,462,028**	3,064,386	44,464	194,181	**3,303,031**
Manitoba	352,394	9,678	46,795	**408,867**	321,739	9,427	84,865	**416,031**
Saskatchewan	40,750	.....	.....	**40,750**	39,750	.....	.....	**39,750**
Alberta	278,218	14,744	4,598	**297,560**	315,187	832	2,157	**318,176**
British Columbia	585,789	654	66,299	**652,742**	618,686	745	38,544	**657,975**
Canada	**4,695,237**	**87,040**	**411,760**	**5,194,037**	**4,824,003**	**67,193**	**395,072**	**5,286,268**

Table 343.—Employees, Salaries and Wages in the Sand and Gravel Industry in Canada, by Provinces, 1924 and 1925

Province	1924				1925			
	Number of employees			Salaries and wages	Number of employees			Salaries and wages
	On salary	On wages	Total		On salary	On wages	Total	
				$				$
Nova Scotia	2	16	18	10,508	.....	26	26	5,152
New Brunswick	1	13	14	1,717	.....	1	1	936
Quebec	8	177	185	80,922	20	472	492	220,645
Ontario	63	486	549	552,370	59	743	802	730,325
Manitoba	7	29	36	38,503	7	133	140	101,994
Saskatchewan	.....	3	3	3,013	.....	3	3	2,504
Alberta	4	54	58	44,958	2	103	105	41,162
British Columbia	8	56	64	116,720	10	71	81	129,138
Canada	**93**	**834**	**927**	**848,741**	**98**	**1,552**	**1,650**	**1,231,856**

Table 344.—Number of Wage-Earners in the Sand and Gravel Industry in Canada, by Months and by Provinces, 1925

Month	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Canada
January	.....	1	50	188	3	.....	3	63	**308**
February	8	1	48	188	3	.....	2	74	**324**
March	7	1	83	297	7	1	8	74	**478**
April	7	1	141	424	94	3	49	72	**791**
May	8	1	270	690	100	3	45	70	**1,187**
June	6	1	348	849	94	3	101	72	**1,474**
July	8	1	418	806	140	3	138	71	**1,585**
August	12	1	312	717	112	3	173	73	**1,403**
September	29	1	320	777	187	3	149	68	**1,534**
October	25	1	344	780	110	2	109	73	**1,453**
November	8	1	215	593	152	.....	63	69	**1,101**
December	2	1	135	646	196	.....	2	64	**1,046**
***Average**	**26**	**1**	**472**	**743**	**133**	**3**	**103**	**71**	**1,552**

*Average computed by totalling the average number of wage-earners employed by each reporting company.

STONE

Operations in the stone-quarrying industry in Canada in 1925 were carried on by 201 firms. The number of producers in each province was as follows: Nova Scotia, 10; New Brunswick, 9; Quebec, 92; Ontario, 74; Manitoba, 3; Alberta 1; and. British Columbia 12.

The statistics collected under mineral production for the stone industry are confined to quarrying operations and stone-dressing works conducted in conjunction with the quarry. It must be borne in mind when reviewing the tabulated statistics for this industry that there is a considerable quantity of stone quarried by farmers, etc., for local foundation and concrete work, of which no accurate general information can be obtained.

Table 345.—Principal Statistics Relating to the Stone Quarrying Industry in Canada, 1921-1925

Year	Number of firms	Capital employed	Number of employees	Salaries and wages	Cost of fuel	Miscellaneous expenses	Selling value of products
		$		$	$	$	$
1921	145	11,138,035	2,067	2,017,272	141,442	2,369,130	6,343,696
1922	162	13,004,233	2,859	2,673,241	167,139	1,259,552	5,989,864
1923	158	13,725,677	2,850	2,665,520	400,517	1,130,639	5,920,578
1924	170	14,317,148	2,877	2,768,256	383,800	1,329,233	6,407,757
1925	201	12,233,773	4,148	3,599,653	241,032	(a)	7,464,777

(a) Data not available.

Table 346.—Capital Employed in the Stone Quarrying Industry in Canada, by Provinces, 1924 and 1925

Province	1924				1925			
	Capital employed as represented by				Capital employed as represented by			
	Cost of lands, buildings, plant machinery and tools	Cost of supplies and stock on hand	Cash, trading and operating accounts and bills receivable	**Total**	Cost of lands, buildings, plant machinery and tools	Cost of supplies and stock on hand	Cash, trading and operating accounts and bills receivable	**Total**
	$	$	$	$	$	$	$	$
Nova Scotia	1,116,723	24,341	11,713	**1,152,777**	1,116,909	30,867	9,483	**1,157,259**
New Brunswick	100,386	29,266	27,265	**156,917**	107,524	33,928	27,574	**169,026**
Quebec	4,096,958	366,228	535,230	**4,998,416**	4,144,979	379,259	696,591	**5,220,829**
Ontario	6,139,998	253,106	518,030	**6,911,134**	4,421,725	183,074	284,399	**4,889,198**
Manitoba	205,123	8,885	62,961	**276,969**	224,394	6,882	.....	**231,276**
Alberta	8,000	.....	.....	**8,000**	.....	.....	.....	.....
British Columbia	454,723	152,193	206,019	**812,935**	487,685	49,565	28,935	**566,185**
Canada	**12,121,911**	**834,019**	**1,361,218**	**14,317,148**	**10,503,216**	**683,575**	**1,046,982**	**12,233,773**

Table 347.—Employees, Salaries and Wages in the Stone Quarrying Industry in Canada, by Provinces, 1924 and 1925

—	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	British Columbia	**Canada**
1924							
SALARIED EMPLOYEES—							
No.	4	8	95	67	5	17	**196**
Total.....Salaries $	6,881	11,200	155,216	131,862	8,694	38,631	**352,484**
No.	87	78	1,376	892	52	176	***2,681**
WAGE-EARNERS..... Wages $	54,254	39,235	1,235,159	813,724	56,241	208,242	***2,415,772**
Total—Employees.....No.	**91**	**86**	**1,471**	**959**	**57**	**193**	***2,877**
Salaries and wages... $	**61,135**	**50,435**	**1,390,375**	**945,586**	**64,935**	**246,873**	***2,768,256**
1925							
SALARIED EMPLOYEES—							
No.	5	9	105	85	7	14	**225**
Total.....Salaries $	6,938	12,200	188,657	131,736	15,242	27,989	**382,762**
No.	108	95	2,291	1,141	82	206	**3,923**
WAGE-EARNERS..... Wages $	60,634	56,296	1,984,921	819,699	90,689	204,652	**3,216,891**
Total—Employees.....No.	**113**	**104**	**2,396**	**1,226**	**89**	**220**	**4,148**
Salaries and wages... $	**67,572**	**68,496**	**2,173,578**	**951,435**	**105,931**	**232,641**	**3,599,653**

*Includes 20 wage-earners receiving $8,917 in Alberta.

PART THREE

DIRECTORY

In the following pages the names and addresses of all the principal operators in the Canadian mining industry are given and the location of the properties worked in 1925 is also shown.

METALLIC MINERAL INDUSTRIES

The Auriferous Quartz Mining Industry

Name of Operator	Address	Name of Mine	Location
Nova Scotia			
Malaga Gold Mines	Malaga	Malaga	Queens Co.
Miseler and Emmett	60 Edward St., Halifax	Fiske Block	Queens Co.
Consolidated Mines and Power Co	170 Summer St., Boston U.S.A.		Goldenville.
Burroughs, R. E	Moose River Gold Mines	Root Hog	Moose River Gold Mines.
Ontario			
Kirkland Lake Area—			
*Harvey Kirkland Mines, Ltd	C.P.R. Bldg., Toronto	Harvey Kirkland	Lebel Tp.
*Hunton Kirkland Gold Mines, Ltd	171 Yonge St., Toronto	Hunton	Teck Tp.
*Kirk Gold Mines Co., Ltd	911 Kent Bldg., Toronto	Kirk Gold	Lebel Tp.
*Kirkland Lake Gold Mining Co., Ltd	810 Lumsden Bldg., Toronto	Kirkland Lake	Teck Tp.
Lake Shore Mines, Ltd	Kirkland Lake	Lake Shore	Teck Tp.
*Queen Lebel Gold Mines, Ltd	Kirkland Lake	Queen Lebel	Lebel Tp.
*Sylvanite Gold Mines, Ltd	Kirkland Lake	Sylvanite	Teck Tp.
Teck Hughes Gold Mines, Ltd	Kirkland Lake	Teck Hughes	Teck Tp.
Tough Oakes Burnside Gold Mines, Ltd	217 Bay St., Toronto	Tough Oakes Burnside	Teck and Lebel Tp.
Wright-Hargreaves Mines, Ltd	Bridgeburg	Wright Hargreaves	Teck Tp.
Boston Creek Area—			
Barry Hollinger Gold Mines, Ltd	807 General Assurance Bldg., Toronto	Barry Hollinger	Pacaud Tp.
*Gold Hill Mining Co., Ltd	Haileybury	Gold Hill	Catharine Tp.
*McMaster Syndicate	Rosegrove	McMaster	Boston Ck.
Larder Lake Area—			
Argonaut Gold, Ltd	307 Dominion Express Building, Montreal, Quebec	Argonaut	Gauthier Tp.
*Canadian Associated Goldfields	306 C.P.R. Bldg., Toronto	Block "A"	McVittie Tp.
*Crown Reserve Mining Co., Ltd	Box 386, Montreal	Crown Reserve	Larder Lake.
*Northland Gold Mines, Ltd	Kirkland Lake	Northland Gold	Gauthier Tp.
Lightning River Area—			
Blue Quartz Gold Mines, Ltd	328 Confederation Life Bldg., Toronto	Blue Quartz	Painkiller Lake.
North Western Ontario Area—			
*British Canadian Mines, Ltd	8 Bloor St. E., Toronto	Foley	Rainy River Tp.
Champion Gold Mines, Ltd	329 Chamber of Commerce, Buffalo, N.Y	Champion	Kenora Dist.
*Contact Bay Mines Ltd	326 Cutler Bldg., Rochester, N.Y	Bonanza	Van Horn Tp.
Porcupine Area—			
*Canadel Gold, Ltd	Timmins	Rochester	Tisdale Tp.
*Coniaurum Mines, Ltd	50 Ontario St., St. Catharines	Coniaurum	Tisdale Tp.
Consolidated West Dome Lake Mines, Ltd	South Porcupine	Cons. West Dome	Tisdale Tp.
Dome Mines, Ltd	36 Toronto St., Toronto	Dome	Tisdale Tp.
*Hayden Gold Mines, Ltd	Brisbane Bldg., Buffalo, N.Y.	Hayden	Deloro Tp.
Hollinger Consolidated Gold Mines, Ltd	Timmins	Hollinger	Tisdale Tp.
*March Gold, Ltd	White Bldg., Buffalo, N.Y	March Gold	Deloro Tp.
McIntyre Porcupine Mines, Ltd	Standard Bank Bldg., Toronto	McIntyre Porcupine	Tisdale Tp.
Night Hawk Peninsular Mines, Ltd	Bay St., Toronto	Night Hawk	Cody Tp.
*Porcupine Goldfields Development & Finance Co	Canada Cement Bldg., Montreal, Quebec	Ankerite	Deloro Tp.
Vipond Consolidated Mines, Ltd	302 Bay St., Toronto	Vipond	Tisdale Tp.
Sudbury Area—			
*Mundell, Wm	Metagama	Ina	Sudbury Dist.
*McMillan Development Co	Ess Creek	Red Rock	Sudbury Dist.
Frontenac County—			
*Ore Chimney Mining Co., Ltd	North brook	Ore Chimney	Barrie Tp.
Temagami Forest Reserve—			
*Emerald Lake Gold Mines, Ltd	New Hamburg	Emerald Lake	Temagami.
Manitoba			
Manitoba Metals Mining Co	Bank of Hamilton Bldg., Toronto	Rex	Herb Lake.

*Operating but not producing.

The Auriferous Quartz Mining Industry—Concluded

Name of Operator	Address	Name of Mine	Location
British Columbia			
*Bush Mines, Ltd	821 Rogers Bldg., Vancouver		Cassiar.
British America Mining Corp	Similkameen	Horn Silver	Osoyoos Mining Division.
Engineer Gold Mines, Ltd	120 Broadway, New York, N.Y.	Engineer	Atlin Mining Division.
Esperanza Mine	Anyox, B.C.	Esperanza	Nass River Mining Division.
Golskiesh	Anyox	Golskiesh	
Hawkins and Shelledy	Rossland	I.X.L.	Trail Creek Mining Division.
Hedley Gold Mining Co., Ltd	Hedley	Nickel Plate	Osoyoos Mining Division.
Norcross, A. G.	Nelson	Granite-Poormen	Nelson Mining Division.
Premier Gold Mining Co., Ltd	Premier	Premier	Portland Canal Mining Division.
Silverado Mines, Ltd	Box 1120, Victoria	Silverado	Portland Canal Mining Division.
Sloan, D.	Shalalth	Pioneer	Lillooet Mining Division.
Windpass Gold Mines Co	Chu Chua	Windpass	Kamloops Mining Division.

