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

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TOP SECRET

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PRELIMINARY REPORT

ON THE

# MINERAL PRODUCTION OF CANADA

DURING THE CALENDAR YEAR

1929

Published by Authority of the Hon. James Malcolm, M.P.,  
Minister of Trade and Commerce



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# LIST OF PUBLICATIONS

PREPARED IN THE

## MINING, METALLURGICAL AND CHEMICAL BRANCH DOMINION BUREAU OF STATISTICS

### MINERAL PRODUCTION (Mining and Metallurgy)

#### *General Reports*

**Preliminary Reports (semi-annual) on the Mineral Production of Canada.**

**Annual Report on the Mineral Production of Canada. (In one volume).**

A comprehensive record of the mining industry embodying historical and world data, detailed information on mineral production, imports and exports for Canada and general statistics relative to the mining industry on capital investment, employment, fuel consumption and power equipment arranged in 11 chapters each dealing with a particular branch of the industry. Statistics on production and trade in mineral products appear in detail in the appropriate chapters. A list of operating companies with their office and plant addresses is included. Fully indexed. Chapter titles are: Canada—The Provinces—The Gold Mining Industry—The Silver Mining Industry—The Nickel-Copper Industry—Miscellaneous Metal Mining Industries—The Non-Ferrous Smelting and Refining Industry—The Coal Mining, Coke, Natural Gas, Peat and Petroleum Industries—Non-Metal Mining Industries (Other than Fuels)—The Clay Products and Other Structural Materials Industries—Directory of Reporting Firms—Notes on the Methods of Computing Values—Index.

#### *Coal—*

**Monthly and Quarterly Reports on Coal and Coke Statistics for Canada.**

A condensed report on production, imports and exports of coal and coke is issued monthly, publication being made about the fifteenth of the next following month.

A more general review is published quarterly, showing statistics for each month, for the quarter, and for the year to date on the output by coal-mining districts and by provinces, imports and exports by ports and by kinds of coal, employment in coal-mining, and tonnage lost. There is also a section on coke showing production, imports, exports, distribution and consumption by months and by provincial groups.

**Annual Report on Coal Statistics for Canada.**

Text and tables showing for Canada, and for each of the coal-producing provinces, historical and current data on output, tonnage lost, disposition of coal from the mines, domestic and foreign shipments, exports and imports by ports, consumption of coal, prices, employment, salaries and wages paid, power equipment, capital investment, etc.

#### *Annual Bulletins—*

(a) **MINERAL PRODUCTION—**

*Metals.*—Arsenic—Cobalt—Copper—Gold—Lead—Nickel—Metals of the Platinum Group—Silver—Zinc—Miscellaneous Metals including Aluminium, Antimony, Chromite, Iron ore, Manganese, Mercury, Molybdenum, Tin, Tungsten.

*Non-Metals.*—Abrasives—Asbestos—Coal—Feldspar—Gypsum—Iron Oxides—Mica—Natural Gas—Petroleum—Quartz—Salt—Talc and Soapstone—Miscellaneous Non-Metallic Minerals including Actinolite, Barytes, Fluorspar, Graphite, Magnesite, Magnesium Sulphate, Mineral Waters, Natro-Alunite, Peat, Phosphate, Pyrites, Sodium Carbonate, Sodium Sulphate.

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

(b) **MINERAL INDUSTRY.**—Each bulletin of this group shows in synopsis, material to be published subsequently as one chapter of the annual report on the *Mineral Production of Canada*. These bulletins are published in mimeograph form from time to time during the year as the necessary material becomes available.

*By Industries.*—Gold Mining Industry including Alluvial Gold Mining, Auriferous Quartz Mining and Copper-Gold-Silver Mining—Silver-Cobalt and Silver-Lead-Zinc Mining Industry—Nickel-Copper Industry—Miscellaneous Metal Mining Industries—The Non-Ferrous Smelting and Refining Industry—The Coal Mining, Coke, Natural Gas, Peat and Petroleum Industries—Non-Metal Mining Industries (Other than Fuels)—The Clay Products and Other Structural Materials Industries.

*By Provinces.*—Nova Scotia—New Brunswick—Quebec—Ontario—Manitoba—Saskatchewan—Alberta—British Columbia—Yukon.

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## PREFACE

Through the development of new properties and the expansion of existing plants, the value of Canada's mineral output in 1929 rose to a new high record surpassing values attained in any previous year—and this despite the fact that in 1926, 1927 and 1928 the mineral production aggregates were, in each case, greater than in any previous year. The trend of mining output in Canada during 1929 was not unlike that observed in other branches of industrial production. In general the advances occurred during the first three quarters of the year, the last three months being marked by a somewhat lower output. Gains in earlier months were more than sufficient in most cases to offset the smaller monthly totals noted towards the close of the year, and as a result total production values for the twelve months, in the case of many products, were greater than in 1928.

A feature of the present report is the inclusion of data for 1929 showing the production by months of 16 leading Canadian mineral products. For several years the Bureau has published monthly statistics on the production of coal, coke, iron and steel, but heretofore the only figures available month by month on the output of other mineral products were those published in foreign countries. In several instances it has been observed that these figures are misleading, especially for example, when figures on the smelter production of copper in other countries fail to show the tonnage recovered from Canadian ores and concentrates. This difficulty has now been overcome and the monthly series published herein for the first time will be continued as a permanent part of the Bureau's records.

As in previous years, the Bureau has continued to work co-operatively in the collection of coal statistics with the provinces of Nova Scotia, New Brunswick, Saskatchewan, Alberta and British Columbia. Co-operative collection of general mineral production reports for the joint use of the Bureau and the provincial governments of Quebec, Ontario and British Columbia has also been continued on a mutually satisfactory basis. The Bureau desires to acknowledge its indebtedness in this respect and to thank the several provincial governments and other Dominion departments for valuable assistance rendered from time to time in connection with this report on the mining industry in Canada.

The thanks of the Bureau are also tendered to 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, 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. The data were assembled by Mr. W. H. Losee, B.Sc., assisted by Mr. B. R. Hayden, of the mineral division staff.

R. H. COATS,  
Dominion Statistician.

DOMINION BUREAU OF STATISTICS,  
February, 20, 1930.