The Copper-Gold-Silver Mining Industry

Quebec			
*Abann Mines, Ltd	205 St. James St., Montreal		Desmeloizes Tp.
*Area Mines, Ltd	120 St. James St., Montreal	Area	Rouyn Tp.
*Amulet Gold Mines, Ltd	120 St. James St., Montreal	Amulet	Rouyn Tp.
Arntfield Syndicate	13 King St. W., Toronto, Ont.		Boischatel Tp.
*Archaen Mines Development Co., Ltd.	301 Union Bk. Bldg., Ottawa, Ont		Rouyn Tp.
*Brownlee Gold Mines, Ltd	540 Canada Cement Bldg., Montreal		Rouyn Tp.
*Canadian Exploration, Ltd	Amos		Desmeloizes Tp.
*Don Rouyn Gold Mines, Ltd	14 Hospital St., Montreal		Rouyn Tp.
*Duprat Mines, Ltd	126 St. Peter St., Quebec		Duprat Tp.
Eustis Mining Company	Eustis	Eustis	Ascot.
*Fagala Mining Syndicate Inc	Bank of Toronto Bldg., Montreal		Joannes Tp.
*Frontier Syndicate	136 St. James St., Montreal		
*Huronian Belt Co	302 Bay St., Toronto, Ont		Rouyn Tp.
*Kenojeris Syndicate	Temiskaming, Ont		Rouyn Tp.
*La Rose Mines, Ltd	Bank of Toronto Bldg., Montreal		Louvicourt Tp.
*Malartic Mining Co	35 Delaware Ave., Ottawa, Ont		Malartic Tp.
*McIntyre Porcupine Mine	Standard Bank Bldg., Toronto, Ont		Rouyn Tp.
*Nipissing Mining. Co., Ltd	Cobalt, Ont		Rouyn Tp.
*Noranda Mines Ltd	Rouyn		Rouyn Tp.
*O'Brien, M. J., Ltd	114 Wellington St., Ottawa, Ont		Rouyn Tp.
*Parsons, P. Allen	38 Lawrence Ave., West Orange, N.J		Ascot Tp.
*Porcupine Goldfields Development and Finance Co., Ltd	407 Canada Cement Bldg., Montreal		Malartic Tp.
*Read, W. A.	Box 80, Amos		Bourlamaque Tp.
*Renault, Auguste	Ville Marie		Dasserat Tp.
*Siscoe Gold Mines, Ltd	137 McGill St., Montreal		Dubuisson Tp.
*Timmins, N. A., Inc	Canada Cement Bldg., Montreal	Waite Montgomery	Rouyn Tp.
*Unison Gold Mines, Ltd	Box 222, Amos		Dabuisson Tp.
*Victoria Syndicate, Ltd	Coniston, Ont		
British Columbia			
Allenby Copper Co	Allenby	Copper Mountain	Similkameen Mining Division.
Belmont Surf Inlet Mines, Ltd	Surf Inlet	Surf Inlet	Skeena Mining Division.
Boundary Mercantile & Equipment Co	Greenwood	Imperial	Greenwood Mining Division.
*British Columbia Silver Mines, Ltd	612 Pacific Bldg., Vancouver	Silver	Portland Canal Mining Division.
Britannia Mining and Smelting Co	Britannia Beach	Britannia	Vancouver Mining Division.
*Coast Copper Co., Ltd	703 Birks Bldg., Vancouver	Old Sport, Merry Widow	Quatsino Mining Division.

*Operating but not producing.

The Copper-Gold-Silver Mining Industry—Concluded

Name of Operator	Address	Name of Mine	Location
BRITISH COLUMBIA—*Con.*			
Consolidated Mining & Smelting Co. of Canada, Ltd	Rossland	Rossland Group	Trail Creek Mining Division.
Granby Consolidated Mining, Smelting and Power Co., Ltd	Anyox	Hidden Creek Group	Nass River Mining Division.
		Outsider.	Portland Canal Mining Division.
McDonald, Alex	Nelson	Gold Hill	Nelson Mining Division.
*Princeton Mining and Development Co.	Princeton	Copper Farm	Similkameen Mining Division.
*Rossland Velvet Mines, Ltd	Rossland	Velvet	Trail Creek Mining Division.

Iron Mining Industry

QUEBEC			
Baie St. Paul Titanic Ore Co	Baie St. Paul	Glen	St. Urbain.

Molybdenum Mining Industry

QUEBEC			
Canadian Wood Molybdenite Co	Quyon	Moss	Onslow Tp.

Nickel-Copper Mining Industry

ONTARIO			
International Nickel Co. of Canada, Ltd	67 Wall St., New York, N.Y.	Creighton	Sudbury.
Mond Nickel Co., Ltd	Coniston	Worthington Levack	Drury and Levack Tp.
		Garson, Victoria No. 1 and Frood Extension.	

The Silver-Cobalt Mining Industry

ONTARIO			
*Agaunico Northern Extension Co	Cobalt	Agaunico	Bucke Tp.
Brewer and Sullivan	Cobalt	Adanac	Cobalt.
*Canadian Lorrain Silver Mines, Ltd	302 Bay St., Toronto	Canadian Lorrain	South Lorrain.
*Capital Silver Mines	Standard Bank Bldg., Toronto	Capital	Haultain.
Castle-Tretheway Mines	Standard Bank Bldg., Toronto	Castle Tretheway	Haultain Tp.
Cobalt Contact Mines	North Cobalt	Cobalt Contact	Bucke Tp.
*Coleroy Gowganda Mines, Ltd	Mail Bldg., Toronto	Coleroy	Gowganda.
Coniagas Mines, Ltd	50 Ontario St., St. Catharines	Coniagas	Coleman Tp.
Crown Reserve Mining Co., Ltd	Box 386, Montreal	Crown Reserve	Coleman Tp.
Doherty Easson Mining Syndicate	King St. E., Toronto	Penn. Canadian	Cobalt.
Galvin, M. J	Sandwich	Mother Lode	James Tp.
Genesee Mining Co., Ltd	Cobalt	Genesee	Cobalt.
*Gowganda Duggan Silver Syndicate	Isabella St., Toronto	Gowganda Duggan	Gowganda.
*Gowganda Keora Silver Mg. Co	1106 C.P.R. Bldg., Toronto	Porcupine Keora	Gowganda.
*Hector Silver Mines, Ltd	Excelsior Life Bldg., Toronto	Hector Silver	Gillies Limit.
Hudson Bay Mines, Ltd	New Liskeard	Hudson Bay	Cobalt.
Irwin Geo	Box 547, Cobalt	Silver Queen	Coleman Tp.
Keeley Silver Mines, Ltd	302 Bay St., Toronto	Keeley	South Lorrain.
Kerr Lake Mining Co., Ltd	61 Broadway, New York, N.Y	Kerr Lake	Coleman Tp.
La Rose Mines, Ltd	Cobalt	La Rose	Coleman Tp.
Lorrain Consolidated Mines, Ltd	42 Broadway, New York, N.Y	Lorrain	Silver Centre.
McKinley-Darragh-Savage Mines of Cobalt, Ltd	Cobalt	McKinley-Darragh-Savage	Coleman Tp.

*Operating but not producing.

The Silver-Cobalt Mining Industry—Concluded

Name of Operator	Address	Name of Mine	Location
ONTARIO—*Con.*			
McLeod, J. H.	Box 156, Cobalt	Foster	Coleman Tp.
Menago Mining Co., Ltd.	Sudbury	Colonial	Coleman Tp.
Millerest Mining Co., Ltd.	Bank of Hamilton Bldg., Toronto	Millerest	Bestel Tp.
		Buffalo	Coleman Tp.
		Lorrain Trout Lake	Coleman Tp.
		Lorrain Operating Co.	Coleman Tp.
Mining Corporation of Canada, Ltd.	1512 Bank of Hamilton Bldg., Toronto	Townsite	Coleman Tp.
		City of Cobalt	Coleman Tp.
		Peterson Lake	Coleman Tp.
Nine, W. J., Silver Mines	302 Bay St., Toronto	W. J. Nine	Gowganda Tp.
Nipissing Mining Co., Ltd.	Cobalt	Nipissing	Coleman Tp.
		Alladin	Coleman Tp.
O'Brien, M. J., Ltd.	Cobalt	O'Brien	Coleman Tp.
		Miller-Lake-O'Brien	Gowganda.
*Oxford Cobalt Silver Mines, Ltd.	Woodstock	Oxford Cobalt	Gillies.
Reinhardt, Carl	Box 303, Cobalt	Crown Reserve	Coleman Tp.
Tonopah Canadian Mines	Bullitt Bldg., Philadelphia	Walsh, Morrison	Gowganda.
Wigwam Silver Mines	232 St. James St., Montreal, Quebec	Wigwam	Gowganda.

The Silver-Lead-Zinc Mining Industry

QUEBEC			
*Alpha Mining Syndicate	Timmins, Ont.	Wright	Duhamel Tp.
British Metals Corp., Ltd.	263 St. James St., Montreal	Tetreault	Montauban Tp.
British Metals Corp., Ltd.	263 St. James St., Montreal	Concentrating Plant	Notre Dame des Anges.
*Federal Zinc and Lead Co., Ltd.	Drummond Bldg., Montreal	Federal	Gaspé Co.
*Lyal and Beidelman	Drummond Bldg., Montreal	Lyall and Beidelman claims	Gaspé Co.
ONTARIO			
Kingdon Mining, Smelting and Manufacturing Co., Ltd.	Galetta	Kingdon	Galetta.
BRITISH COLUMBIA			
Ainsworth Mining Division—			
Consolidated Mining and Smelting Co. of Canada	Tadanac	Highland, No. 1	Ainsworth.
Cork-Province Mines, Ltd.	Kaslo	Cork-Province	Keen Creek.
Fowler and Eastman	Riondel	Blue Bell	Ainsworth.
Green and Green	Kaslo	Silver Bell	Kaslo Creek.
McPherson and Forsyth	Ainsworth	Spokane-Trinket	Ainsworth.
Stutz, J. C.	Ainsworth	Silver Hoard	Ainsworth.
Whitewater Mines, Ltd.	Kaslo	Whitewater	Retallack.
Atlin Mining Division—			
Atlin Silver-Lead Mines (J. M. Ruffner)	Atlin	Ruffner Group	Atlin.
Fort Steele Mining Division—			
Consolidated Mining and Smelting Co. of Canada, Ltd.	Kimberley	Sullivan, St. Eugene*	Kimberley.
Golden and Windermere Division—			
Bruce, R. Randolph	Invermere	Paradise	Toby Creek.
Farnham, Jas. P.	57 West 57th St., New York, NY	Rothschild	Golden.
Galena Ghat Mines, Ltd.	Invermere	White Cat	Slade Creek.
Golden Eagle Mining Co.	Box 857 Nelson	Golden Eagle	Windermere.
*Pacific Mines Petroleum and Development Co., Ltd.	608 Pacific Bldg., Vancouver	Monarch	Golden.
Grand Forks Mining Division—			
Breakell, Hugh	Paulson	Carlton	Grand Forks.
Greenwood Mining Division—			
Boundary Mercantile and Equipment Co., Ltd.	Greenwood	Prince Henry	Greenwood.
*Elkhorn Mines, Ltd.	Pemberton Bldg., Victoria	Elkhorn Fraction	Greenwood.
*Jack Paul Mining Co.	Spokane, Wash.	Riverside	Rock Creek.
McIntosh & Lee	Beaverdell	Bell	Wallace Mountain.
Morrison, A. J.	Greenwood	Wellington	Greenwood.
Wallace Mountain Mines, Ltd.	Box 176, Penticton	Sally Group	Beaverdell.
Strathmore Syndicate	Greenwood	Strathmore	Greenwood.

*Operating but not producing.

The Silver-Lead-Zinc Mining Industry—Concluded

Name of Operator	Address	Name of Mine	Location
BRITISH COLUMBIA—*Con.*			
Nelson and Arrow Lake Mining Divisions—			
*Forster, H. E.	Wilmer	Millie Mack	Cariboo Creek.
Iron Mountain, Ltd.	Nelson	Emerald	Salmo.
Miller and Groh	Nelson	Fern	Nelson.
McGregor, Horlow and Burnett	Port Crawford	Porcupine	Crawford Creek.
*Shepherd Mining Co.	Riondel	Kirby	Riondel.
Omineca Mining Division—			
Beaumont and Keeley	New Hazelton	Silver cup	New Hazelton.
Duthie, J. F. (John R. Turner)	Smithers	Henderson & Mamie	Hudson Bay Mtn.
Simpson, Donald	Smithers	Victory	Hudson Bay Mtn.
Portland Canal Mining Division—			
L. and L. Glacier Creek Mines, Ltd.	414 Pender St., Vancouver	L. and L.	Portland Canal.
Porter-Idaho Syndicate	Stewart	Porter-Idaho	Stewart.
Slocan and Slocan City Mining Divisions—			
*American Bay Mining Co.	Sandon	American Bay	Sandon.
Ainslie, Roy F.	Silverton	Galena Farm	Slocan.
Antoine Consolidated Mines	Kaslo	Antoine	Slocan.
Cechelero, John and Partners	New Denver	Mountain Chief	New Denver.
Cunningham Mines, Ltd.	Alamo	Van Roi, Queen Bess, Wonderful	Alamo.
Dennis and Wetterhouse	Silverton	Mammoth, Buffalo	Slocan.
Harris, J. M. and Kelly, F. T.	Sandon	No. 1	Sandon.
Jennes, Henry and Partners	New Denver	Apex	Slocan.
Lucky Jim Lead & Zinc Co., Ltd.	Empire State Bldg., Spokane	Lucky Jim	Zincton.
McLean, Murdock	New Denver	Mowich	Slocan.
O'Neil, D. B.	Slocan	L.T. Group	Slocan.
Petty, Geo.	Sandon	Victor	Sandon.
Rambler-Cariboo Mines, Ltd. (W. A. Cameron)	New Denver	Rambler-Cariboo	Three Forks.
Rosebery-Surprise Mining Co., Ltd.	New Denver	Bosun, Suprise Monitor	New Denver.
Ruth Hope Mining Co., Ltd.	Kaslo	Ruth	Sandon.
Silversmith Mines, Ltd.	Box 1772, Spokane, Wash.	Silversmith	Sandon.
Slocan Silver Mines, Ltd.	Alamo	McAllister	Three Forks.
*Victoria Syndicate, Ltd.	Kaslo	Carnation	Sandon.
Washington Mine, Ltd.	Kaslo	Washington	Slocan.
Zimmerman, K. E.	Slocan City	Anna	Slocan.
Similkameen and Trail Creek Mining Division—			
Davis, S. B.	Beaverdell	Bounty, Sally	Beaverdell.
*Waverley Mines Company	Spokane, Wash.	Waverley, Tangier	Albert Canyon.
YUKON			
Keno Hill, Ltd.	120 Broadway, New York, N.Y.	Keno Hill	Keno Hill, Mayo Division.
Treadwell Yukon Co., Ltd.	Crocker Bldg., San Francisco, Cal.	Treadwell Yukon	Keno Hill, Mayo Division.