## Quantities and Values of Mineral Products from Canadian Sources, 1928 and 1929

	1928		1929		Per cent Increase (+) or Decrease (-)	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>METALLICS</b>						
Arsenic (AssOs)..... lb.	5,432,223	103,052	5,230,088	171,320	-	3-8
Bismuth..... lb.	14,002	5,067	194,329	220,335	-	-
Cadmium..... lb.	491,894	341,374	773,976	696,579	+	57-3
Cobalt..... lb.	956,560	1,672,320	920,415	1,801,915	+	2-9
Copper..... lb.	202,696,046	28,598,249	248,107,800	43,411,036	+	22-4
Gold..... fine oz.	1,890,592	39,082,005	1,627,295	39,840,722	+	1-9
Iron ore sold for export..... tons	2,244	6,732	2,453	7,359	+	9-3
Lead..... lb.	337,946,688	15,553,231	325,950,245	16,514,057	+	3-6
Nickel..... lb.	96,775,578	22,318,907	110,275,812	27,115,443	+	13-9
Palladium, Rhodium, Iridium, etc..... fine oz.	13,807	627,833	13,717	319,881	+	0-8
Platinum..... fine oz.	10,532	708,909	12,839	741,790	+	21-9
Silver..... fine oz.	21,936,407	12,761,725	23,180,155	12,283,859	+	5-6
Zinc..... lb.	184,647,374	10,143,050	196,213,221	10,570,007	+	6-2
<b>Total.....</b>	<b>-</b>	<b>132,612,454</b>	<b>-</b>	<b>153,691,303</b>	<b>-</b>	<b>+</b>
<b>NON-METALLICS</b>						
<b>Fuels</b>						
Coal..... tons	17,564,293	63,757,833	17,502,355	63,026,369	-	0-4
Natural gas..... M. cu. ft.	22,582,586	8,614,182	28,097,456	9,891,659	+	24-4
Peat..... tons	1,497	5,815	2,607	13,339	+	74-1
Petroleum, crude..... brls.	624,184	2,035,300	1,120,693	3,790,497	+	79-5
<b>Total.....</b>	<b>-</b>	<b>74,413,160</b>	<b>-</b>	<b>76,721,864</b>	<b>-</b>	<b>+</b>
<b>Other Non-Metallics</b>						
Actinolite..... tons	70	875	30	375	-	56-4
Asbestos..... tons	273,033	11,238,360	306,055	13,172,581	+	12-0
Barytes..... tons	127	2,847	105	2,341	+	17-4
Bituminous sands..... tons	84	374	1,036	4,144	-	-
Diatomite..... tons	368	8,960	429	10,330	+	16-5
Feldspar..... tons	31,897	284,942	37,353	343,149	+	17-1
Fluorspar..... tons	-	-	17,870	46,648	-	-
Graphite..... tons	1,097	57,041	1,461	103,174	+	33-1
Grindstones..... tons	1,855	100,860	1,248	48,389	+	32-8
Gypsum..... tons	1,246,308	3,743,048	1,211,383	3,338,859	-	2-9
Iron oxides..... tons	5,414	111,198	6,518	115,932	+	20-3
Magnesite..... tons	13,195	346,990	18,701	491,170	+	41-7
Manganese (bog)..... tons	385	2,237	300	1,800	+	21-9
Mica..... tons	3,660	87,168	4,203	119,851	+	14-8
Mineral waters..... Imp. gals.	269,045	33,498	344,136	32,190	+	27-9
Phosphate..... tons	641	8,276	1,185	15,685	+	84-8
Pyrites (See sulphur)..... tons	282,522	523,933	286,160	546,419	+	1-2
Quartz..... tons	299,445	1,495,971	330,264	1,578,086	+	10-2
Salt..... M	3,224	155,602	3,951	173,581	+	22-5
Silica brick..... M	-	40,171	-	47,986	-	-
Soapstone..... tons	519	4,022	608	6,688	+	17-1
Sodium carbonate..... tons	6,016	68,804	6,592	70,396	+	9-5
Sodium sulphate..... tons	38,589	321,033	44,036	241,485	+	14-1
*Sulphur..... tons	14,925	179,187	15,509	181,222	+	3-9
Talc..... tons	485	9,795	300	6,000	-	38-0
Volcanic dust..... tons	-	-	-	-	-	-
<b>Total.....</b>	<b>-</b>	<b>18,826,692</b>	<b>-</b>	<b>20,694,481</b>	<b>-</b>	<b>+</b>
<b>CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS</b>						
<b>Clay Products</b>						
Brick—Soft mud process..... Face..... M	17,532	349,847	17,319	361,063	-	1-3
..... Common..... M	93,280	1,328,981	128,323	1,922,657	+	37-5
Stiff mud process..... Face..... M	101,717	2,247,472	108,710	2,378,779	+	6-8
..... Common..... M	144,404	2,182,307	119,982	1,721,493	-	19-0
Dry press..... Face..... M	36,587	748,301	33,968	717,141	-	7-2
..... Common..... M	24,294	337,096	25,374	351,084	+	3-6
Fancy or ornamental brick..... M	599	28,763	303	21,980	-	49-5
Sewer brick..... M	2,888	59,010	4,270	82,598	+	47-8
Paving brick..... M	338	4,464	397	7,085	+	17-4
Firebrick..... M	4,040	234,460	5,092	247,908	+	3-0
Fire clay and other clay..... tons	5,123	35,284	5,070	34,042	-	1-1
Kaolin..... tons	5	25	-	-	-	-
Fire clay blocks and shapes..... tons	-	105,091	-	95,319	-	-
Hollow blocks..... tons	205,257	1,930,152	213,838	2,068,206	+	4-1
Roofing tile..... No.	72,930	6,435	72,930	6,435	+	0-0
Floor tile (quarries)..... sq. ft.	171,520	45,729	171,020	45,670	-	0-3
Drain tile..... M	22,629	656,654	22,799	687,955	+	0-7
Sewer pipe, copings, flue linings, etc..... tons	-	1,723,644	-	2,002,830	-	-
Pottery, glazed or unglazed..... tons	-	356,093	-	327,650	-	-
Bentonite..... tons	20	190	-	-	-	-
Other clay products..... tons	-	2,410	-	142,566	-	-
<b>Total.....</b>	<b>-</b>	<b>12,381,718</b>	<b>-</b>	<b>13,222,476</b>	<b>-</b>	<b>+</b>
<b>Other Structural Materials</b>						
Cement..... brls.	11,023,928	16,739,163	12,284,081	19,339,244	+	11-4
Lime..... tons	508,889	4,534,568	590,175	5,286,351	+	15-9
Sand and gravel..... tons	28,102,917	5,809,431	27,601,360	6,801,816	-	0-6
Stone..... tons	8,253,934	10,272,301	9,475,804	11,289,956	+	14-8
<b>Total.....</b>	<b>-</b>	<b>37,356,463</b>	<b>-</b>	<b>42,869,376</b>	<b>-</b>	<b>+</b>
<b>Grand Total.....</b>	<b>-</b>	<b>274,989,487</b>	<b>-</b>	<b>307,146,494</b>	<b>-</b>	<b>+</b>



# DOMINION BUREAU OF STATISTICS

R. H. COATS, B.A., F.S.S., (Hon.), F.R.S.C., Dominion Statistician

S. J. COOK, B.A., A.I.C., F.C.I.C., Chief of the Mining, Metallurgical and Chemical Branch

## PRELIMINARY REPORT

ON THE

# MINERAL PRODUCTION OF CANADA

DURING THE CALENDAR YEAR, 1929

**Previous Record Surpassed.**—In 1929, for the fourth year in succession, the mining industry in Canada reached a new high record of production. Gains of \$19.6 millions in the value of copper and nickel output, \$2.6 millions in the value of cement, \$3.69 millions in other structural materials such as brick, lime, stone, sand and gravel, a rise of \$1.38 millions in the value of lead and zinc, \$1.93 millions advance in the value of asbestos, and \$1.75 millions greater value in crude petroleum, were high lights in Canada's greatest mining year when the total output was valued at \$307,146,494 or 11.69 per cent more than the valuation of the previous year's production. Lower values in a few items including silver and gypsum, left the net gain for the year at \$32,157,007.

New records were established in 1929 in the output of asbestos, cement, clay products, copper, gold, lime, nickel, petroleum, salt, stone, and zinc.

Metals as a group showed the greatest gain with a total valuation of \$153,694,303 as compared with \$132,012,454 in 1928. This was a gain of \$21,681,849 or 16.4 per cent. Fuels, valued at \$76,721,864 as compared with \$74,413,160 in the preceding year, showed a net gain of 3.1 per cent or \$2,308,704. Other non-metallics including asbestos, feldspar, gypsum, mica, quartz, salt, talc and soapstone had a value of \$20,698,481 compared with \$18,826,692 in 1928. Gains made in this group were 9.9 per cent or \$1,871,789. Structural materials including brick, tile, cement, lime, stone and sand and gravel were valued at \$56,031,846 compared with \$49,737,181 in 1928 and showed a gain of 12.65 per cent or \$6,294,665. The next following table shows the value of production for metals, fuels, other non-metallic minerals, clay products and other structural materials in each of the past ten years.

*Values of Mineral Production of Canada by Classes, 1920-1929,*

Year	Metallics	Coal, natural gas peat and crude petroleum	Other non- metallics	Clay products and other structural materials	Total
	\$	\$	\$	\$	\$
1920.....	77,939,630	85,767,250	22,260,697	41,892,088	227,859,665
1921.....	49,343,232	77,694,017	10,148,665	34,737,428	171,923,342
1922.....	61,785,707	71,990,674	10,986,120	39,534,741	184,297,242
1923.....	84,391,218	78,465,622	13,471,110	37,751,381	214,079,331
1924.....	102,406,528	59,770,024	12,025,985	35,380,869	209,583,406
1925.....	117,082,298	57,354,055	14,497,746	37,649,234	226,583,333
1926.....	115,237,581	68,743,933	16,496,211	39,059,398	240,437,123
1927.....	113,561,030	71,426,516	17,559,730	44,809,419	247,356,695
1928.....	132,012,454	74,413,160	18,826,692	49,737,181	274,989,487
1929.....	153,694,303	76,721,864	20,698,481	56,031,846	307,146,494

*Monthly Statistics.*—For several years Canadian production figures have been published monthly on such important products as coal, coke, iron and steel, and automobiles. Similarly information on imports into Canada and exports therefrom has been issued monthly, both import and export lists including all the principal items in each case. But up to the present time the only statistics available monthly relating to mineral output of Canada have been those compiled and published outside of the Dominion. To remedy this situation the Bureau undertook in January, 1929, to collect monthly data on the output of leading mineral products in Canada. The results of the first year's work are shown in this report.

The work is being continued and a monthly report will be issued regularly hereafter, thus providing a Canadian official guide to monthly production of these mineral products.

Sixteen representative mineral products have been selected and production statistics for these minerals will be given in the monthly report. The selected items are: asbestos, cement, clay products, coal, copper, feldspar, gold, gypsum, lead, lime, natural gas, nickel, petroleum, salt, silver and zinc. Production data have been obtained in terms of quantity for all items except clay products, in which sales values have been used. In 1929 the combined production value of these 16 products was \$282,726,395 or 92.05 per cent of the aggregate for all mineral products. The following table shows the monthly data by items for 1929. As some of the figures collected monthly were of a preliminary nature, corrections have been made in the monthly records to bring the totals for the twelve months into accord with the totals reported for the year.

*Monthly Production of Principal Minerals in Canada, 1929*

—	Asbestos	Cement	Clay Products	Coal	Copper	Feldspar	Gold	Gypsum
	tons	brls.	\$	tons	lb.	tons	fine oz.	tons
January .....	17,882	385,679	494,034	1,585,072	19,850,095	2,114	150,475	30,936
February .....	22,421	430,710	493,263	1,649,960	18,518,573	0,592	145,904	31,347
March .....	22,100	581,815	668,303	1,387,600	18,777,027	4,505	155,850	41,772
April .....	24,770	796,475	903,713	1,394,320	18,328,736	1,967	153,389	87,322
May .....	28,458	1,233,644	1,418,303	1,404,861	19,232,242	1,816	165,952	109,245
June .....	27,140	1,570,163	1,526,565	1,390,774	20,692,546	2,617	170,360	155,350
July .....	28,368	1,600,915	1,630,742	1,316,153	20,779,141	1,893	159,262	174,623
August .....	29,254	1,697,089	1,614,595	1,362,166	21,283,867	5,363	164,436	148,780
September .....	27,891	1,447,388	1,378,454	1,417,749	20,411,401	2,814	161,459	162,295
October .....	30,120	1,423,489	1,350,002	1,598,508	20,706,320	2,306	182,052	141,541
November .....	27,911	760,083	1,032,362	1,534,190	24,120,556	4,133	150,418	89,949
December .....	19,731	278,631	652,200	1,490,836	25,407,295	2,233	168,638	38,209
Calendar Year .....	306,055	12,284,081	13,222,476	17,502,355	248,107,809	37,353	1,927,295	1,211,384
—	Lead	Lime	Natural Gas	Nickel	Petroleum	Salt	Silver	Zinc
	lb.	tons	M cu. ft.	lb.	brls.	tons	fine oz.	lb.
January .....	24,668,121	43,652	3,365,525	9,705,455	64,874	23,131	1,701,081	15,953,322
February .....	20,638,454	41,345	3,338,090	8,396,837	53,025	23,058	1,003,681	16,174,468
March .....	23,856,042	47,589	2,717,365	8,785,121	69,691	29,674	1,550,356	18,979,341
April .....	27,103,985	46,520	2,629,057	9,473,039	83,542	20,813	1,326,251	17,746,976
May .....	27,806,000	47,306	2,103,090	9,337,783	100,779	27,420	2,112,979	17,500,028
June .....	31,310,905	53,312	1,426,328	9,299,840	107,829	29,847	3,651,854	16,574,643
July .....	31,637,167	55,238	1,349,640	8,076,148	109,633	30,181	2,409,176	14,285,796
August .....	27,048,907	55,227	1,391,124	7,443,248	111,392	29,876	2,209,770	16,032,136
September .....	24,941,590	51,724	1,613,012	6,699,971	100,796	28,359	1,596,568	16,826,780
October .....	31,050,798	53,436	2,080,908	7,310,172	114,030	31,303	1,906,483	14,048,409
November .....	24,145,631	51,985	2,722,461	14,013,819	114,337	29,826	1,519,893	14,451,532
December .....	31,744,345	42,751	3,459,026	10,834,379	101,365	25,876	2,192,073	17,639,781
Calendar Year .....	325,950,245	590,175	28,097,456	110,275,812	1,120,693	330,264	23,180,155	196,213,221

*Principal Minerals.*—Canada's leading mineral products in order of their total value, are: coal, copper, gold, nickel, cement, lead, asbestos, clay products, silver, zinc, stone, natural gas, sand and gravel, lime, petroleum, gypsum, cobalt, salt and platinum metals. This list of 19 products includes all that reach an output value of one million dollars or over annually. Together they make up about 98 per cent of the value of Canada's mineral production. In addition to these products about 50 other minerals were recovered in commercial quantities during 1929. In 1928, the latest year for which world data are available, Canada produced 94 per cent of the world's

nickel, 69 per cent of the world's asbestos, 55 per cent of the world's cobalt, 9.6 per cent of the world's gold, 9.2 per cent of the world's lead, 8.5 per cent of the world's silver, 5.2 per cent of the world's zinc, and 5 per cent of the world's copper. In the next following paragraphs there are notes on the principal mineral products and in the tabular matter following the text there are data on most of the other mineral products.

*Coal.*—Coal production in Canada during 1929 continued on about the same scale as in 1928, the total tonnage for the year being only slightly under the total for the preceding twelve months. Greater tonnage were mined in Nova Scotia, Saskatchewan and New Brunswick but there were slight losses in tonnage in Alberta and British Columbia. Coal mining on the Pacific coast continued to feel the competition of imported fuel oil. Alberta's production in 1929 was only slightly greater than the production reported for Nova Scotia; together these two provinces produced 82 per cent of the Dominion output. Most of the tonnage raised from Canadian mines is bituminous coal; in 1929, bituminous coal made up 74 per cent of the total output; lignite added 23 per cent; the remaining 3 per cent was classed as sub-bituminous. In the matter of fuel supply central Canada still depends on imported coal while eastern and western Canada use coal from Canadian mines. During 1929 there were imported into Canada more than 18 million tons of coal or about 5 per cent more than in the preceding year. A feature of the imports in 1929 was that larger tonnages were brought in from Great Britain and some anthracite coal was imported from Russia. Approximately 35,278,000 tons were made available for consumption in Canada during the year.

*Copper.*—In 1929 the production of copper from Canadian ores reached a higher total value than the output of gold and this despite the fact that gold production in the same year reached a new record output. The greatest gain in the year under review was in the production of copper from Quebec where the output rose 65 per cent above the total for 1928. British Columbia was the chief producing area, the output from this province amounting to 103,937,349 pounds; Ontario's output was about 88.8 million pounds and Quebec added another 55.3 million pounds. Increased outputs from the Noranda smelter in Quebec and from the International Nickel Company's properties in Ontario were the features of the year. Throughout the year prices of copper were higher than in 1928; during the first four months prices were quite strong; from May to December the price was stabilized, New York quotations being 17.775 cents per pound for electrolytic copper during this period. The average New York price for the year was 18.107 cents as against 14.570 cents in 1928.

*Gold.*—A slight gain in gold production established a new record for this product. Ontario was the principal producer, the chief sources being the Porcupine mines and the Kirkland lake properties. While there was a slight decline in Porcupine production, a considerable increase in Kirkland lake output more than offset the loss in the older camp. British Columbia's gold output dropped a little below that reported for 1928 but Quebec showed an appreciable increase in gold output. The Yukon, Manitoba and Nova Scotia also contributed to gold production. In order of their gold output in 1929 the leading producers in Canada were: Hollinger, Lake Shore, Teck-Hughes, McIntyre, Dome, Premier, Wright-Hargreaves and Noranda. While Canada has not yet overtaken the United States in the matter of gold output, the production of gold in these countries is gradually approaching a common level. United States production in 1929 is estimated at 2,128,027 fine ounces.

*Nickel.*—Great public interest was evinced in the progress of the large industries being established in the Sudbury district. Although a great amount of development work was carried on in this area during the year, production was not allowed to decline but on the contrary, was increased. In the program of expansion presently under way at Sudbury, mining, smelting and refining facilities are being augmented and new subsidiary plants are being built. Significance of these operations is not so much to be found in the increased nickel output although a new record production was reached during 1929 but it rather lies in the fact that, here, there is a commendable attempt to retain within the Dominion the fabrication of products from Canadian raw material.

*Cement.*—Quebec and Ontario are the principal cement-producing provinces, but more than a million dollars' worth is made annually in each of the three western provinces, Manitoba, Alberta and British Columbia. Marked gains in the production of cement reflected the growth in construction industries during the year.



*Lead.*—Lead is derived from mines in the Yukon, British Columbia, Ontario and Quebec but 95 per cent of the Dominion output is obtained from British Columbia. In this province the Sullivan, the world's largest silver-lead-zinc mine, sends a steady stream of concentrates to the great smelter at Trail where pig lead is produced and other valuable products are recovered. Some other sources of lead are the Treadwell Yukon mine near Mayo, Yukon Territory, the Kingdon Mine at Galetta, Ontario, and the Tétreault property at Notre-Dame des Anges, Quebec.