Canadian Smelting and Refining Industry

ONTARIO			
Coniagas Reduction Co.	St. Catharines		Thorold.
Deloro Smelting & Refining Co.	Deloro		Deloro.
International Nickel Co. of Canada	67 Wall St., New York, N.Y.		Copper Cliff.
Mond Nickel Co.	Coniston		Coniston.
BRITISH COLUMBIA			
Consolidated Mining and Smelting Co. of Canada	Tadanac		Trail, Rossland, Kimberley.
Granby Consolidated Mining, Smelting and Power Co.	Anyox		Anyox.

*Operating but not producing.

NON-METALLIC MINERAL INDUSTRIES

Actinolite Mining Industry

Name	Address	Location
ONTARIO—		
Actinolite Mining Co., Ltd	Bloomfield, N.J.	Kaladar Township

Asbestos Mining Industry

QUEBEC—		
Asbestos Corporation of Canada, Ltd	Canada Cement Bldg., Montreal	King, Thetford Tp. Beaver, Coleraine Tp. British Canadian Vimy Ridge, Ireland Tp.
Asbestos Fibre Co	342 Madison Ave., New York City N.Y.	Coleraine Tp.
Asbestos Mines, Ltd	282 St. Catherine St., Montreal	Boston Broughton Tp.
Canada Asbestos & Chrome Co	Black Lake	Coleraine.
Canadian Johns-Macville Co., Ltd	450 St. James St., Montreal	Jeffrey, Shipton Tp.
Consolidated Asbestos, Ltd	Phillips Square, Montreal	Thetford, Thetford Tp.
Federal Asbestos Co	Phillips Square, Montreal	Federal, Thetford Tp.
Johnson's Company	Thetford Mines	Johnson's, Thetford Tp. Johnson's Coleraine Tp.
Keasbey and Mattison Co	Ambler, Penn., U.S.A.	Bell, Thetford Tp.
Maple Leaf Asbestos Corp., Ltd	Thetford Mines	Maple Leaf, Coleraine Tp.
Northern Asbestos Co	Thetford Mines	.....
Pennington Asbestos Co	Thetford Mines	Pennington, Thetford Tp.
Quebec Asbestos Corporation	East Broughton	Quebec, Broughton Tp.
ONTARIO—		
Porcupine Asbestos Mining Syndicate	Timmins	Bowman, Deloro.

Barytes Mining Industry

NOVA SCOTIA—		
Brandram-Henderson, Ltd	Montreal, P.Q.	Lake Ainslie, Inverness County.

The Coal Mining Industry

NOVA SCOTIA—		*District—*
Acadia Coal Co., Ltd	Stellarton	Pictou.
Athol Coal Co	Athol	Cumberland.
Boston Coal Co	River Hebert	Cumberland.
Bras d'Or Coal Co	Little Bras d'Or Bridge	Cape Breton.
Canadian Coal Co., Ltd	Halifax	Cumberland.
Carter Coal Co	Maccan	Cumberland.
Cumberland Ry. and Coal Co	Glace Bay	Cumberland.
Dominion Coal Co., Ltd	Glace Bay	Cape Breton.
Emmerson Coal Co., Ltd	River Hebert	Cumberland.
Fundy Mining Co	Joggins Mines	Cumberland.
Greenwood Coal Co., Ltd	Thorburn	Pictou.
Indian Cove Coal Co., Ltd	Sydney Mines	Cape Breton.
Intercolonial Coal Mining Co., Ltd	Westville	Pictou.
Inverness Ry. and Coal Co	Inverness	Inverness.
Lawson Coal Co	Amherst	Cumberland.
Maritime Coal Ry. & Power Co., Ltd	Joggins Mines	Cumberland.
Minudie Coal Co., Ltd	River Hebert	Cumberland.
National Coal Co	New Glasgow	Cumberland.
Nova Scotia Steel and Coal Co	Sydney Mines	Cape Breton.
River Hebert Coal Co	River Hebert	Cumberland.
Victoria Coal Co., Ltd. (operating No. 2 Mine Minudie Coal Co.)	River Hebert	Cumberland.
NEW BRUNSWICK—		*County—*
Avon Coal Co., Ltd	St. John	Queens.
Coakley, M	Minto	Sunbury.
Minto Coal Co., Ltd	St. John	Queens.
Miramichi Lumber Co., Ltd	Minto	Queens. Sunbury.
Rothwell Coal Co., Ltd	Rothwell	Queens.
Welton, Harvey	Minto	Queens.
Welton & Henderson	Minto	Queens.
SASKATCHEWAN—		*Municipality—*
Addie, W	Estevan	Near Estevan.
Bienfait Mine	Bienfait	Near Bienfait.
Big Lump Coal Co., (formerly Bourgain & Smith)	Estevan	Near Estevan.

The Coal Mining Industry—Continued

Name	Address	Location
SASKATCHEWAN—*Concluded*		*Municipality—*
Crescent Collieries, Ltd	Bienfait	Near Bienfait.
Eastern Collieries of Bienfait, Ltd	Estevan	Near Estevan.
Estevan Coal and Brick Co., Ltd	Box 210, Estevan	Near Estevan.
Lignite Coal Mines, Ltd. (formerly Andrew A. Miller)	Taylorton	Taylorton.
Manitoba and Saskatchewan Coal Co., Ltd	503 Avenue Block, Winnipeg, Man	Bienfait.
Pierce-McCallum Ltd. (formerly Bienfait Commercial Co.)	Bienfait	Near Bienfait.
Shand Coal and Brick Co	Shand	Shand.
Western Dominion Collieries Ltd	305 Trust and Loan Bldg., Winnipeg, Man	Taylorton.
ALBERTA—		
Bituminous—		*District—*
Blue Diamond Coal Co., Ltd	602 Standard Bank Bldg., Toronto, Ont	Brule.
Brazeau Collieries, Ltd	Nordegg	Nordegg.
Cadomin Coal Co., Ltd	282 Main St., Winnipeg, Man	Mountain Park.
Canmore Coal Co., Ltd	Canmore	Cascade.
Hillcrest Collieries Ltd	Hillcrest	Crowsnest.
International Coal and Coke Co., Ltd	Coleman	Crowsnest.
Luscar Collieries, Ltd	708 Tegler Bldg., Edmonton	Mountain Park.
McGillivray Creek Coal and Coke Co., Ltd	Coleman	Crowsnest.
Mohawk Bituminous Mines, Ltd	414 Lancaster Bldg, Calgary	Crowsnest.
Mountain Park Collieries, Ltd	708 Tegler Bldg., Edmonton	Mountain Park.
Pass Bituminous Collieries, Ltd	Burmis	Crowsnest.
West Canadian Collieries, Ltd	Blairmore	Crowsnest.
Sub-bituminous—		
Alexo Coal Co., Ltd	Alexo	Saunders.
Balkan Coal Co., Ltd	Robb	Coalspur.
Bighorn and Saunders Creek Collieries, Ltd	Saunders	Saunders.
Bryan Coal Co., Ltd	Adams Bldg., Edmonton	Coalspur.
Coal Valley Mining Co., Ltd	806 McLeod Bldg., Edmonton	Coalspur.
Dino, A. & Co. (formerly Superior Collieries, Ltd.)	Lovett	Coalspur.
Foothills Collieries, Ltd	222 Portage Ave., Winnipeg, Man	Coalspur.
Reco Hard Coal Co., Ltd. (formerly Blackstone Coal Co., Ltd)	Reco, via Edson	Coalspur.
Saunders Ridge Coal Co., Ltd	Mercoal	Coalspur.
Saunders West Collieries, Ltd. (formerly Stanley, C.H.)	West Saunders	Saunders.
Sterling Collieries, Ltd	911 McLeod Bldg., Edmonton	Coalspur.
Lignite—		
Ajax Coal Co., Ltd	Medicine Hat	Redcliff.
Alberta Block Coal Co., Ltd	Drumheller	Drumheller.
Anderson, W. J	Sheerness	Sheerness.
Atlas Coal Co., Ltd	Drumheller	Drumheller.
Banner Coal Co., Ltd. (formerly National Collieries, Ltd))	Round Hill	Camrose.
Bay Coal Co., Ltd	Taber	Taber.
Big Valley Collieries, Ltd	Big Valley	Big Valley.
Bray, Ed	Alix	Ardley.
Bush Mine Coal Co., Ltd	Beverly	Edmonton.
Caledonian Collieries, Ltd	Drumheller	Drumheller.
Canadian Coal Co., Ltd	206 Quebec Bldg., Edmonton	Edmonton.
Canadian Dinant Coal Co	Dinant	Camrose.
Canadian Pacific Railway Co	Dept. of Natural Resources, Calgary	Lethbridge. Taber.
Carbon Gem Mine Co	Carbon	Carbon.
Chappell Coal Co., Ltd	Tofield	Tofield.
City of Lethbridge Coal Mines	Lethbridge	Lethbridge.
Commonwealth Coal Co., Ltd. (formerly Oscar Collieries, Ltd)	Sheerness	Sheerness.
Consolidated Diamond Collieries, Ltd	Lethbridge	Lethbridge.
Co-Operative Coal Co	Barnwell	Taber.
Craig Coal Co., Ltd	Drumheller	Drumheller.
Davidson, Mrs. A. J. (formerly Ferndale Collieries, Ltd)	5650 Ada Blvd., Edmonton	Edmonton.
Dawson Coal Co., Ltd	7 McDougall Court, Edmonton	Edmonton.
Dobell Coal Co., Ltd	138 St. Peter St., Quebec, Que	Tofield.
Donaldson, C.S. Coal Co	Suite 1, Hill Block, Lethbridge	Lethbridge.
Elgin Coal Co., Ltd	Drumheller	Drumheller.
Ellis Coal Co., Ltd	Box 46, Three Hills	Carbon.
Excelsior Collieries, Ltd	Wayne	Drumheller.
Fraser-McKay Collieries, Ltd	10055-101st St., Edmonton	Edmonton.
Great West Coal Co., Ltd. (Black Diamond Mine)	10026-101st Ave., Edmonton	Edmonton.
Great West Coal Co., Ltd., (Star Mine)	Aerial	Drumheller.
Humberstone Mines, Ltd	Beverly	Edmonton.
Hy-Grade Coal Co	Drumheller	Drumheller.
Ideal Coal Co	Wayne	Drumheller.
Jewel Collieries, Ltd	Wayne	Drumheller.
Keith and Fabian Coal Co	Clover Bar	Edmonton.
Kinnaird Collieries, Ltd	Exmore	Brooks.

The Coal Mining Industry—Concluded

Name	Address	Location
ALBERTA—*Concluded*		
Lignite—Concluded		*District*—
Lakeside Coals, Ltd.	711 Tegler Bldg., Edmonton	Pembina.
Lethbridge Coal Co., Ltd.	Box 784, Lethbridge	Lethbridge.
Majestic Collieres, Ltd.	Taber	Taber.
Marcus Coal Mines, Ltd.	10366-104th St., Edmonton	Edmonton.
McLenhan, John A. and Co. (formerly Spicer Coal Co., Ltd.)	Dinant	Camrose.
Midland Collieries, Ltd.	Midlandvale	Drumheller.
Mid-West Collieries, Ltd.	Drumheller	Drumheller.
Newcastle Coal Co., Ltd.	Drumheller	Drumheller.
Newcastle Junior Mining Co.	Drumheller	Drumheller.
North American Collieries, Ltd.	909 Lancaster Bldg., Calgary	Lethbridge. Pembina.
North Star Coal Co.	Cardiff	Edmonton.
Ontalia Collieries, Ltd. (formerly Capital Collieries, Ltd.).	Rosedale Station	Drumheller.
Ottewell Coal Co.	Clover Bar	Edmonton.
Palisade Coal Co.	Three Hills	Carbon.
Parker Creek Collieries, Ltd. (formerly Ardley Hardite Collieries, Ltd.).	Ardley	Ardley.
Partridge Coal Co.	Rosedale Station	Drumheller.
Peerless Carbon Coal Mines, Ltd. (Consolidated with Peerless Carbon Collieries, Ltd.).	Carbon	Carbon
Penn Mine Coal Co. Ltd. (formerly Crown Coal Co.).	10651—92nd St., Edmonton	Edmonton.
Penn Mines Ltd. (formerly Edmonton Collieries Ltd.).	Fraser Flats, Edmonton	Edmonton.
Premier Coal Co., Ltd. (formerly Reed & Brown).	109th Ave., Edmonton	Edmonton.
Redcliff Brick and Coal Co., Ltd.	Box 135, Redcliff	Redcliff
Rosedale Coal Co., Ltd.	Rosedale	Drumheller.
Rose Deer Coal Mining Co., Ltd.	Wayne	Drumheller.
Rosemount Coal Co., Ltd.	Rosedale Station	Drumheller.
Round Hill Collieries, Ltd.	Round Hill	Camrose.
Shannon Coal Co., Ltd.	Carbon	Carbon.
Stoney Creek Collieries, Ltd.	Camrose	Camrose.
Sturgeon Valley Collieries, Ltd.	Curbondale	Edmonton.
Sunbeam Coal Co., Ltd. (formerly Challenger Coal Co., Ltd.).	Ardley	Ardley.
Superior Grade Coal Co., Ltd.	Wayne	Drumheller.
Thomas, J. D., Coal Co.	Nacmine	Drumheller.
Tofield Coal Co., Ltd.	Tofield	Tofield
Warder Collieries, Ltd. (formerly Vimy Coal Light & Power Co.).	Big Valley	Big Valley.
Warneboldt, Julius	Sheerness	Sheerness.
Western Commercial Co., Ltd.	Wayne	Drumheller.
Western Gem Coal Co., Ltd.	Drumheller	Drumheller.
BRITISH COLUMBIA—		
Canadian Collieries (Dunsmuir) Ltd.	600 Belmont Bldg., Victoria	Island.
Coalmont Collieries, Ltd.	Coalmont	Inland.
Corbin Coals Ltd.	Corbin	Crow's Nest Pass.
Crow's Nest Pass Coal Co.	Fernie	Crow's Nest Pass.
East Wellington Coal Co.	Box 250, Victoria	Island.
Fleming Coal Co. Ltd.	Merritt	Inland.
Granby Consolidated Mining, Smelting and Power Co. Ltd.	Cassidy	Island.
Keystone Coal Co. Ltd.	Merritt	Inland.
King & Foster	Box 655, Nanaimo	Island.
Middlesboro Collieries, Ltd.	Middlesboro	Inland.
Nanoose Wellington Collieries, Ltd.	Wellington	Island.
Princeton B.C. Colliery Co. Ltd.	Princeton	Inland.
Tulameen Valley Coal Mine	Princeton	Inland.
Western Fuel Corporation of Canada Ltd.	Nanaimo	Island.

The Feldspar Mining Industry

MINES—		
QUEBEC—		
Bon Ami, Ltd.	Manchester, Conn., U.S.A.	Aylwin.
Cameron, Wm. & J. J.	Box 11, Buckingham	Buckingham Tp.
Gauthier Bros.	Box 226, Buckingham	Buckingham Tp.
Lapointe, E.	N. D. de la Salette	Portland W. Tp.
Larose, A. D.	Weir	Arundel Tp.
O'Brien and Fowler	Bk. of Nova Scotia Bldg., Ottawa, Ont.	Derry Tp.
Whittemore, Mrs. A.	Ottawa, Ont.	Derry Tp.
Winning, Bush	N. D. de la Salette	Portland Tp.

The Feldspar Mining Industry—Continued

Name	Address	Location
MINES—*Concluded*		
ONTARIO—		
Anderson, J. G.	Lucknow	Dryden and Head Tps.
Checkley, H. R.	Sudbury	Dill Tp.
Craig, T. H.	Verona	Portland Tp.
Elizabeth Feldspar Mines Ltd.	24 Rose Ave., Toronto	Dill Tp.
Feldspars, Ltd.	293 Bay St., Toronto	Bedford, Portland & Loughborough Tps.
Feldspar Mines Corp. Ltd.	1507 Bank of Hamilton Bldg., Toronto	Monteagle Tp.
Fowlie, J. A.	671 Johnson St., Kingston, Hartington	Monteagle Tp.
Gardner Feldspar Co.	Hartington	Monteagle Tp.
Genesee Feldspar Co.	82 Augustine St., Rochester, N.Y.	Monteagle Tp.
Industrial Minerals Corp.	805 Bank of Hamilton, Toronto	Monmouth Tp.
McQuire-Robinson	Parry Sound	Conger Tp.
Morrison, Wm.	517 Strathmore Blvd., Toronto	Conger Tp.
Pelto, Oscar	Quartz	Conger Tp.
Perth Feldspar & Mining Co., Ltd.	Perth	Bathurst Tp.
Rock Products Co.	Nicholas Bldg., Toledo, Ohio, U.S.A.	Bathurst Tp.
MILLS:—		
ONTARIO—		
Frontenac Floor and Wall Tile Co., Ltd.	Kingston	Kingston.
Industrial Minerals Corp.	805 Bank of Hamilton Bldg., Toronto	Toronto.

The Fluorspar Mining Industry

ONTARIO—		
Industrial Minerals Corp.	Toronto	Near Wilberforce.
BRITISH COLUMBIA—		
Consolidated Mining & Smelting Co. of Canada Ltd.	Trail	Rock Candy Mine, Grand Forks.

The Graphite Mining Industry

QUEBEC—		
Canadian Graphite Corporation	425 Phillip's Place, Montreal	Boyer Township.
North American Graphite Co.	50 Spadina Ave., Toronto	Buckingham Tp.
Quebec Graphite Co., Ltd.	4 Fenchurch, London, E.C	Lochaber Township.
ONTARIO—		
Black Donald Graphite Co., Ltd.	Calabogie	Brougham Township.
Graphite Refining Co. Ltd.	Port Elmsley	
Timmins Graphite Mines	1018 Canada Cement Bldg., Montreal, Que.	North Burgess Township.

The Grindstone Mining Industry

NOVA SCOTIA—		
Mic-Mac Grindstone Co., Ltd.	Woodburn	Woodburn.
Sutherland, Jas. W.	Quarry Id	Quarry Id.
NEW BRUNSWICK—		
Miramichi Quarry Co., Ltd.	Quarryville	Quarryville.
Read Stone Co., Ltd.	Sackville	Stonehaven.
BRITISH COLUMBIA—		
MacDonald, J. A. and C. H.	Vancouver	Newcastle Island

The Gypsum Mining Industry

NOVA SCOTIA—		
Higginson Manufacturing Co.	Newburg, N.Y.	Newport Station, Hants Co.
Ingonish Gypsum Co., Ltd.	Canada Cement Bldg., Montreal, Que.	Ingonish Beach, Victoria Co.
Iona Gypsum Products Co.	Box 60, Sydney	Iona.
Newark Plaster Co.	Ottawa Brook	Ottawa Brook, Victoria Co.
Rock Plaster Corporation	40 Rector St., New York, N.Y.	Walton, Hants Co.
St. Croix Gypsum Mining & Mfg. Co., Ltd.	St. Croix	St. Croix, Hants Co.
Wentworth Gypsum Co., Ltd.	Windsor	Wentworth, Hants Co.
Windsor Plaster Co., Ltd.	Windsor	Windsor, Hants Co.
NEW BRUNSWICK—		
Albert Manufacturing Co.	Hillsborough	Hillsborough, Albert Co.
ONTARIO—		
Ontario Gypsum Co., Ltd.	Paris	Caledonia, Seneca Tp. Lythmore, Oneida Tp.
MANITOBA—		
Manitoba Gypsum Co., Ltd.	Box 3057, Winnipeg	Gypsumville.
BRITISH COLUMBIA—		
Basque Ranch Ltd.	Ashcroft	Basque Ranch.
Henderson, Robert	754 Hamilton St., Vancouver	

The Iron Oxide Mining Industry

Name	Address	Location
QUEBEC—		
Argall, Thos. H	Three Rivers	Point du Lac, St. Maurice Co.
Canada Paint Co., Ltd	572 William St., Montreal	Red Mill, Champlain Co.
Montmorency Paint Products Co., Ltd	6 d'Aiguillon St., Quebec	Montmorency Co.
BRITISH COLUMBIA—		
McDonald, R. W	823 Fifth Ave. West, Calgary, Alta	Windermere District.
Thompson, J. H., & Davidson, J. G	1641 Woodland Drive, Vancouver	Near Mons.

The Magnesite Mining Industry

QUEBEC—		
International Magnesite Co., Ltd	Calumet	Hartington Township.
North American Magnesite Producers, Ltd	Magnesite	Grenville Township.
Scottish Canadian Magnesite Co	Magnesite	Grenville Township.

The Mica Mining Industry

QUEBEC—		
Ahearn, W	538 McLaren St., Ottawa, Ont	Hull Tp.
Barrett, J. A	53 Breeze Hill Ave., Ottawa, Ont	Hull Tp.
Blackburn Bros	Union Bank Bldg., Ottawa, Ont	Templeton Tp.
Boessnou, F	Cantley	
Capital Mica Co., Ltd	538 McLaren St., Ottawa, Ont	Hull Tp.
Carman, O	Farm Point	Hull Tp.
Chenier, Z. E	Rockland, Ontario	Grenville Tp.
Charette, Nap	Gatineau Point	
Flynn, H. T	106-8 Montcalm St., Hull	Hull Tp.
Larrabie, P. H	Glenlivet	
McLaurin, John	St. Rose de Lima	Templeton.
McGlashan, R. J. & Co	Cantley	Hull Tp.
Martin, A. G	Ottawa, Ont	Cameron Tp.
Mineral Products Co., Ltd	330 Bay St., Toronto, Ont	
Nault, J. B	River Desert	Cameron Tp.
Paul, David	Bouchette	
Perkins, Mining Co	Gatineau Point	Templeton Tp.
Reginald, E	Mont Laurier	Robertson Tp.
Wallingford, Geo. & Chas	Perkins	Templeton Tp.
Wallingford, A	Ottawa, Ont	Templeton Tp.
Watts and Noble	217 Lyon St., Ottawa, Ont	Portland W. Tp.
ONTARIO—		
Austin, Louis	Perth Road	
Bennett, H. V	Perth	South Elmsley
Brown and Fahey	Elgin	Loughborough Tp.
Green, Geo	Perth Road	
Kent Bros. and Estate J. M. Stoness	Kingston	Loughborough Tp.
Lee, W. W	Bedford Mills	
Loughborough Mining Co., Ltd	Sydenham	Loughborough Tp.
Mahon Bros	Rideau Ferry	North Burgess Tp.
McNaughton, G. D	Sydenham	
Orser, F	Tory Hill	
Orser, S. H	Bancroft	Faraday Tp.
Martin, A. G	231 Besserer St., Ottawa	Loughborough Tp.
Rock Lake Mica Mining Co	Temple Bldg., Toronto	Storrington Tp.
Tory Hill Marble & Mica Co	Tory Hill	Glanmorgan Tp.
Wright, Robert	Carleton Place	

Mineral Waters Industry

QUEBEC—		
Abenakis Springs Co	Abenakis Springs	St. Francois du Lac.
Roy, Cyprien	St. Germain	L'Islet Plate.
Veillet, D. & Co	St. Genevieve de Batiscan	
ONTARIO—		
Borthwick, W	10 Albert St., Ottawa	Gloucester Tp.
Caledonia Springs Co., Ltd	2716 St. Urbain St., Montreal, Que	Caledonia Springs.
Deneault, F	Bourget	Bourget.
Goderich Mineral Water Co	Goderich	Goderich.
Gurd, Charles & Co., Ltd	1016 Bleury St., Montreal, Que	Caledonia.
Sanitaris, Ltd	Arnprior	Pakenham.

Natro-Alunite Mining Industry

Name	Address	Location
BRITISH COLUMBIA—		
Alunite Chemical Corp., Ltd	Esquimalt	Kyuquot Sound.

The Natural Gas Industry

NEW BRUNSWICK—		*Field*
New Brunswick Gas & Oilfields, Ltd	Box 196, Moncton	Stony Creek, Albert Co.
ONTARIO—		
Allied Gas and Oil Co. (formerly Clover Gas & Oil Co.)	Welland	Moulton Tp.
Attercliffe Gas Co	Attercliffe	Canboro Tp.
Azoff Gas Co	Canboro	North Cayuga Tp.
Beer, Geo	Binbrook	Binbrook Tp.
Bennett, J. B	Ridgetown	Howard Tp.
Bertie Natural Gas Co., Ltd	Ridgeway	Bertie Tp.
Binbrook Gas Co	Binbrook	Binbrook Tp.
Caledon Natural Gas Fields, Ltd	Hamilton	Caledon Tp.
Canada Cement Co., Ltd	Montreal, Que	Wainfleet Tp.
Canby, B. F	R. R. 2, Marshville	Wainfleet Tp.
Canboro Gas & Oil Co	Selkirk	Canboro, Cayuga N., and Seneca Tps.
Canfield Natural Gas Co	Canfield	Cayuga N. Tp.
Castle Oil and Gas Co	Imperial Bk. Chambers, Niagara Falls	Euphemia Tp.
Chippawa Development Co., Ltd	Chippawa	Willoughby Tp.
Chippawa Oil and Gas Co., Ltd	Tavistock	Caistor and Gainsboro Tps.
Coleman, J. A	Wellandport	Wainfleet and Gainsboro Tps.
Dominion Natural Gas Co., Ltd	518 Jackson Bldg., Buffalo, N.Y	Bayham, Binbrook, Caistor, Canboro, Cayuga N., Cayuga S., Charlottetown, Dunn, Glanford, Houghton, Humberstone, Malahide, Middleton, Moulton, Oakland, Oneida, Onondaga, Rainham, Seneca, Townsend, Walpole, Walsingham N., Walsingham S., Windham, Woodhouse Tps.
Duffy, W	Hagersville	Walpole Tp.
Dunn Natural Gas Co., Ltd	Dunnville	Dunn and Sherbrooke Tps.
Eastside Gas Co	R. R. 2, Lowbanks	Sherbrooke Tp.
Ellsworth, F	Port Colborne	Wainfleet Tp.
Empire Limestone Co	19 Hudson St., Buffalo, N.Y	Humberstone Tp.
Erie Gas and Oil Syndicate	Fisherville	Rainham Tp.
Fisherville Gas Co	Fisherville	Rainham Tp.
Hamilton Gas and Oil Co	17 Main St., E., Hamilton	Seneca Tp.
Hart and Harrington	Attercliffe Station	Canboro Tp.
Hoffman, Albert	Dunnville	Moulton Tp.
Hoover, J. E	Selkirk	Walpole Tp.
Industrial Natural Gas Co., Ltd	Thorold	Bertie, Crowland, Humberstone Tps.
Jasperson, B	Kingsville	Tilbury East and Gosfield South Tps.
Jones, J. S	Port Maitland	Dunn Tp.
Kindy, D. and Son	Selkirk	Rainham Tp.
King, Ralph Gas Co	Hamilton	Charlotteville, Middleton, Rainham, Seneca, Walpole Tps.
Labor, F. R	Dunnville	Moulton Tp.
Lawson, J. J	Stromness	Moulton Tp.
Lincoln Gas Syndicate	Canboro	Gainsboro Tp.
Maple Leaf Gas Co	48 St. John's Rd., Buffalo, N.Y	Moulton Tp.
Marshall, Jas	Hamilton	Glanford and Seneca Tps.
May, A. G	Selkirk	Seneca Tp.
Medina Natural Gas Co., Ltd	Box 339, Chatham	Bayham, Houghton and Middleton Tps.
Michener, E. C	Marshville	Wainfleet Tp.
Midfield Gas Co., Ltd	9 Maple Ave, Hamilton	N. Cayuga and Oneida Tps.
Nelles Corners Gas Co	Cayuga, R.R. 4	Cayuga N. and Rainham Tps.
Niece, Hosea and Son	Lowbanks	Sherbrooke Tp.
Northern Gas and Gasoline Co	Hepworth	Amabel Tp.
North Shore Gas Co., Ltd	Selkirk	Rainham Tp.
Oil Springs Oil & Gas Co., Ltd	Oil Springs	Enniskillen Tp.
Onondaga Oil and Gas Co	Cainsville	Onondaga Tp.
Patterson, W. C	Jamestown, N.Y	Cayuga N., Cayuga S., and Dunn Tps.
Petrol Oil & Gas Co., Ltd	301 York Bldg., Toronto	Dover West Tp.
Pilkington Bros., Ltd	St. Catharines	Crowland Tp.
Port Colborne-Welland Natural Gas and Oil Co., Ltd	Port Colborne	Oneida, Onondaga, and Seneca Tps.
Progressive Oil and Gas Co	212 Main & Hughson St., Hamilton	N. Dorchester Tp.