World production of lead in 1929 is estimated at 1,930,000 short tons, a new high record for all time. Better prices which prevailed for the most part of 1929 brought out more lead. In contrast to this Canada's lead production showed a slight decline from the output in 1928 but, due to higher prices, the aggregate value surpassed the total for the preceding year. The record output of lead from Canadian ores was attained in 1928 while the greatest value reported was for 1925 when prices of lead were very much higher than at present.

*Asbestos.*—Of the non-metallic minerals, other than fuels, used in industry, asbestos is probably the most important, and its field of usefulness is being extended year by year. About 90 per cent of the world's supply is derived from sources within the British Empire, and 69 per cent of the total tonnage is mined in the Thetford area of Quebec. For many years Canada dominated the asbestos markets of the world producing about 85 per cent of the total supply, but developments in recent years have brought changes in the world situation. There is a great variation in the length of fibres obtained in the mining of asbestos in different areas. Long fibres are desirable for spinning and command high prices; short fibres are more abundant and, therefore, cheaper.

The principal world sources of asbestos are Canada, Rhodesia, Russia, South Africa and Cyprus.

Canada's output in 1929 reached a new record tonnage having an average value of \$43 per short ton. Of the total tonnage, 48 per cent, or 150,345 tons consisted of grades having an average value of \$72 per ton. The remainder, or 160,859 tons of short fibre stocks, used in the manufacture of asbestos cement and various other products, had an average value of \$15.66 per short ton.

Exports of Canadian asbestos in 1929 exclusive of sand and waste amounted to 143,725 tons valued at \$10,127,208 or \$70.46 per ton. The close relation between the tonnage and average value per ton for the production of the higher grades noted above, on the one hand, and the tonnage and average value per ton of the exported asbestos indicates the nature of the exported material.

Canada's principal export markets for asbestos are the United States, Great Britain, and Germany, and to a less extent in other European countries, Japan and Australia.

Southern Rhodesia's total production of asbestos in 1908 had a value of less than \$2,700. Remarkable developments there carried the asbestos industry forward until in 1929 the output reached 42,633 tons valued at \$5,767,000, or \$135 per ton. Asbestos is now the second most important mineral product of Rhodesia, being exceeded in value only by gold. While the increased production of high grade asbestos in Rhodesia has been due, no doubt, to the necessity of marketing only a product that can command a sufficiently high price to offset the heavy transport charges incurred in delivery from the mines to European and other buyers, the growth of the output from this source as well as from South Africa, Russia and Cyprus, has created keen competition in the world markets for long fibres.

*Clay Products.*—Growth in the construction industries led to increased production of clay products in Canada during 1929. Stiff mud process brick, both face and common, reach an annual total production value of close to \$5 millions and approximately one million dollars' worth of common soft mud process brick are also made each year. The other principal items in the clay products group are structural tile, including hollow block, load-bearing tile and sewer pipe, including copings and flue linings. The industry is quite generally established throughout all the Canadian provinces and in the matter of building brick the Dominion is self-supporting. The principal imports under the clay products group come under the heading "earthenware and chinaware" and there is also an important importation of firebrick.

*Silver.*—A writer recently pointed out that the low prices for silver in the closing months of 1929, should not be set against previous low records without due allowance being made for the tremendous change in world conditions since the great war. He pointed out that the world-wide advance in the cost of the necessaries of life—say, 50 per cent



as measured in gold—should enter into any comparison of the actual worth of silver now and then, since silver finds a ready market in certain parts of the world in exchange for other commodities and its real value is as measured in them. Canada's silver output in 1929 showed a slight gain in quantity but a lower total value than in the preceding year. Production of silver in Quebec was slightly below the total for 1928 but the output from Ontario properties showed a marked advance. British Columbia produced slightly less than in the preceding year; the Yukon production, on the other hand, was higher than in 1928. It is estimated that the world production of silver in 1929 was approximately the same as in 1928. One estimate places the world's figure at 256,500,000 ounces including 61,000,000 ounces in United States, 105,000,000 ounces in Mexico and 22,500,000 ounces from Canada. Of the remainder, South America accounts for about 28,500,000 ounces mostly from Peru, and all others, 39,500,000 ounces.

*Zinc.*—While the world's zinc production in 1929 was approximately twice the tonnage produced in 1920, the price of zinc in London has declined from £44 sterling per long ton in 1920 to an average in 1929 of £24.790 sterling per long ton of zinc or only a little more than half the 1920 quotation. Measured in cents per pound as quoted in St. Louis the decline does not appear to be so drastic; prices in 1920 averaged 7.671 cents per pound and in 1929, the average was 6.512 cents per pound. But the average price for prime western zinc at East St. Louis during the month of January, 1930, was only 5.229 cents and this continued decline in the price of zinc is causing some concern to producers. World production in 1929, estimated at 1,611,610 short tons, showed gains in all the principal zinc producing countries except Belgium and France. Canada's production reached a new high record and, as reflecting the optimism of Canadian producers, it is reported that a zinc refinery will be built somewhere in eastern Canada to treat the zinc-bearing ores that will be produced from several new properties now being brought to the production stage. As in the case of lead, most of Canada's zinc is derived from mines in British Columbia but Quebec and Ontario also produce appreciable quantities. Zinc is also present in recoverable amounts in the ores of the Hudson Bay, Sherritt-Gordon, Amulet, Abana, Waite-Ackerman, Aldermac, Lake Geneva, Noranda and Sudbury Basin mines so that as these properties are brought into production (or the output from those now producing is enlarged) Canada should become an even more important source of zinc as the years go by.

*Stone.*—Stone, including granite, marble, limestone and sandstone is produced in large quantities and in excellent quality in various parts of the Dominion. Manitoba and Quebec are especially noted in this respect. The famous Tyndall stone from Manitoba has recently scored several new victories in that it has been selected as the material for the new Eaton building in Toronto, the new Calgary post office, and also for the Alberta government new administration building in Edmonton. In respect to the Toronto contract, which is a very large one, it is reported that Tyndall stone was selected in competition with all the other available building stones and the choice was made wholly on the merit of Manitoba's famous stone.

*Natural Gas.*—Production of natural gas from Canadian wells in 1929 showed gains both in quantity and value over the totals for the preceding year. The greatest gain was in Alberta; there was little change in the quantities produced from New Brunswick and Ontario wells.

*Sand and Gravel.*—Sand and gravel, one of the important Canadian mineral products, is largely used for railway ballast and building purposes, particularly in concrete work. Whereas in recent years, there has been a tendency to use stone rather than sand and gravel for railway ballast work, the increased building construction program noted in 1929 gave rise to a greater output of sand and gravel.

*Lime.*—Every province, except Saskatchewan and Prince Edward Island, produces lime. Both quicklime and hydrated lime are made; in 1929 production of these two grades was in the ratio of about 6 of quicklime to 1 of hydrated. Previous production records were all surpassed.

*Petroleum.*—Outstanding gains featured the production of petroleum in Canada during 1929. Notable advances were made in the production of petroleum from Alberta wells where approximately one million barrels of oil were produced during the year. Development of the oil and natural gas industry in Canada has shifted from east to west. Some progress is being made in New Brunswick and production in Ontario will continue on its present rather moderate scale for a number of years; but it is in the west, the prairie provinces and the Rocky Mountain foothills country that the greatest advances will be made in this field in coming years. More attention is now being paid to geological structure and a mass of useful data is being accumulated.

*Gypsum.*—Gypsum quarries are operated in Nova Scotia, New Brunswick, Ontario, Manitoba and British Columbia. Nova Scotia is the principal producer and the bulk of the output in this province is exported to the United States. During the year there was an interesting discussion on the rate of duty which should be charged by the United States against Canadian gypsum and after considerable investigation the authorities in the United States decided to allow the imports from Canada to continue, imposing only a nominal rate of duty on the product. A review of United States conditions indicates that economic conditions in the gypsum industry are gradually improving in that country although it is pointed out that gypsum plant capacity is presently greatly in excess of market demand but that this is offset to some extent by the continual widening of the market through research, and by the adoption of more economic methods in production.

*Cobalt.*—While Canada formerly produced a much larger part of the world's output of cobalt than is presently the case, the Dominion's proportion now having dropped to about 55 per cent of the world's total, experimental work in selective flotation indicates that this method of recovery may be applied to low grade deposits that have not as yet been mined and if it proves to be successful the industry may be given a new lease of life. In Canada, cobalt is obtained from the arsenical cobalt-nickel ores of Ontario; the other chief world source of cobalt is the Belgian Congo. A reported new use of cobalt is in the application of cobalt-tungsten-carbide alloys in the manufacture of cutting tools. The cobalt in these alloys gives increased strength and prevents oxidation when the tools are operated at such high speed that the cutting edges become red hot. Stellite, a cobalt-tungsten-chromium alloy is also coming into much more general use not only for cutting tools but more particularly for depositing on surfaces subject to great wear as for example on grizzly bars and on machinery parts subject to wear.

*Salt.*—A new record tonnage in salt production in Canada was reached in 1929, but the record value for the output of salt was set up in 1921 when prices were higher. Most of the salt comes from Ontario wells and is marketed either for domestic or agricultural purposes or for the manufacture of chemical products in the western part of the province. There is also an important production of salt in Nova Scotia where the only salt mine in Canada is in operation.

*Platinum Metals.*—Most of Canada's platinum is recovered in the treatment of the nickel-copper ores of the Sudbury district and the increased production of these ores consequent upon the present extensive development program being carried out in that area, indicates that Canada's output of platinum metals is likely to grow. Prices of platinum in 1929 showed a downward tendency, the closing price in New York being around \$61 per ounce as against the opening price of \$70 per ounce at the beginning of the year.

### Notes on Mining Areas

*Nova Scotia.*—Improvement in the coal mining situation in Nova Scotia, partly due to the arrangement whereby Nova Scotia was enabled to ship coal to central Canada points during the winter and was thus able to maintain a steadier rate of production than in other years, was one of the most satisfactory features of the mining situation. Coal and gypsum dominate the mining industry in Nova Scotia but numerous other mineral products are worthy of considerable attention. Very commendable efforts have been made in recent years in the Atlantic provinces to restore metal mining to some of its old time significance but it cannot be said the progress made so far has been remarkable. Quartz and salt are other important non-metals obtained in Nova Scotia and in the field of structural materials the province is a large producer of clay products, stone, lime, sand and gravel.

*New Brunswick.*—Although there are many minerals of economic importance in the province of New Brunswick, 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. During the year satisfactory progress was made in the mining industry as a whole.

*Quebec.*—Quebec has always been noted for its non-metallic minerals. Asbestos is the chief product and the output of this commodity from the mines of the eastern townships represents a very large part of the world's production of this useful commodity. Feldspar and mica are produced each year in considerable amount and other non-metallies including graphite,



magnetite, iron oxides, mineral waters, phosphate, pyrites, quartz, and soapstone are also produced in addition to a considerable output of cement, brick and other clay products, lime, building stone, sand and gravel. In recent years there has been greater interest in metal mining, particularly since the opening up of the Rouyn district. Additions to concentrating and smelting capacities were made at Noranda, P.Q., during the year and new finds of copper in the Chibougamou area were also reported.

*Ontario.*—In Ontario the most outstanding development of the year was the program of expansion laid down by the International Nickel Company with which the former Mond Nickel Company is now merged. The mines of this organization in the Sudbury district produced steadily during the year and at the same time great new enterprises were being built up. In addition to these, there are other important properties in this area such as the Falconbridge Nickel Mine and the Treadwell Yukon Company's Errington mine.

Ontario is Canada's premier mineral producing province being particularly noted for its production of gold and silver. It is in this province only that cobalt and nickel are found in quantity. Here, too, are produced one-third of Canada's copper, some arsenic, platinum, lead, natural gas, salt, gypsum, quartz, crude petroleum, sulphur (in pyrites and in bessemer converter gases), salt, mica, and less quantities of antimony, bismuth, platinum metals, grinding pebbles, mineral waters and quartz. Building materials include cement, brick, stone, sand and gravel and lime. During the year the enlargement of mining and smelting facilities and the construction of smelting, refining, acid-making and other chemical plants were evidences of advances in the mining and related industries in this province. Gold mining in the Kirkland lake area was particularly active and progress was also made in the Porcupine district. Coal finds in the northern part of the province excited public interest towards the close of the year.

In the Porcupine area, Hollinger, McIntyre and Dome continued to rank as the three premier producers in this camp and in the order named. Other mines contributing to Porcupine's output of gold were Vipond, Coniaurum, March Gold, West Dome Lake, Ankerite, and Porcupine United Gold.

In the Kirkland lake area, the Lake Shore mine once again regained supremacy in point of output, being closely followed by Teck-Hughes at which property the extensive development program noted in the previous year was continued. The other properties in this camp in order of their importance were Wright-Hargreaves, Sylvanite Gold, Kirkland Lake Gold; and in the nearby Boston Creek camp, Barry-Hollinger continued to produce.

Considering the gold producers of Porcupine and Kirkland lake together it may be noted that while Hollinger still leads as Canada's greatest producer of gold, Lake Shore in the Kirkland lake area won second place in 1929 closely followed by Teck-Hughes in third position with McIntyre fourth and Dome fifth. These are Ontario's five most important gold mines. The disastrous fire at the Dome mine late in 1929 destroyed the mill but work was continued underground.

Reference has already been made to the extensive development program being carried on in the Sudbury district. This is undoubtedly the most interesting piece of work in the mining field in Ontario at the present time. Despite the heavy development program, production at the nickel-copper properties is being continued on a satisfactory basis.

Ontario's yield of silver was about one-third of the total for the Dominion. Most of this silver was mined in the Cobalt area but a little was derived from other sources notably the nickel mines and the gold producers. Smelting of silver-cobalt ore at Deloro, Ontario, was carried on throughout the year, the products in addition to silver bullion being cobalt and its compounds, nickel products, arsenic and bismuth-bearing bullion.

*Manitoba.*—In the metal mining field in Manitoba the development work at the Flin Flon mine owned by the Hudson Bay Mining and Smelting Company was followed with interest throughout the year. Progress was made also at the Sherritt-Gordon property. The railway extension into the Sherritt-Gordon mine was completed during the year. There was also considerable interest in the development at the San Antonio mines. In the non-metal mining field the production of Tyndall limestone was continued on a growing scale. Several new contracts for this famous stone were obtained as noted in an earlier paragraph of this report.

Central Manitoba Mines, Limited, operated steadily throughout the year in the eastern section of the province and shipped gold bullion regularly during the period. Reports indicated that work was also going forward on other properties in the vicinity.



*Saskatchewan.*—Saskatchewan is not noted for its metal mines as yet; perhaps the properties now being developed close to the boundary line on the Manitoba side will be found to extend westerly into Saskatchewan and then there will be another story to tell. Coal and building materials were the principal mineral products of importance in this province although there was also to be observed a growing interest in the recovery of natural salts such as sodium sulphate. In this connection it may be mentioned that the new chemical plant being constructed at Coppercliff in Ontario for the manufacture of acid sodium sulphate to be used in the separation of nickel and copper in the refining process, will use Saskatchewan's natural sodium sulphate as its basic raw material.

*Alberta.*—Coal production made good headway. Natural gas production also reached a new record. The advance in petroleum to a new high record of nearly 1,000,000 barrels of oil was the principal feature of the year. Alberta's contribution to Canada's output of petroleum really began in 1917 although small quantities had been produced in each of the four next preceding years. But it was not until late in 1924 when the Royalite No. 4 was brought in that any considerable volume of oil was obtained. Since then the increase in production has been notable. From 183,491 barrels in 1925 the production has grown until in 1929 it reached the level noted above. Cement and other building materials were all produced in quite large quantities and the total production indicated a very real growth in the mining industry of the province.

*British Columbia.*—In reviewing the mineral production of British Columbia during 1929, Mr. John D. Galloway, provincial mineralogist, said: "The important metal producers of the province are the Sullivan, Britannia, Premier, Hidden Creek and Copper Mountain; at least 90 per cent of the metallic production being made by these five mines. This condition has existed now for several years but looking back still further to 1914 at that time the bulk of the metallic output was from the Boundary and Rosslund mines which are now virtually non-productive. This illustrates the gradual change which takes place in mining with some mines becoming exhausted, small mines expanding to large ones and new mines being brought into production."

"The last three years have been characterised by extensive and widespread development of mineral properties throughout the province. In addition to the development carried on by the old established mining companies in the search for new mines many new companies have been incorporated for the purpose of re-opening abandoned properties and developing new prospects."

Coal mining is an important industry in British Columbia but in recent years the competition of imported fuel oil has had a deterrent effect on production. It is also reported that Alberta mines are successfully competing in the British Columbia field particularly in the domestic market.

Great progress was made at Trail during the year. Products included fine gold and silver, electrolytic copper and zinc, and pig lead as leading products. Production of cadmium, begun in the previous year, was continued. The Sullivan silver-lead-zinc mine, the principal source of supply for the Trail smelter, was operated continuously and successfully throughout the year. The Premier, producing gold and silver, was also active and in this connection it may be noted that the 5½-mile aerial tram being built by the Premier Company to connect the Porter-Idaho and Prosperity properties with the tidewater was completed during the year.