The Natural Gas Industry—Concluded

Name	Address	Location
ONTARIO—*Concluded*		*Field*
Provincial Natural Gas & Fuel Co. of Ontario, Ltd	103 Queen St., Niagara Falls	Bertie, Crowland, Humberstone and Willoughby Tps.
Root, Mrs. Esther	Dunnville	Cayuga, S. Tp.
Sarnia Gas & Oil Co	145½ Front St., Sarnia	Sarnia Tp.
Smith, R. H	Lowlands	Moulton Tp.
Southern Ontario Gas Co., Ltd	518 Jackson Bldg., Buffalo, N.Y	Mersea, Romney, Raleigh & Tilbury East Tps.
Sparham, A. F	Caledonia	Glanford Tp.
Springvale Gas & Oil Co., Ltd	Hagersville	Walpole Tp.
Sterling Gas Co., Ltd	Port Colborne	Humberstone, Moulton, Sherbrooke and Wainfleet Tps.
Stevensville Gas & Fuel Co., Ltd	Stevensville	Bertie Tp.
Sundy Gas and Oil Co	Dunnville	Canboro Tp.
Union Natural Gas Co. of Canada, Ltd	48½ Market St., Chatham	Dawn, Dover W., Raleigh, Romney and Tilbury E. Tps.
United Gas Companies, Ltd	518 Jackson Bldg., Buffalo, N.Y	Canboro, Cayuga N., Moulton Seneca and Wainfleet Tps.
Vacuum Oil & Gas, Ltd	509 Lumsden Bldg., Toronto	Dover West and Middleton Tps.
Van Sickle, A. W	Onondaga	Onondaga Tp.
Wainfleet-Moulton Gas Co	R. R. 1, Lowbanks	Moulton and Wainfleet Tps.
MANITOBA—		
Haskill, E. C	Box 64, Treherne	Treherne.
ALBERTA—		
Alberta Clay Products Co., Ltd	Box 672, Medicine Hat	Medicine Hat.
British Petroleums, Ltd	918 Rogers Bldg., Vancouver, B.C	Wainwright.
Canada Cement Co., Ltd	Canada Cement Co., Bldg., Montreal	Dauntless.
Canadian Pacific Railway Co	Montreal, Que	Medicine Hat.
Canadian Western Natural Gas, Light, Heat & Power Co., Ltd	215-6th Ave. West, Calgary	Near Barnwell; Bow Island; Brooks; Dunmore; and Calgary.
Canadian Western Power & Fuel Co	Redcliff	Redcliff.
Community Oil Wells, Ltd	Medicine Hat	Many Island Field.
Dominion Glass Co., Ltd	285 Beaver Hall Hill, Montreal, Que	Redcliff.
Hedley Shaw Milling Co., Ltd	Medicine Hat	Medicine Hat.
Higgins-Suffield Gas Co	Suffield	Suffield.
Many Islands Oil & Gas Co	Medicine Hat	Many Island Field.
Medicine Hat, Corporation of	Medicine Hat	Medicine Hat.
Northwestern Utilities Ltd	10335 Jasper Ave., Edmonton	Viking.
Northwest Co., Ltd	56 Church St., Toronto, Ont	
Ogilvie Flour Mills Co., Ltd	Medicine Hat	Medicine Hat.
Redcliff Brick & Coal Co., Ltd	Redcliff	Redcliff.
Royalite Oil Co., Ltd	239-6th Ave., Calgary	Turner Valley.
Town of Bow Island	Bow Island	Bow Island.
Wetaskiwin, Corporation of	Wetaskiwin	Wetaskiwin.
United Electric & Engineering Co., Ltd	1721-11th St. West, Calgary	Bassano.

The Petroleum Industry

NEW BRUNSWICK—		*Field*
New Brunswick Gas & Oilfields, Ltd	Box 196, Moncton	Stony Creek, Albert County.
ONTARIO—		
Allied Gas and Oil Co., Ltd	Bothwell	Bothwell.
Anderson Bros. & Thompson	Oil Springs	Oil Springs.
Anderson, J. H	Oil Springs	Oil Springs.
Armstrong, J. E	Petrolia	Moore.
Atkinson, John	R. R. No. 3, Petrolia	Plympton.
Ayrheart, E. B	Petrolia	Enniskillen.
Barker, W. B	Petrolia	Mosa.
Barrett, C. H	Petrolia	Enniskillen.
Bothwell Oil Co., Ltd	120 Bay St., Toronto	Bothwell.
Bowles, Herbert	Petrolia	Sarnia.
Bradley, R. N	Lowbanks	Enniskillen.
Brock, Thos. A	Petrolia	Enniskillen.
Byers, Lydia, Executrix	Oil Springs	Oil Springs.
Canada Crude Oil Producers, Ltd	Confederation Life Bldg., Toronto	Enniskillen. Oil Springs.
Canadian Dutch Oils, Ltd	7 Adelaide St. E., Toronto	Onondaga.
Canadian Oil Producing and Refining Co., Ltd	Petrolia	Enniskillen. Oil Springs.
Carleton, Geo	R. R. No. 2, Petrolia	Enniskillen.
Carman and Fairbank	Petrolia	Bothwell.
Chesher, Geo	Petrolia	Sarnia.
Colchester Oil and Gas Co	Federal Bldg., Toronto	Dover.
Crocker-Parks Oil Co., Ltd	Oil Springs	Oil Springs.
Crotty and Elliott	Bothwell	Bothwell.

The Petroleum Industry—Concluded

Name	Address	Location
ONTARIO—*Concluded*		*Field*
Dennis, C.	Oil Springs	Oil Springs.
Dennis, E.	Petrolia	Plympton.
Dominion Petroleum Co., Ltd	Glencoe	Mosa.
Donald, Geo.	Oil Springs	Oil Springs.
Duncan Bros.	Petrolia	Moore.
Edward, F. H.	Petrolia	Enniskillen.
Elliott, C. H.	Corunna	Sarnia.
Fairbank, C. O. Estate	Petrolia	Bothwell.
Fairbank, J. H. Estate	Petrolia	Oil Springs.
Forsythe, A.	Petrolia	Enniskillen.
Goudie, John	Petrolia	Enniskillen.
Hamlin, F. G.	Petrolia	Enniskillen.
Hillis, James T. & Sons	Oil Springs	Oil Springs.
Houston, King, Estate of	Petrolia	Enniskillen.
Howlett, Fred.	Petrolia	Enniskillen.
James, Mrs. Mary A.	Oil Springs	Oil Springs.
Jewell, Dan.	Oil Springs	Oil Springs.
Kelly, J. E.	Petrolia	Petrolia.
Kerr, John, Estate	Petrolia	Enniskillen.
Kerr, Mrs. Roes	Sarnia	Enniskillen.
Kettle, Robt.	Petrolia	Enniskillen.
Kirk, Elmer	Petrolia	Moore.
Levine, Herbert	Petrolia	Enniskillen.
Lewis, John J. Estate	Oil Springs	Oil Springs.
Lidster, Geo. H.	Wallacetown	Dutton.
Loxton, Thos.	Petrolia	Enniskillen.
McDonald, F. D.	Petrolia	Enniskillen.
McDougal, D.	Petrolia	Enniskillen
McGillivray, Geo. A.	201 Mt. Pleasant Ave., London	Oil Springs.
McKay, John	Sarnia	Sarnia.
McLean, L.	Glencoe	Mosa.
McManus, Alex.	Wyoming	Plympton.
McNaughton, J. D.	Glencoe	Mosa.
McRichie, Mary D.	Bothwell	Bothwell.
McRury, Alex.	Corunna	Sarnia.
Mills, A. J.	Corunna	Sarnia
Morningstar, L. H.	Oil Springs	Oil Springs.
Morningstar and Jackson	Oil Springs	Oil Springs.
Morris, Geo.	Petrolia	Petrolia.
Mott and Mitchell	Oil Springs	Oil Springs.
Mott, E.	Oil Springs	Oil Springs.
Mutual Oil Producing Co.	London	Petrolia.
Ontario Lands & Oil Co., Ltd	Petrolia	Enniskillen.
Parker, H. W.		Mosa.
Parks, Mrs. E. M.	Petrolia	Enniskillen.
Paul, John D.	Wyoming	Plympton.
Peace River Development Co.	1 Mail Building, Toronto	Dunwich.
Petrol Oil & Gas Co.	301 York Bldg., Toronto	Dover.
Rainsberry, Walter	Petrolia	Enniskillen.
Rawson, A.	Petrolia	Enniskillen.
Schumacher, Bowen W.	112 W. Adams St., Chicago, Ill.	Enniskillen.
Smith, T. E.	Sarnia	Sarnia.
Southern Ontario Gas Co., Ltd	518 Jackson Bldg., Buffalo, N.Y.	Romney.
Sproule Bros.	Oil Springs	Oil Springs.
Stonehouse Bros.	Petrolia	Moore.
Tuer, J. T.	Plympton	Plympton.
Union Natural Gas Co. of Canada, Ltd	48½ Market Sq., Chatham	Dover.
Walker Oil & Gas Co., Ltd., of Bothwell	Windsor	Bothwell.
Wallen, Alex. C.	Oil Springs	Oil Springs.
Wallen, John, Estate	Oil Springs	Oil Springs.
Wallen & Wallen, Estate	Oil Springs	Oil Springs.
Warwick, Joseph	Oil Springs	Oil Springs.
Watt, P. J.	London	Petrolia.
Winnett, J. W. G.	Bothwell	Bothwell.
Woodward, John	Oil Springs	Oil Springs.
Woodward, Wm.	Oil Springs	Oil Springs.
Yerks, Carlton	Petrolia	Petrolia.
Young, W. E.	Plympton	Plympton.
ALBERTA—		
British Petroleums, Ltd	36 Dominion Bank Chambers, Edmonton.	Wainwright Field.
Canada Southern Oil and Refining Company	Black Diamond	Turner Valley Oil Field.
Indiana-Alberta Oil Co.	101 8th Ave. E., Calgary	Turner Valley Oil Field.
McLeod Oil Co., Ltd	Grain Exchange Bldg., Calgary	Turner Valley Oil Field.
Royalite Oil Co., Ltd	239 6th Ave. W., Calgary	Turner Valley Oil Field.

The Pyrites Mining Industry

QUEBEC—		
Eustis Mining Co.	Eustis	Ascot Tp.
ONTARIO—		
Grasselli Chemical Co., Ltd	Hamilton	Blythefield Tp.
BRITISH COLUMBIA—		
Consolidated Mining & Smelting Co. of Canada, Ltd	Trail	"Sullivan Mine", Kimberley

The Quartz Mining Industry

Name	Address	Location
NOVA SCOTIA—		
River Dennis Sand & Clay Co., Ltd	River Dennis	Melford, Inverness Co.
QUEBEC—		
O'Brien & Fowler	c-o M. J. O'Brien Ltd. Ottawa, Ont.	Derry Tp.
Silico, Limited	103 St. Francois-Xavier, Montreal	Parish of St. Canut.
ONTARIO—		
Anderson, J.G	Wanup	
Dominion Mines and Quarries, Ltd	Canada Life Bldg., 46 King St. W., Toronto	District of Algoma (East Neebish Quarry and Killarney Quarry).
Gardner Feldspar Co	Hartington	
Industrial Minerals Corp	Toronto	
Johnson, Felix	Kingston	
Mond Nickel Co., Ltd	Coniston	Neelon Tp.
Orser-Kralt, Ltd	Perth	Bathurst, Drummond and South Sherbrooke Tps.
Silica Sand Co	Kingston	Pittsburgh Tp.
Wright & Co	960 Queen St., Sault Ste. Marie	Deroche Tp.
BRITISH COLUMBIA—		
Granby Consolidated Mining, Smelting & Power Co., Ltd	Anyox	Anyox.