Another feature of the year was the development of the old Monarch property at Field. This property is said now to be adequately financed and developed and has been equipped with a 300-ton mill so that it enjoys very favourable prospects.

Another paragraph may be quoted from Mr. Galloway: "With a highly mineralized area, vast resources in undeveloped water powers and coal fields, large potential markets for metals and manufactured products in the countries bordering the Pacific, and an unparalleled geographic situation to participate in this trade, a bright future is assured British Columbia."

*Yukon.*—Satisfactory progress was made in the mining industry in Yukon during 1929. While no outstanding new discoveries were reported and while also several development operations proved disappointing, production in the established camps, was maintained at a high level and in the case of lode mining in the Mayo district was increased slightly over the totals in recent years.

The Yukon Consolidated Gold Company was the principal operator in the alluvial field producing about 95 per cent of the total for the Territory. It operated 4 dredges during the greater part of the season and was engaged in refitting a fifth which it hoped to bring into operation before the conclusion of the dredging season.

In the Mayo district the Treadwell Yukon Company production was again increased. Transportation conditions have been considerably improved in the Mayo district. In addition to the Yukon River service and to boat service on Stewart river to connect with Yukon river boats there is now one established air transport company, namely, Yukon Airways and Exploration Company, Limited, with airplane service between White Horse and Mayo, and in addition Treadwell Yukon maintains two planes, one of which is used for prospecting and for general passenger business. Landing fields have been cleared at White Horse, Mayo, Keno and Dawson and it is expected that eventually a number of emergency landing fields will also be prepared.

Dr. Cockfield of the Geological Survey reports that in the Mayo district a road has been built from Mayo to Keno Hill and that this journey may now be made by automobile in about three hours. Haulage costs on ore from the properties are not unduly high since the introduction of caterpillar tractors about six years ago. He says further that a feeling of optimism now prevails in the Mayo camp and he considers that this feeling is not unjustified by the prospects.

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Producing at a rate of nearly a million dollars a day, the mining industry in Canada continues to make a steady and substantial contribution to the national wealth of the Dominion. Production from the mines provides one-third of the total railway tonnage handled, and about one-sixth of the ton-mileage over the railroads, while the export value of Canadian produce of mineral origin amounts to more than 15 per cent of the total.

Representing a capital investment of \$842 millions, and employing nearly 90,000 men in the operation of mines and smelters, the mineral industry of the Dominion has won a high place in the nation's business. Indeed, it may be said, that in 1929, more than in any other year, the stability of Canada's mining enterprises, gained pronounced recognition in the financial world. This hard-won and well-deserved confidence was reflected in a growing willingness on the part of banking institutions to support the establishment of chemical and other process industries based on mining. Construction of several new chemical plants using mine products as their raw material, additions to smelting and refining capacities throughout the Dominion, and increased research looking to the better utilization of mineral products, were all evidences of the dominating spirit of conservative optimism that guarantees the future of Canada's mining industry.

*Mineral Production of Canada by Provinces, 1927-1929*

Province	1927		1928		1929	
	Value of production	Per cent of total	Value of production	Per cent of total	Value of production	Per cent of total
	\$		\$		\$	
Nova Scotia .....	30,111,221	12.17	30,524,392	11.10	30,890,956	10.06
New Brunswick .....	2,148,535	0.87	2,198,919	0.80	2,371,137	0.77
Quebec .....	28,870,403	11.67	37,037,420	13.47	45,389,837	14.78
Ontario .....	89,982,962	36.38	99,584,718	36.22	116,526,096	37.95
Manitoba .....	2,888,912	1.17	4,186,853	1.52	4,925,403	1.60
Saskatchewan .....	1,455,225	0.59	1,719,461	0.63	1,935,676	0.63
Alberta .....	29,309,223	11.85	32,531,416	11.83	34,652,128	11.28
British Columbia .....	60,801,170	24.58	64,496,351	23.45	67,522,557	21.98
Yukon .....	1,789,044	0.72	2,709,957	0.98	2,932,704	0.95
<b>Total .....</b>	<b>247,356,695</b>	<b>100.00</b>	<b>274,989,487</b>	<b>100.00</b>	<b>307,146,494</b>	<b>100.00</b>

## (Metal Prices, 1925-1929)

Metal	Market	Unit	1925	1926	1927	1928	1929
			\$	\$	\$	\$	\$
Antimony (ordinaries).....	New York.....	Pound....	0-17494	0-15988	0-12393	0-10305	0-08956
Arsenic, white.....	New York.....	Pound....	0-0466	0-0350	0-0383	0-04	0-04
Cobalt.....	New York.....	Pound....	2-50	2-50	2-50	2-63	2-52
Cobalt oxide.....	New York.....	Pound....	2-10	2-10	2-10	2-10	2-10
Copper.....	New York.....	Pound....	0-14042	0-13705	0-12920	0-14570	0-18107
	Montreal.....	Pound....	0-1615	0-1577	0-1478	0-15402	0-19978
	New York.....	Pound....	0-09020	0-08417	0-06755	0-06305	0-06833
Lead.....	Montreal.....	Pound....	0-0912	0-08154	0-0673	0-0606	0-06678
	Toronto.....	Pound....	0-0919	0-08274	0-0683	0-06206	0-06775
	London.....	Pound....	0-07914	0-06751	0-05256	0-04576	0-05054
Nickel.....	New York.....	Pound....	0-34	0-36	0-36	0-36	0-35
Platinum.....	New York.....	Ounce....	119-093	113-269	84-636	78-58	67-655
Silver.....	New York.....	Ounce....	0-69065	0-62107	0-56370	0-38176	0-52993
*Tin.....	New York.....	Pound....	0-56790	0-63615	0-62747	0-50172	0-45155
Zinc.....	St. Louis.....	Pound....	0-07622	0-07337	0-06242	0-06027	0-06512
	Montreal.....	Pound....	0-0906	0-08825	0-07710	0-07144	0-06687
	London.....	Pound....	0-07956	0-07410	0-00194	0-05493	0-05386

\* For 1925 and 1926 prices are for 99% grade; 1927-1929 quotations are for Straits.

## Metal Prices by Months, 1928 and 1929

Month	Copper (Electrolytic)				Pig Lead					
	New York (In cents per pound)		London (In £ sterling per long ton)		Montreal (In cents per pound)		New York (In cents per pound)		*London (In £ sterling per long ton)	
	1928	1929	1928	1929	1928	1929	1928	1929	1928	1929
January.....	13-854	16-603	66-575	78-602	6-400	6-430	6-500	6-650	21-773	22-111
February.....	13-823	17-727	66-381	83-538	6-110	6-580	6-329	6-853	20-283	23-128
March.....	13-845	21-257	66-413	98-356	5-966	7-175	6-000	7-450	10-938	25-409
April.....	13-986	19-500	66-500	89-405	5-907	7-080	6-100	7-187	20-306	24-783
May.....	14-203	17-775	67-216	83-727	5-848	6-740	6-123	7-000	20-483	23-949
June.....	14-527	17-775	68-738	84-013	5-919	6-700	6-300	7-000	20-985	23-694
July.....	14-527	17-775	68-070	81-043	5-832	6-550	6-220	6-804	20-602	22-810
August.....	14-526	17-775	68-750	84-250	5-989	6-600	6-248	6-750	21-634	23-185
September.....	14-724	17-775	69-800	84-363	6-112	6-675	6-450	6-890	22-050	23-557
October.....	15-202	17-775	71-935	83-978	6-148	6-625	6-500	6-873	22-082	23-226
November.....	15-778	17-775	74-750	82-202	6-216	6-480	6-389	6-285	21-239	21-622
December.....	15-844	17-775	75-000	82-509	6-277	6-500	6-495	6-250	21-342	21-472
<b>Average.....</b>	<b>14-570</b>	<b>18-107</b>	<b>69-230</b>	<b>84-921</b>	<b>6-060</b>	<b>6-678</b>	<b>6-395</b>	<b>6-833</b>	<b>21-060</b>	<b>23-246</b>

\* Computed at par (\$4-8666), the average London price of lead in 1928 was 0-04576 cents per pound; and in 1929 was 0-05054 cents per pound.