The Salt Industry

NOVA SCOTIA—		
Malagash Salt Products, Ltd	New Glasgow	Malagash, Cumberland Co.
ONTARIO—		
Brunner-Mond, Canada, Ltd	Amherstburg	Amherstburg, Essex, Co.
Canadian Salt Co., Ltd	719 Sandwich St. W., Windsor	Windsor and Sandwich, Essex Co.
Dominion Salt Co., Ltd., The	412 N. Front St., Sarnia	Sarnia, Lambton Co.
Eharton Salt Works Co., Ltd	Watford	Warwick, Lambton Co.
Exeter Salt Works Co., Ltd	Exeter	Exeter, Huron Co.
Goderich Salt Co., Ltd	Goderich	Goderich, Huron Co.
Kincardine Salt Co., Ltd	Kincardine	Kincardine
Western Canada Flour Mills Co., Ltd	295 Macpherson Ave., Toronto	Goderich, Huron Co.
Western Salt Co., Ltd	43 Victoria St., Toronto	Courtright, Lambton Co.
Wingham Salt Co	Wingham	Wingham, Huron Co.
ALBERTA		
Alberta Salt Co., Ltd	Edmonton	Fort McMurray

The Sodium Carbonate Mining Industry

BRITISH COLUMBIA—		
Austin, C. W	70 Mile House	
Coulson, John A. and Son	Burley	White Elephant.
Janes, O. O	70 Mile House	Near 70 Mile House.
Lloyd-Campbell, Ltd	422 Standard Bank Bldg., Vancouver	Coulson Spur.

The Sodium Sulphate Mining Industry

SASKATCHEWAN—		
Bishopric and Lent Co	Winton Place, Cincinnati, Ohio, U.S.A.	Frederick Lake.

The Talc and Soapstone Mining Industry

QUEBEC—		
Houle, J	St. Antoine de Pontbriand	Thetford Tp.
Robertsonville Soapstone Quarry Co	Robertsonville	Thetford Tp.
ONTARIO—		
Asbestos Pulp Co., Ltd	Madoc	Huntingdon Tp.
Gillespie Co., Ltd., Geo. H. (Mill)	Madoc	Plant at Madoc.
Grace Mining Co	15 Genesse St. Buffalo, N.Y	Vermillion Bar.
Henderson Mines, Ltd	Madoc	Huntingdon Tp.
BRITISH COLUMBIA—		
Eagle Talc and Mining Co	W. G. Dickinson, 627 Yates St., Victoria	Victoria Mining Division.

The Tripolite Mining Industry

NOVA SCOTIA—		
Oxford Tripoli Co., Ltd	Oxford	Silica Lake.

The Volcanic Ash Mining Industry

SASKATCHEWAN—		
Old Sol Manufacturing Co., Ltd	805 Erin St., Winnipeg	Waldeck.
Van Kel Cleansers, Ltd	Swift Current	Waldeck.

STRUCTURAL MATERIALS AND CLAY PRODUCTS

The Cement Industry

Name	Address	Location
QUEBEC—		
Canada Cement Co., Ltd	Canada Cement Co., Bldg., Montreal	Montreal East.
La Cie de Ciment Unic, Ltd	294 St. Catherine St., E. Montreal	St. François de Sales.
ONTARIO—		
Canada Cement Co., Ltd	Canada Cement Co., Bldg., Montreal Que	Belleville. Port Colborne.
Hanover Cement and Stone, Ltd	371 Bay St., Toronto	Hanover.
St. Mary's Cement Co., Ltd	49 Wellington St. E., Toronto	St. Mary's.
MANITOBA—		
Canada Cement Co., Ltd	Canada Cement Co Bldg., Montreal, Que	Fort Whyte.
Commercial Cement Co., Ltd	913 Union Bank Bldg., Winnipeg	Babcock.
ALBERTA—		
Canada Cement Co., Ltd	Canada Cement Co. Bldg., Montreal, Que	Exshaw.
Marlboro Cement Co	12128-105th Ave, Edmonton	Marlboro.
BRITISH COLUMBIA—		
British Columbia Cement Co., Ltd	305 Belmont House, Victoria	Bamberton.

The Clay Products Industry—Brick and Tile

PRINCE EDWARD ISLAND—		
Prince Edward Island Brick and Tile Co	Dept. of Agriculture, Charlottetown	Richmond.
NOVA SCOTIA—		
Brooks, Geo	New Glasgow	Plymouth.
Brooks, Stephen and Sons	Box, 359, New Glasgow	New Glasgow.
Miller, Jas. B	Elmsdale	Barney's Brook.
Nova Scotia Clay Works, Ltd	Havelock St. Amherst	Elmsdale.
Shaw, L. E., Ltd	Avonport	Pugwash. Avonport.
NEW BRUNSWICK—		
Ryan and Sons, M	Box 575, Fredericton	Fredericton, Woodstock, Rd.
Tondreau, Joseph	Lamartine, Que	Bathurst
QUEBEC—		
Alex. Mills Brick Co., The	Ormstown	Ormstown.
Ascot Tile and Brick Co., Ltd	Ascot Corner	Ascot Corner.
Bell, W. and D	1286 St. Valier St., Quebec	Little River Rd.
Bouchard, Benjamin	Jonquières	Jonquières.
Citadel Brick, Ltd	421 St. Paul St., Quebec	Boischatel.
Granby Clay Products, Ltd	P.O. Box 266, Granby	Granby.
Hodgins, David G	Shawville	Shawville.
La Cie de Briques de Béton	Amos	Amos.
L'Industrielle de St. Tite, Ltd	St. Tite	St. Tite.
Longpre, Emile	St. Felix de Valois	St. Felix de Valois.
Mathieu, Amédée	Victoriaville	Victoriaville.
McCrea Walley Brick Co., Ltd	Oliver Bldg., Sherbrooke	Sherbrooke.
National Brick Co. of Laprairie, Ltd	Canada Cement Co. Bldg., Montreal	Delson. Laprairie.
Proulx Frères	P.O. Box 384, Richmond	Richmond.
St. Lawrence Brick Co., Ltd., The	71 St. James St. ,Montreal	Laprairie.
Scott Brick Co., Ltd	136 St. Peter St., Quebec	Scott Junction.
Suddard, E. P	Gaspé	Douglas West.
ONTARIO—		
Alvinston Brick & Tile Co., Ltd	Box 26, Alvinston	Alvinston.
Baker, Geo. E	Arnprior	Arnprior.
Bartonville Pressed Brick Co., Ltd	620 Lister Block, Hamilton	Bartonville.
Batchelor, Samuel	Proton Station	Proton Station.
Bay of Quinte Brick Works	239 Dundas St., Belleville	Belleville.
Bechtel Brick Co., Ltd., The	Waterloo	Waterloo.
Booth Brick & Lumber Co., The	Box 61, New Toronto	Etobicoke.
Brampton Pressed Brick Co	Brampton	Brampton.
Broadwell, B., and Son	Kingsville	(Near) Kingsville.
Caledon Mountain Shale Products	600 Bay St., Toronto	Caledon.
Campbell, Neil F	R.R. No. 1, West Lorne	West Lorne.
Canadian Fireclay Products, Ltd	60½ Adelaide St. E., Toronto	New Toronto.
Canadian Pressed Brick Co., Ltd	63 Ottawa St., S., Hamilton	Bartonville.
Cheeseman, Peter	670 King St., W., Hamilton	Hamilton.
Cooksville Shale Brick, Co., Ltd	26 Queen St. E., Toronto	Cooksville.
Cooper, W. H	312 Clyde Bldg., Hamilton	Hamilton.
Cornhill, James & Sons, Ltd	Grand Ave. E., Chatham	Chatham.
Crang, Jethro	22 Thorne Crescent, Toronto	Toronto.

The Clay Products Industry—Brick and Tile—Continued

Name	Address	Location
ONTARIO—*Continued*		
Crawford Bros	451 King St. W., Hamilton	Hamilton.
Curtin, Frank	R.R. No 4 Lindsay	Lindsay.
Curtis Bros	Box 809, Peterboro	Peterboro.
DeLaplante, J. E	Dawes Rd., Coleman P.O., Toronto	Toronto.
Deller, Albert and Son	Brownsville	Brownsville.
Deller Bros	R.R. No. 2 Norwich	(Near) Norwich.
Dolan, John	R. R. No. 2 Watford	Warwick.
Dominion Sewer Pipe and Clay Industries, Ltd	Swansea	Aldershot.
Donaldson, S. E	R.R. 4, Harriston	Fulton Mills.
Don Valley Brick Works	114 Federal Bldg., Toronto	Todmorden
Douglas and Turner	Wilkesport	Wilkesport.
Dublin Brick & Tile Yard	Dublin	Dublin S.
Elliott, Charles	Bluevale	Bluevale.
Elliott, Wm	Glenannan, P.O	Glenaanan.
Elliott, James, Jr	519 Wellington St., W. Sault Ste. Marie	E. Korah Tp.
Fort William Brick Co	509 Victoria Ave., Fort William	W. Fort William.
Fox, Geo. J	Box 243, Dresden	Dresden.
Frid Bros	Macklin St. & Dundas Road, Hamilton	Hamilton.
Gamage, C. R	R.R. No. 2, Dresden	Dresden.
Gardiner, Wm	Box 83, Blenheim	Blenheim.
Godfrey, Thomas & Co	Carleton Place	Carleton Place.
Grimsby Brick and Tile Co	Grimsby	Grimsby.
Hallatt, Herbert & Son	Box 93, Comber	Comber.
Hallatt, Wm	Richards Bldg., Chatham	Merlin
Halton Brick Co., Ltd	28 Symes Rd., West Toronto	Near Terra Cotta.
Hamilton Pressed Brick Co	Kensington Ave. S., Hamilton	Hamilton.
Hill, A. W	R. R. I., Coatsworth	Stevenson.
Hill, Aaron	Essex	Essex.
Hiscock Bros	Box 83, Bowmanville	Bowmanville.
Hitch, D. A	Eire St. N., Ridgetown	Ridgetown.
Hitch, Thos	Box 254, St. Thomas	St. Thomas.
Hodder, J. H	Dutton	Dutton.
Hohl, John	R.R. No. 1, Wellesley	Lisbon.
Houston Co., Ltd., The	Tweed	Tweed.
Howlett, Fred and Sons	Box 3, Petrolia	Petrolia.
Huntsville Brick and Tile Works	Huntsville	Huntsville.
Interprovincial Brick Co., Ltd	30 Toronto St., Toronto	Cheltenham. Milton.
Jackson, W. B	299 Rawdon St., Brantford	Brantford.
Janes, D. A	R.R. No. 1, Mt. Brydges	Mt. Brydges.
Jamieson Lime Co	Renfrew	Renfrew.
Jasperson, B. Brick & Tile Yards	Kingsville	Coatsworth
Jervis, W. J	R.R. 3 Dorchester Station	Dorchester Station.
Johnson, James	R. R. No. 3, Pembroke	Pembroke.
Kerr, Frederick	Crediton	Crediton E.
Kerr, Chas	Goderich	Ben Miller.
Knebel, Bros	Box 54, St. Clements	St. Clements.
Kruse Bros	Seaforth	Tuckersmith.
Labey Geo. A. and Son	Foxboro	Foxboro.
Lowes Bros	R.R. No. 3, Chatham	Chatham East.
McComb Chester	Denfield	Elginfield
McCormick, Bros	R.R. No 5, Watford	Kingscourt Junction.
McIver Bros	Buchanan St., Cobourg	Cobourg.
McMahon, Robert	R.R. No. 2, Kerwood	Strathroy.
Martin, Thos. E	Thamesville	Thamesville.
Merkley's, Ltd	9 Fraser Bldg., Ottawa	Billings Bridge.
Middleton, C	Wyoming	Wyoming.
Milton Brick, Ltd	Milton	Milton. Streetsville.
Miner, Manly F	Kingsville	Kingsville.
Missouri Tile Yard (W. H. Deller)	R.R. No 4, Thorndale	Thorndale.
Moscow Brick and Tile Works	R.R. No. 1, Greenock	Riverdale.
Napanee Brick & Tile Works	R. R. 3, Napanee	Napanee.
O'Dell, Wm. and Sons	R. R. No. 1, Ingersoll	Ingersoll.
Oilman Bros	111 Macklin St., Hamilton	Hamilton.
Ontario Denison Tile Co., Ltd	24 Wyandotte, St., Windsor	Tilbury. Fletcher.
O'Reilly, T. E	320 Bay St., Ottawa	Hog's Back.
Ottawa Brick Mfg. Co., Ltd., The	53 Queen St., Ottawa	Hog's Back.
Ott. Brick & Tile Mfg. Co., Ltd., The	35 King St. E., Kitchener	Kitchener.
Owen Sound Brick Co., Ltd., The	859-2nd Ave. E., Owen Sound	Owen Sound.
Parks, Henry W	R.R. No. 2, Dresden	Dresden
Paxton, Fred R	230 Queenston St., St. Catharines	St. Catharines.
Pembroke Brick Co., The	Pembroke	Pembroke.
Phillips, Thomas & Son	R.R. No. 2, Lucknow	St. Helens.
Plunn Bros	238 Briscoe St., London	London.
Plippen & Field	150 Dawes Rd., Toronto	Toronto.
Piggott, Geo. & Co	72 Guestville Ave., Toronto	Mount Dennis.
Port Rowan Brick & Tile Co	Port Rowan	Port Rowan.
Price and Cumming	Salisbury Ave., Humber Bay	Humber Bay.
Price and Smith	458 Greenwood Ave., Toronto	Toronto.
Provincial Brick Plant	Parliament Bldg., Toronto	Mimico.
Red Star Brick & Tile Yard (W. H. Barnhardt)	Stratford	Stratford.
Richardson, Jas. & Son	Kerrwood	Kerrwood.