Month	Silver				Zinc					
	New York (In cents per oz.: 999 fine)		London (In pence per oz.: 925 fine)		Montreal (In cents per pound)		St. Louis (In cents per pound)		*London (In £ sterling per long ton)	
	1928	1929	1928	1929	1928	1929	1928	1929	1928	1929
January.....	57-135	57-019	26-313	26-257	7-100	7-29	5-643	6-350	26-125	26-196
February.....	57-016	56-210	26-2-5	25-904	7-000	7-30	5-551	6-350	25-518	26-247
March.....	57-245	56-346	26-329	26-000	7-082	7-37	5-624	6-463	25-082	27-050
April.....	57-305	55-668	26-400	25-738	7-211	7-23	5-750	6-658	25-493	26-759
May.....	60-998	54-125	27-654	25-084	7-308	7-05	6-026	6-618	26-102	26-727
June.....	60-019	52-415	27-459	24-257	7-357	7-00	6-158	6-084	25-604	26-216
July.....	59-215	52-510	27-262	24-289	7-239	6-94	6-201	6-766	24-946	25-332
August.....	58-880	52-579	27-096	24-288	7-156	6-85	6-249	6-800	24-540	24-896
September.....	57-3-1	51-042	24-440	23-708	6-973	6-74	6-250	6-799	24-497	24-208
October.....	58-087	49-013	26-727	23-042	6-911	6-50	6-250	6-740	24-030	22-927
November.....	57-953	49-615	26-704	22-690	6-993	6-15	6-293	6-242	24-801	20-851
December.....	57-335	48-475	26-349	22-258	7-305	6-00	6-349	5-666	26-609	20-103
<b>Average.....</b>	<b>58-176</b>	<b>52-993</b>	<b>26-746</b>	<b>24-460</b>	<b>7-144</b>	<b>6-87</b>	<b>6-027</b>	<b>6-512</b>	<b>25-284</b>	<b>24-793</b>

\* Computed at par (\$4-8666) the average London price of zinc in 1928 was 0-05493 cents per pound, and in 1929 was 0-05386 cents per pound.



## Mineral Production in Canada, by Provinces, 1929

	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Canada
<b>METALLICS</b>										
Arsenic... lb.	-	-	-	3,742,913	-	-	-	1,487,175	-	5,230,088
\$	-	-	-	154,887	-	-	-	16,433	-	171,320
Bismuth... lb.	-	-	-	27,446	-	-	-	166,883	-	194,329
\$	-	-	-	23,413	-	-	-	196,922	-	220,335
Cadmium... lb.	-	-	-	-	-	-	-	773,976	-	773,976
\$	-	-	-	-	-	-	-	696,579	-	696,579
Cobalt... lb.	-	-	-	929,415	-	-	-	-	-	929,415
\$	-	-	-	1,801,915	-	-	-	-	-	1,801,915
Copper... lb.	-	-	55,337,169	88,833,291	-	-	-	103,937,349	-	248,107,809
\$	-	-	10,019,901	14,612,271	-	-	-	18,778,964	-	43,411,036
Gold... fine oz.	2,987	-	89,206	1,622,862	22,455	-	5	154,180	35,900	1,927,295
\$	55,545	-	1,844,052	33,547,534	464,186	-	103	3,187,183	742,119	39,840,722
Iron ore sold for export tons	-	-	2,453	-	-	-	-	-	-	2,453
\$	-	-	7,359	-	-	-	-	-	-	7,359
Lead... lb.	-	-	5,358,304	4,715,789	-	-	-	307,290,605	8,585,547	325,950,245
\$	-	-	270,594	291,717	-	-	-	15,518,176	433,570	18,514,057
Nickel... lb.	-	-	-	110,275,812	-	-	-	-	-	110,275,812
\$	-	-	-	27,115,443	-	-	-	-	-	27,115,443
Palladium, Rhodium, etc... fine oz.	-	-	-	13,540	-	-	-	177	-	13,717
\$	-	-	-	315,753	-	-	-	4,128	-	319,881
Platinum fine oz.	-	-	-	12,794	-	-	-	46	-	12,839
\$	-	-	-	739,109	-	-	-	2,681	-	741,790
Silver... fine oz.	132	-	810,639	8,943,914	2,644	-	-	10,110,852	3,312,074	23,180,155
\$	70	-	429,529	4,739,648	1,401	-	-	5,558,044	1,755,167	12,283,859
Zinc... lb.	-	-	19,653,440	4,462,940	-	-	-	172,096,841	-	196,213,221
\$	-	-	1,058,731	240,419	-	-	-	9,270,857	-	10,570,007
<b>Total... \$</b>	<b>55,615</b>	<b>-</b>	<b>13,639,166</b>	<b>83,582,109</b>	<b>465,587</b>	<b>-</b>	<b>103</b>	<b>53,029,867</b>	<b>3,930,856</b>	<b>153,694,363</b>
<b>NON-METALLICS</b>										
<b>Fuels</b>										
Coal... tons	7,063,879	219,188	-	-	-	577,820	7,150,633	2,490,377	458	17,502,355
\$	28,070,451	908,624	-	-	-	988,435	22,896,024	10,160,987	1,848	63,026,369
Natural gas... M cu. ft.	-	678,456	-	8,572,900	200	-	18,845,000	-	-	28,097,456
\$	-	333,002	-	4,975,480	60	-	4,583,117	-	-	9,891,059
Peat... tons	-	-	1,607	1,000	-	-	-	-	-	2,607
\$	-	-	8,839	4,500	-	-	-	-	-	13,339
Petroleum, crude... bbl.	-	7,499	-	121,194	-	-	902,000	-	-	1,120,693
\$	-	19,909	-	293,968	-	-	3,476,620	-	-	3,790,497
<b>Total... \$</b>	<b>28,070,451</b>	<b>1,261,535</b>	<b>8,839</b>	<b>5,272,948</b>	<b>60</b>	<b>988,435</b>	<b>30,955,761</b>	<b>10,160,987</b>	<b>1,848</b>	<b>76,721,864</b>
<b>Other Non-Metallics</b>										
Actinolite... tons	-	-	-	30	-	-	-	-	-	30
\$	-	-	-	375	-	-	-	-	-	375
Asbestos... tons	-	-	306,055	-	-	-	-	-	-	306,055
\$	-	-	13,172,581	-	-	-	-	-	-	13,172,581
Barytes... tons	105	-	-	-	-	-	-	-	-	105
\$	2,341	-	-	-	-	-	-	-	-	2,341
Bituminous sands... tons	-	-	-	-	-	-	1,036	-	-	1,036
\$	-	-	-	-	-	-	4,144	-	-	4,144
Diatomite... tons	254	-	-	-	-	-	-	175	-	429
\$	5,080	-	-	-	-	-	-	5,250	-	10,330
Feldspar... tons	-	-	15,790	21,563	-	-	-	-	-	37,353
\$	-	-	133,492	209,657	-	-	-	-	-	343,149
Fluorspar... tons	-	-	-	70	-	-	-	17,800	-	17,870
\$	-	-	-	1,120	-	-	-	45,528	-	46,648
Graphite... tons	-	-	173	1,288	-	-	-	-	-	1,461
\$	-	-	12,652	90,522	-	-	-	-	-	103,174
Grindstonestone	-	1,248	-	-	-	-	-	-	-	1,248
\$	-	48,389	-	-	-	-	-	-	-	48,389
Gypsum... tons	949,736	70,482	-	100,347	67,289	-	-	24,549	-	1,211,383
\$	1,146,499	485,982	-	832,689	631,051	-	-	242,638	-	3,338,859
Iron oxides... tons	-	-	6,220	-	-	-	-	298	-	6,518
\$	-	-	113,932	-	-	-	-	2,000	-	115,932
Magnesite... tons	-	-	18,701	-	-	-	-	-	-	18,701
\$	-	-	491,170	-	-	-	-	-	-	491,170
Manganese (bog)... tons	-	300	-	-	-	-	-	-	-	300
\$	-	1,800	-	-	-	-	-	-	-	1,800
Mica... tons	-	-	1,212	2,991	-	-	-	-	-	4,203
\$	-	-	73,830	46,021	-	-	-	-	-	119,851
Mineral water imp gal.	-	-	12,205	331,931	-	-	-	-	-	344,136
\$	-	-	2,488	29,702	-	-	-	-	-	32,190
Phosphate... tons	-	-	40	-	-	-	-	1,145	-	1,185
\$	-	-	800	-	-	-	-	14,885	-	15,685