The Clay Products Industry—Brick and Tile—Concluded

Name	Address	Location
ONTARIO—*Concluded*		
Riselay Brick Co., Ltd	Main St. W., Hamilton	Hamilton.
Russell, Jos	40 Blake St., Toronto	Toronto.
Shale Products Ltd	Inglewood	Inglewood.
Smith, Alex. & Son	R. R. No. 2, Dutton	Dutton.
Snelgrove, A	Beaverton	Beaverton.
Sproat, Wm. M	R.R. No. 4, Seaforth	Seaforth.
Standard Brick Co., Ltd., The	363 Broadview Ave., Toronto	Toronto.
Steele, Edwin	Vankleek Hill	Vankleek Hill.
Stratford Brick, Tile and Lumber Co	Mansion House, Stratford	Stratford.
Streetsville Brick Co., Ltd., The	410 Crown Office Bldg., Toronto	Streetsville.
Stroh, M. C	Conestogo	Conestogo.
Sun Brick Co., Ltd	1104 Bay St., Toronto	Todmorden.
Superior Brick and Tile Co., Ltd	426 Victoria Ave., Fort William	State River.
Sutherland, W. A	Box 293, Parkhill	Parkhill.
Tope, Richard, Estate	171 Queen St., S., Hamilton	Hamilton.
Toronto Brick Co., Ltd	60 Victoria St., Toronto	Milton. Toronto.
Wagstaff, Charles	R.R. No. 4, Lindsay	Lindsay.
Wagstaff, A. H. & Co	348 Greenwood Ave., Toronto	Toronto.
Wallace, R. & Son	66 First Ave. E., North Bay	North Bay.
Wein, Aaron	Crediton	Crediton.
Winch Bros	Paisley	Paisley.
Windsor Brick & Tile Co	203 Exchange Bldg., Windsor	Near Kingsville.
Woodslee Brick & Tile Yards	Woodslee	Woodslee.
Wright, Geo. & Sons	Comber	Comber.
MANITOBA—		
Alsip Brick, Tile & Lumber Co., Ltd	200 Tribune Bldg., Winnipeg	Winnipeg.
Marion, Joseph A	Box 30, St. Boniface	St. Boniface.
Sidney Brick & Clay Works, Ltd	Sidney	Sidney.
Snyder, A. & Company, Ltd	Box 1401, Portage la Prairie	Portage la Prairie.
Wardrop & Sons	Whitemouth	Whitemouth.
SASKATCHEWAN—		
Bruno Clay Works, Ltd	Bruno	Near Bruno.
Dominion Fire Brick and Clay Products, Ltd., The	421 Hammond Bldg., Moosejaw	Claybank.
Elliott, W. H. & Son	1320-3rd Ave. N., Saskatoon	Saskatoon.
Excelsior Brick Co., Ltd., The	Prince Albert	Prince Albert.
Saskatchewan Penitentiary	Prince Albert	Prince Albert.
ALBERTA—		
Acme Brick Co., Ltd., The	125 Alberta Block, Edmonton	Cannell.
Canada Cement Co., Ltd	Canada Cement Co. Bldg., Phillips Sq., Montreal, Que	Sandstone.
Little, J. B. & Sons	9120-100 Ave., Edmonton	Riverdale.
Redcliff Brick and Coal Co., Ltd	Box B 5, Redcliff	Redcliff.
Redcliff Pressed Brick Co., Ltd	Box 87, Redcliff	Redcliff.
Redcliff Premier Brick Co., Ltd	Box C 2, Redcliff	Redcliff.
BRITISH COLUMBIA—		
Armstrong Brick Works (C. & A. Oakland)	Armstrong	Armstrong.
Christian Community of Universal Brotherhood, Ltd., The	Grand Forks	Grand Forks.
Clayburn Co., Ltd	850 Hastings St. W., Vancouver	Clayburn. Kilgard.
Furnell and Delong	Gabriola Is	Gabriola Is.
Gorse, Percy A	Salmon Arm	Enderby.
Johnston & Co., Ltd	Kamloops	Near Kamloops.
North Saanich Brick and Tile Works	Sidney	Sidney.
Port Haney Brick Co., Ltd., The	846 Howe St., Vancouver	Port Haney.
Victoria Brick Co., Ltd	3001 Douglas St., Victoria	Victoria.

The Clay Products Industry—Clay Sewer Pipe

NOVA SCOTIA—		
Standard Clay Products, Ltd	New Glasgow	New Glasgow.
QUEBEC—		
Standard Clay Products, Ltd	St. John's	St. John's.
ONTARIO—		
Dominion Sewer Pipe and Clay Industries, Ltd	Swansea	Swansea.
Hamilton and Toronto Sewer Pipe Co., Ltd., The	Wentworth St. N., Hamilton	Hamilton.
Ontario Sewer Pipe and Clay Products, Ltd	Mimico	Mimico.

The Clay Products Industry—Firebrick, Fireclay and Fireclay Products

Name	Address	Location
NOVA SCOTIA—		
Dominion Iron and Steel Co., Ltd	Sydney	Sydney.
Intercolonial Coal Mining Co., Ltd	Westville	Westville.
QUEBEC—		
*Canada Firebrick Co., Ltd	371 Aqueduct St., Montreal	Montreal.
Montreal Terra Cotta Co., Ltd	511 St. Catharines St. West, Montreal	Lakeside.
*Standard Clay Products, Ltd	P.O. Box 819, St. John's	St. John's.
ONTARIO—		
Algoma Steel Corporation Ltd	Sault Ste. Marie	Sault Ste. Marie.
*Bailey, Geo., & Co	321 Albany St., Toronto	Toronto.
National Fire Proofing Co. of Canada, Ltd	601 Dominion Bank Bldg., Toronto	Aldershot.
ALBERTA—		
Alberta Clay Products, Ltd	Box 672, Medicine Hat	Medicine Hat.
BRITISH COLUMBIA—		
Clayburn Co., Ltd	Credit Foncier Bldg., Vancouver	Clayburn.

*Imported clays only.

The Clay Products Industry—Stoneware and Pottery

NEW BRUNSWICK—		
Foley Pottery, Ltd	St. John	St. John.
QUEBEC—		
*Canadian Potteries, Ltd	2 Longueuil St., St. John's	St. John's.
*Canada Stoneware Works	Iberville	Iberville.
*Dominion Sanitary Pottery Co., Ltd	189 St. James St., St. John's	St. John's.
ONTARIO—		
*Campbells R. Sons	100 Locke St., S. Hamilton	Hamilton.
*Canadian General Electric Co	212 King St. West, Toronto	Peterborough.
*Canadian Porcelain Co., Ltd	Paradise Rd., Hamilton	Hamilton.
Davis, John and Sons	60 Heath St. W., Toronto	Toronto.
*Dominion Insulator and Manufacturing Co., Ltd	Niagara Falls	Niagara Falls.
Foster Pottery Co	Main St. W., Hamilton	Hamilton.
*Frontenac Floor and Wall Tile Co., Ltd	Box 178 Kingston	Kingston.
ALBERTA—		
Canada Pottery, Ltd	Medicine Hat	Medicine Hat.
Medalta Potteries, Ltd	Medicine Hat	Medicine Hat.

*Imported clays only.

The Lime Industry

NOVA SCOTIA—		
Eastern Lime Co. (H. C. Burchell)	Windsor	Windsor.
NEW BRUNSWICK—		
Peters, C. H. & Sons, Ltd	Ward St., St. John	Torryburn.
Provincial Lime Co., Ltd	89 Water St., St. John	Lawlor's Lake.
Purdy and Green	323 Main St., St. John	St. John.
Randolph and Baker, Ltd	Randolph	Randolph.
Stetson, Cutler & Co., Ltd	Campbellton	Indiantown, St. John.
QUEBEC—		
Arnaud et Beaudry	Joliette	Joliette.
Baran, A. et Frere	St. Dominique de Bagot	St. Dominique de Bagot.
Beauregard, Delphis	North Stukely	North Stukely.
Bovin, Arthur	Pont Rouge	Pont Rouge.
Bouchard, Praxede	Ste. Anne de Chicoutimi	Ste. Anne de Chicoutimi.
Carswell, R. B	Bryson	Bryson.
Dominion Lime Co., The	East Angus	Lime Ridge.
Fortin, Octave	Val Brillant	Val Brillant.
Heon, Octave	St. Louis de Champlain	St. Louis de Champlain.
Lalumiere, Joseph	St. Dominique de Bagot	St. Dominique de Bagot.
Laurentian Stone Co., Ltd	250 Catherine St., Ottawa, Ont	Hull.
Leclerc, Magloire	St. Dominique de Bagot	St. Dominique de Bagot.
Limoges and Co	40 rue Pouport, Montreal	Montreal.
McCambly, Thomas	Kazubazua	Kazubazua.
Montreal Lime Co	31 Prenouveau St., Montreal	Montreal.
Naud, Francis	St. Marc des Carrieres	St. Marc des Carrieres.
Roy, Paul	460 Cadieux St., Montreal	Montreal.
St. Maurice Lime Co., Ltd	Three Rivers	St. Louis de France.
Standard Lime Co., Ltd	Joliette	{St. Marc des Carrieres. St. Paul de Joliette.
Stinson-Reeb Builders Supply Co., Ltd	230 Dorchester St. W., Montreal	Montreal.

The Lime Industry—Concluded

Name	Address	Location
ONTARIO—		
Alabastine Co., Ltd., The	Paris	Elora. Teeswater.
American Cyanamid Co	511-5th Ave., New York City	Niagara Falls.
Beachville White Lime Co., Ltd	Beachville	Beachville.
Biederman, Albert G	Golden Lake	Golden Lake.
Brummer-Mond (Canada), Ltd	Canadian Bank of Commerce Bldg., Toronto	Anderdon Township.
Cameron, W. M	Carleton Place	Carleton Place.
Canada Lime Co., Ltd	26 Queen St. E., Toronto	Coboconk.
Chalmers Lime Works	689 Seventh St. West, Owen Sound	Owen Sound.
Christie Henderson & Co., Ltd	201 Crown Office Bldg., Toronto	Hespler. Kelso.
Dominion Sugar Co., Ltd	Chatham	Puslinch. Chatham. Wallaceburg.
Gallagher Lime and Stone Co., Ltd	James Street, Hamilton	Hamilton.
Harvey, E., Ltd	183 Queen St. W., Guelph	Rockwood.
Jamieson, J. M	Foresters Falls	Foresters Falls.
Jamieson Lime Co	Hall St., Renfrew	Renfrew.
Marshall, James	Hamilton	Hamilton.
Robertson Co., Ltd., D	26 Queen St. East, Toronto	Milton.
Standard White Lime Co., Ltd	15 Douglas St., Guelph	Benchville. Guelph.
Standard Chemical Co., Ltd	200 Bay St., Toronto	Eganville.
Toronto Brick Co., Ltd	60 Victoria St., Toronto	Coboconk.
Toronto Lime Co., Ltd	26 Queen St. E., Toronto	Limehouse.
Vogan, Samuel	Gould St., Wiarton	Wiarton.
Weppler, Henry	R.R. No. 2, Priceville	Glencig Tp.
MANITOBA—		
Manitoba Gypsum Co., Ltd	Box 3057, Winnipeg	Gypsumville.
Moosehorn Lime Co., Ltd., The	214 Avenue Bldg., Winnipeg	Moosehorn.
Winnipeg Supply and Fuel Co., Ltd	214 Avenue Bldg., Winnipeg	Stonewall.
ALBERTA—		
Loder's Lime Co., Ltd	Kananaskis	Kananaskis.
Summit Lime Works	Box 273, Lethbridge	1½ miles east of Crow's Nest.
BRITISH COLUMBIA—		
Hedley Gold Mining Co., Ltd	Hedley	Hedley.
Pacific Lime Co., Ltd	602 Pacific Bldg., Vancouver	Blubber Bay, Texada Island.
Rosebank Lime Co	602 Pacific Bldg., Vancouver	Esquimalt Harbour.

The Stone Quarrying Industry—Granite

NOVA SCOTIA—		
Fairview Crushed Stone Co., Ltd	126 Hoy Bldg., Halifax	Fairview.
Hoyt, C. M	Middleton	Nictaux W.
Nova Scotia Stone Co., Ltd	Lake William	Lake William.
Queensport Granite Co., Ltd	Queensport	Queensport.
Rice, Elmer	Lawrencetown	Nictaux W.
Rice, W. D	Middleton	Nictaux W.
NEW BRUNSWICK—		
Granite Street Pavement and Construction Co., Ltd	Evandale	Hampstead.
McGrattan, H. and Sons, Ltd	St. George	St. George.
Meating Epps, Company, Ltd	St. George	St. George.
Milne, Coutts & Co., Ltd	St. George	St. George.
Mooney, B. and Sons, Ltd	112 Queen St., St. John	Queens County.
O'Brien and Baldwin	St. George	St. George.
Public Works, Dept. of	City Hall, St. John	St. John.
QUEBEC—		
Baillargeon, P	St. John's	St. Luc.
B. and R. Granite Quarry	Beebe	Stanstead Tp.
Bedard, Elzear	Charlesbourg	Charlesbourg.
Bergeron, Joseph	Shawinigan Falls	Almaville.
Bergeron, P	Chicoutimi West	Rang St. Ignace.
Bernier, Aug	Roberval	Roberval.
Brodie's Limited	1070 Bleury St., Montreal	Guenette. Mt. Johnson. Graniteville.
Brunet, Joseph	663 Cote des Neiges Rd., Montreal	Chatham Tp.
Cloutier, Jos	Beebe	Beebe.
Delwaide and Goflin	Box 315, Chicoutimi	Rang St. Thomas.
Desrosiers, Albert	Beebe Jct	Near Beebe.
Duke-Price Power Co., Ltd	56 St. Peter St., Quebec	Alma and Maligne Ils.
Dumas, Art. & Cie. Enr	Riviere à Pierre	Riviere à Pierre.
Duncan, Wm	R.R. I, Beebe	Beebe.
Gagnon, Louis Philipe	St. David	St. David.

The Stone Quarrying Industry—Granite—Concluded

Name	Address	Location
QUEBEC—*Concluded*		
La Carriere Buissiere, Limitee	St. Sebastien	St. Sebastien.
Lacasse and Boulais	Beebe	Beebe.
Lacroix, Alphonse	St. Sebastien Station	St. Sebastien.
McIntosh, Robert	R.R. 1, Beebe	Beebe.
Norton, S. B	Beebe	Beebe.
Perran, Arthur	Riviere à Pierre	Riviere à Pierre.
Rigaud Granite Corporation	11 Place d'Armes, Montreal	Rigaud.
Riverin and Riverin Enr	Chicoutimi Centre	Bagotville.
Scotstown Granite Co., Ltd	Scotstown	Scotstown.
Silver Granite Co	117 Cote d'Abraham, Beebe	St. Samuel Station.
Stanstead Granite Quarries Co., Ltd	Beebe	Graniteville.
Vachon, Rodrigue et Frere	St. Samuel Station	St. Samuel de Gayhurst.
Voyer, F. et Frere	Riviere à Pierre	Riviere à Pierre.
Westmount Construction Co., Ltd	28 Royal Ave., N.D.G., Montreal	Chatham Tp.
ONTARIO—		
Brown, Robert	376 Sparks St., Ottawa	Leeds Tp.
Campbell and Lattimore	146 King St. West, Toronto	Findley.
Corporation of City of Fort William	City Hall, Fort William	Fort William.
Gordon, D. J., Granite Co	18 Toronto St., Toronto	Gananoque.
Hall, R. Reece	Parry Sound	McDougall Tp.
Horne, Wm., Granite Quarries	377 Balmoral St., Winnipeg, Man	Butler.
Mond Nickel Co., Ltd	Coniston	Drury and Levack Tps.
Morrison, Wm	Coe Hill	Coe Hill.
Ontario Rock Co., Ltd	410 Crown Office Bldg., Toronto	Belmont Tp.
Streets and O'Brien	47 Yonge St., Arcade, Toronto	Gananoque.
BRITISH COLUMBIA—		
B.C. Monumental Works, Ltd	2250 Main St., Vancouver	Granite Island.
Campbell & Ritchie Mon. Co	507 Front St., Nelson	Nelson.
Canadian Pacific Railway Company	Montreal, Quebec	Mountain Sub-division.
Coast Quarries, Limited	837 Hasting St., Vancouver	Granite Falls.
Gilley Brothers, Ltd	902 Columbia St. W., New Westminster	Coquitlam Municipality.
Nelson, City of	Box 1028, Nelson	Nelson.
Vancouver Granite Co., Ltd	815 Bower Bldg., Vancouver	Nelson Island.
Vernon Granite and Marble Company	Box 285, Vernon	Yale Dist.

The Stone Quarrying Industry—Limestone

NOVA SCOTIA—		
Dominion Iron and Steel Co., Ltd	Sydney	Pt. Edward, C.B.
Eastern Lime Co. (H. C. Burchell)	Windsor	Windsor.
Nairn, John S	24 Whitney Ave., Sydney	Scotch Lake.
NEW BRUNSWICK—		
Peters, C. H., Sons, Ltd	Ward St., St. John	Torryburn.
Provincial Lime Co., Ltd	89 Water St., St. John	Lawlor Lake.
QUEBEC—		
Bathurst Co., Ltd	Bathurst, N.B	Port Daniel.
Beaudry, Joseph P	Taché St. Joliette	Joliette.
Canada Carbide Co., Ltd	Power Bldg., Craig St. W	Bedford.
Canada Cement Company	Phillips Square, Montreal	Hull.
Charron, Arthur	Village Bélanger	Village Bélanger.
Chartrand, Alfred	Village Bélanger	Village Bélanger.
Château Richer Quarry, Ltd	Château Richer	Château Richer.
Cité de Salaberry de Valleyfield	Valleyfield	Cité de Salaberry de Valleyfield.
Commission du Parc Maisonneuve	Hôtel-de-Ville, Montréal	Montreal.
Consolidated Crushed Rock, Ltd	3656 Masson St., Montreal	Montreal.
Cousineau, Alderic	2455 St. Urbain St., Montreal	Montreal.
Deguire Quarry Company	Suite 2, 207 St. James St., Montreal	St. Laurent.
Delorimier Quarry Company	1701 Iberville St., Montreal	Montreal.
Deraiche, F. X	Port Daniel East	Port Daniel East.
Deschambault Quarry Corporation	52 rue St. Paul, Quebec	St. Marc (Portneuf).
Desormeaux, Edgar	2402 St. Hubert St., Montreal	Cap St. Martin.
Doyon, Joseph	Boischatel	Boischatel.
Dupré, Arthur	Ville St. Michel	Ville St. Michel.
Durocher, Cyrille	2383 Notre Dame East, Montreal	Montreal East.
Dussault, Art	St. Marc des Carrières	St. Marc des Carrières.
Filion, Adélard	Lachute	Lachute.
Fraser-Bruce Engineering Co., Ltd	83 Craig St. W., Montreal	Timiskaming & Chelsea Falls.
Fuger and Smith, Ltd	Pointe Claire	Pointe Claire.
Gagnon, Martin	3462 St. André St., Montreal	Montreal.
Gauthier, J. T	St. Michel	St. Michel.
Gauthier, Oliver	St. Marc des Carrières	St. Marc des Carrières.
Gingras Frères, Ltd	St. Marc des Carrières	St. Marc des Carrières.
Giroux, J. H	27 rue Plaisance, Three Rivers	St. Louis de France.
Gravel, Ed. L	Château Richer	Château Richer.
Guibault Frères & Co., Inc	Ste Elizabeth de Joliette	Ste. Elizabeth.

The Stone Quarrying Industry—Limestone—Continued

Name	Address	Location
QUEBEC—*Concluded*		
Institution des Sourds-Muets	3600 rue St. Laurent, Montreal	St. Laurent.
Kennedy Const. Co., Ltd	137 McGill St., Montreal	St. François de Sales.
Lapointe, Jos	74 Monte St. Laurent, Cartierville	Cartierville.
Lapointe, Hector	St. Dominique	St. Dominique.
Laurentian Stone Co., Ltd	250 Catherine St., Ottawa, Ont	Hull.
Laval Quarry Co., Ltd	Cap St. Martin	Cap St. Martin.
Lacrenier, Victor	1876 Delaroche St., Montreal	Cap St. Martin.
Maisonneuve Quarry Co., Ltd	4740 Iberville St., Montreal	Montreal.
Martineau, O. & Son, Ltd	371 Marie Anne Est, Montreal	Montreal.
Michaud, M. A	St. Joseph d'Alma	St. Joseph d'Alma.
Montreal Crushed Stone Co., Ltd	590 Union Ave., Montreal	St. Vincent de Paul.
Naud and Darveau	St. Marc des Carrières	St. Marc des Carrières.
O'Connor Bros	Huntingdon	Huntingdon.
Page, Jos	Charlesbourg West	Charlesbourg West.
Paquette, Damien	Village Bélanger	Cap St. Martin.
Paquette, Levi and Co	Cap St. Martin	Cap St. Martin.
Quebec Quarry, Ltd	Giffard Beauport	Beauport.
Quinland, John & Co	1165 Greene Ave., Westmount	Village Bélanger.
St. Laurent Quarry, Limited	Cap St. Martin	Cap St. Martin.
St. Vincent de Paul Penitentiary	St. Vincent de Paul	St. Vincent de Paul.
Standard Lime Co., Ltd	Joliette	St. Paul de Joliette.
Stone and Quarry, Ltd	800 Bellechasse St., Montreal	{Montreal. {St. François de Sales.
Therrien, Moïse	Village Bélanger.	Cap St. Martin.
Tremblay, Nap	Joffre Ave., Hull	Hull.
Verreault, Elzéar	191 rue du Pont, Quebec	Giffard.
Vezina, Joseph	Ste. Foy	Ste. Foy.
Villeray Quarry Co., Ltd	848 du Rosaire St., Montreal	Montreal.
Wallace Sandstone Quarries, Ltd	120 St. James St., Montreal	Philipsburg.
White Grit Co	171 Waller St., Ottawa, Ontario	Portage du Fort.
ONTARIO—		
Barton Tp. Quarry	Courthouse, Hamilton	Barton Tp.
Beachville White Lime Co., Ltd	Beachville	Beachville.
Bourgie, J. B	Embrun	Embrun.
Brûlé, E.D. and Sons	Billings' Bridge	Billings' Bridge.
Brunner Mond Canada Ltd	Amherstburg	Anderdon Tp.
Canada Crushed Stone Corporation, Ltd	Sun Life Bldg., Hamilton	Dundas.
Carleton, County of	71½ Sparks St., Ottawa	Osgoode-Gloucester-Nepean.
Cloutier & Grenon	Casselman	St. Isidore de Prescott.
Cook & Son, J. S	Wiarton	Amabel Tp.
Farmer, Geo. & Sons	45 Bertrand Ave., Ottawa	Osgoode Tp.
Farr, L. G., Mrs	Haileybury	Haileybury.
Foster, R. R	278 Echo Drive, Ottawa	City View.
Gallagher Lime Stone Co., Ltd	Upper James Street, Hamilton	Barton Tp.
Galt, Corporation of	Galt	Galt.
Gordon Crushed Stone Co., Ltd	137 Confederation Life Bldg., Toronto	Hagersville.
Gow, James	Fergus	Fergus.
Grenville Crushed Rock Co., Ltd	Merrickville	Oxford Tp.
Hagersville Contracting Co., Ltd	Hagersville	Walpole Tp.
Hagersville Quarries, Ltd	4 Flora St., St. Thomas	Walpole.
Haldimand County Good Roads System	Hagersville	Rainham Tp.
Halliday, Fred	Quarris P.O., Ottawa	Gloucester Tp.
Humberstone Tp. Quarry	Humberstone	Humberstone Tp.
Hydro Electric Power Commission of Ontario	190 University Ave., Toronto	Niagara and Stamford Tps.
Innerkip Stone Quarry	Innerkip	Innerkip.
Keeling, James	1179-16th St. E., Owen Sound	Owen Sound.
Kingdon Mining Smelting and Mfg. Co., Ltd	314 Beaver Hall Hill, Montreal, Quebec	Galetta.
Kingston Penitentiary	Portsmouth	Portsmouth.
Kirkfield Crushed Stone, Ltd	136 Confederation Life Bldg., Toronto	Kirkfield.
Langton, Thos	Coldwater	Coldwater.
Law Construction Co., Ltd., The	50 Yonge St., Arcade, Toronto	Windmill Point.
Longford Quarry Co., Ltd	6 Peter St., Orillia	Rama Tp.
Markus, Wm., Ltd	Pembroke	Pembroke Tp.
McDonnell Dibbles and Covery	26 Victoria Sq., Montreal, Que	Richmond, Wendover.
McKay, Alex., Company, Ltd	2 Brown's Ave., Toronto	Owen Sound.
McQuigge, J. R	Arnprior	Arnprior.
Oliver Rogers Stone Co., Ltd	841 Fourth Ave. E., Owen Sound	Owen Sound.
Ontario Reformatory Industries	Parliament Bldg., Toronto	Guelph Tp.
Ontario Stone Corporation, Ltd	611 Excelsior Life Bldg., Toronto	North Orillia.
Pirson, John	Stevensville	Grantham Tp.
Public Highways, Dept. of	Toronto	
Queenston Quarries, Ltd	St. Davids	St. David's.
Quinlan, Robertson and Janin, Ltd	50 Notre Dame St. W., Montreal	Crookston.
Quinton & Brundige	Jaspar	Near Brockville.
Robertson, D. & Co., Ltd	26 Queen St. E., Toronto	Milton.
Robillard, H. & Son	195 Nicholas St., Ottawa	Gloucester Tp.
Roddy, J. M	293 Division St., Kingston	Kingston.
Standard White Lime Co., Ltd	15 Douglas St., Guelph	Beachville.
Stormont, Dundas and Glengarry, Counties of	Court House, Cornwall	Finch Tp.
Thames Quarry Co., Ltd., The	St. Mary's	St. Mary's.
Thompson, W. G	Orillia	Orillia.
Walker Bros	Thorold	Stamford Tp.
Wehman, John	251 Division St., Kingston	Kingston.

The Stone Quarrying Industry—Limestone—Concluded

Name	Address	Location
ONTARIO—*Concluded*		
Welland County Quarry	Court House, Welland	Humberstone Tp.
Welland Ship Canal	St. Catharines	St. Catharines.
Wentworth, County of	Court House, Hamilton	Waterdown.
Wentworth Quarries, Ltd	Vinemount	Saltfleet Tp.
Windmill Point Crushed Stone Co., Ltd	625 Confederation Life Bldg., Toronto	Silver Mountain.
Winnipeg Roofing Co	264 Berry St., St. Boniface, Man	Ridgeway.
MANITOBA—		
Gillis Quarries, Ltd	Spruce and Richard Sts., Winnipeg	Garson.
Tyndall Quarry Co., Ltd	1591 Erin St., Winnipeg	Winnipeg.
Winnipeg, City of	Winnipeg	Stony Mountain.
ALBERTA—		
Summit Lime Works	Lethbridge	Lethbridge.
BRITISH COLUMBIA—		
Consolidated Mining and Smelting Co. of Canada, Ltd	Trail	Fife.
Pacific Lime Co., Ltd	602 Pacific Bldg	Texada Island.
Powell River Co., Ltd	Powell River	Texada Island.

The Stone Quarrying Industry—Marble

QUEBEC—		
Wallace Sandstone Quarry, Ltd	120 St. James St., Montreal	Phillipsburg, Missisquoi County.

The Stone Quarrying Industry—Sandstone

NOVA SCOTIA—		
Wallace Sandstone Quarries, Ltd	120 St. James St., Montreal	Wallace.
QUEBEC—		
Blais, Jos., Enrg	8 Mont Marie Ave., Levis	Levis Co.
Paquet, Adolphe	St. David	Levis Co.
Quebec Harbour Commission	Pointe-à-Carcy, Quebec	Victoria Cove, Quebec.
Sherbrooke, The City of	Sherbrooke	Sherbrooke Co.
ONTARIO—		
Robertson, D. and Co. Ltd	26 Queen St. E., Toronto	Milton.
Rogers, F. & Co	1193 Queen St. W., Toronto	Glen Williams.
BRITISH COLUMBIA—		
McDonald, J. A. & C. H	1571 Main St., Vancouver	Haddington Island. Newcastle Island.

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