## Mineral Production in Canada, by Provinces, 1929—Continued

	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Canada
<b>NON-METALLIC CONCENTRATES</b>										
Pyrites (see sulphur)										
Quartz..... tons	11,845	-	35,034	229,739	-	-	-	9,542	-	286,160
\$	30,488	-	106,111	366,118	-	-	-	43,702	-	546,419
Salt..... tons	27,810	-	-	302,445	-	-	-	-	-	330,264
\$	167,662	-	-	1,420,424	-	-	-	-	-	1,578,086
Sodium carbonate tons	-	-	-	-	-	-	-	608	-	608
\$	-	-	-	-	-	-	-	6,688	-	6,688
Sodium sulphate.. tons	-	-	-	-	-	6,592	-	-	-	6,592
\$	-	-	-	-	-	70,396	-	-	-	70,396
*Sulphur... tons	-	-	9,926	4,833	-	-	-	29,277	-	44,036
\$	-	-	73,119	54,056	-	-	-	114,310	-	241,485
Talc and soapstone tons	-	-	-	15,463	-	-	-	46	-	15,509
\$	-	-	47,996	180,502	-	-	-	720	-	229,208
Volcanic dust..... tons	-	-	-	-	-	300	-	-	-	300
\$	-	-	-	-	-	6,000	-	-	-	6,000
Silica brick M	2,385	-	-	1,566	-	-	-	-	-	3,951
\$	93,207	-	-	80,374	-	-	-	-	-	173,581
<b>Total... \$</b>	<b>1,435,277</b>	<b>536,171</b>	<b>14,228,161</b>	<b>3,311,569</b>	<b>631,051</b>	<b>76,396</b>	<b>4,144</b>	<b>475,721</b>	<b>-</b>	<b>20,698,481</b>
<b>CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS</b>										
<b>Clay Products</b>										
<b>Brick—Soft mud process—</b>										
Face.... M	185	60	1,070	18,004	-	-	-	-	-	17,319
\$	2,405	1,500	13,115	344,043	-	-	-	-	-	361,063
Common M	1,069	3,471	59,120	39,708	12,399	473	4,427	7,656	-	128,323
\$	13,764	55,120	797,385	664,416	199,831	7,031	60,261	124,849	-	1,922,657
<b>Stiff mud process (wire cut)—</b>										
Face.... M	1,510	432	29,524	67,009	3,040	2,011	2,281	2,903	-	108,710
\$	34,639	10,808	626,218	1,401,053	70,940	60,192	67,166	107,763	-	2,378,779
Common M	6,018	2,124	50,640	32,011	710	10,596	13,897	86	-	116,982
\$	76,103	31,860	801,420	522,327	8,400	122,240	157,250	1,893	-	1,721,493
<b>Dry press</b>										
Face.... M	-	-	2,900	26,268	-	584	4,126	-	-	33,968
\$	-	-	81,333	539,512	-	14,445	81,851	-	-	717,141
Common M	-	-	-	4,525	-	-	18,322	2,327	-	25,174
\$	-	-	-	59,062	-	-	254,471	37,551	-	351,084
<b>Fancy or ornamental brick.. M</b>										
\$	-	-	75	228	-	-	-	-	-	303
Sewer brick.. M	-	-	3,783	18,023	-	-	-	-	-	21,986
\$	-	-	-	4,136	-	-	-	134	-	4,270
Paving brick.. M	-	-	-	78,326	-	-	-	4,272	-	82,598
\$	-	-	-	-	-	-	-	-	-	-
Firebrick M	-	-	301	-	-	-	-	96	-	397
\$	-	-	3,241	-	-	-	-	3,844	-	7,085
Fireclay and other claytons	154	-	-	-	-	716	59	-	-	5,092
\$	11,319	-	-	-	-	40,800	2,934	192,855	-	247,908
Fireclay blocks and shapes... \$	675	1,351	-	-	-	73,301	-	19,992	-	95,319
Hollow blocks... tons	15,455	1,119	42,943	102,037	2,785	13,257	20,812	15,430	-	213,838
\$	182,076	23,734	448,689	914,810	41,254	111,072	195,503	151,068	-	2,068,206
Roofing tile..... No.	-	-	-	72,930	-	-	-	-	-	72,930
\$	-	-	-	6,435	-	-	-	-	-	6,435
<b>Floor tiles (quarries) sq. ft.</b>										
\$	-	-	-	171,020	-	-	-	-	-	171,020
Drain tile.. M	126	-	621	20,551	391	-	158	952	-	22,799
\$	5,059	-	21,533	606,133	15,565	-	7,711	32,934	-	687,955

## Mineral Production in Canada, by Provinces, 1929—Concluded

	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Canada
Sewer pipe, copings, flue linings, etc. \$	225,128	-	137,364	1,174,157	-	-	335,054	130,227	-	2,002,830
Pottery, glazed or unglazed. \$	-	33,770	-	100,850	-	-	193,030	-	-	327,650
Bentonite. tons \$	-	-	-	-	-	-	-	-	-	-
Other clay products. \$	-	-	-	132,021	-	4,152	-	6,393	-	142,566
<b>Total. \$</b>	<b>561,837</b>	<b>160,006</b>	<b>2,934,981</b>	<b>6,606,947</b>	<b>335,990</b>	<b>439,411</b>	<b>1,356,755</b>	<b>828,849</b>	<b>-</b>	<b>13,222,476</b>
<b>Other Structural Materials</b>										
Cement. . . . . brls. \$	-	-	5,169,408	4,654,712	1,000,258	-	908,796	690,907	-	12,284,081
Lime. . . . . tons \$	44,694	15,518	7,122,374	6,608,255	2,350,606	-	1,770,786	1,487,223	-	19,339,244
Sand and gravel. . . . . tons \$	228,870	174,553	105,490	343,577	31,849	-	7,627	41,420	-	500,175
Stone. . . . . tons \$	373,329	179,052	814,317	3,100,110	358,884	-	79,138	532,479	-	5,288,351
<b>Total. \$</b>	<b>767,776</b>	<b>413,425</b>	<b>14,588,590</b>	<b>17,752,432</b>	<b>3,492,715</b>	<b>431,431</b>	<b>2,335,365</b>	<b>3,027,633</b>	<b>-</b>	<b>42,809,379</b>
<b>Grand Total. \$</b>	<b>30,890,356</b>	<b>2,371,137</b>	<b>45,389,837</b>	<b>116,526,096</b>	<b>4,925,403</b>	<b>1,935,676</b>	<b>34,652,128</b>	<b>67,522,557</b>	<b>2,932,704</b>	<b>367,146,494</b>

\* See note under pyrites page 38.



NOTES AND TABLES ON PRODUCTION, IMPORTS AND EXPORTS OF MINERAL PRODUCTS

(Arranged in alphabetical order)

**Abrasives**

**Diatomite.**—Shipments of diatomite from Canadian deposits during 1929 amounted to 429 tons valued at \$10,330 as compared with 368 tons at \$8,960 shipped in 1928.

**Grindstones, Pulpstones and Scythestones.**—New Brunswick quarries shipped 1,248 tons of grindstones, pulpstones and scythestones valued at \$48,389 in 1929. During 1928 there was a production from New Brunswick and British Columbia quarries amounting to 1,855 tons worth \$100,960.

**Volcanic Dust.**—Operations in this industry are confined to deposits near Waldeck, Saskatchewan, where there has been an annual production during each of the past five years. Shipments in 1929 totalled 300 tons worth \$6,000 as against 485 tons with a valuation of \$9,795 in 1928.

*Imports into Canada and Exports of Abrasives, 1928 and 1929*

	1928		1929	
	Quantity	Value	Quantity	Value
<b>IMPORTS—</b>		\$		\$
<b>Abrasives—</b>				
Artificial abrasives in bulk, crushed or ground, when imported for use in the manufacture of abrasive wheels and polishing composition.....	—	244,771	—	251,704
Carborundum wheels or stones not further manufactured than moulded or burned.....	—	222,386	—	219,475
Diamond dust or bort, and black diamond for borers.....	—	2,281,249	—	2,727,285
Emery in bulk, crushed or ground.....	—	53,289	—	54,433
Emery wheels and carborundum wheels, n.o.p.....	—	109,185	—	133,779
Emery or carborundum, manufactures of, including carborundum stones, n.o.p.....	—	83,942	—	99,036
Grindstones, not mounted, and not less than 36 inches in diameter.....	—	612,792	—	424,613
Grindstones, n.o.p.....	—	40,598	—	23,769
Pumice and pumice stone, lava and calcareous tufa, not further manufactured than ground.....	—	48,062	—	35,955
Sand paper, glass, flint and emery paper or emery cloth.....	—	423,357	—	498,328
Iron sand or globules for polishing and sawing.....	—	18,110	—	41,934
Burrstones in blocks, rough or unmanufactured, not bound up or prepared for binding into millstones..... No.	119	925	—	—
Diatomaceous earth or infusorial earth (kieselguhr, ground or unground) (from April 1, 1928)..... cwt.	5,354	9,594	23,857	40,539
<b>Total.....</b>	—	<b>4,148,260</b>	—	<b>4,550,860</b>
<b>EXPORTS—</b>				
Grindstones, manufactured.....	—	28,747	—	36,536
Stone for the manufacture of grindstones..... tons	—	—	64	154
<b>Abrasives—</b>				
Natural, n.o.p..... cwt.	5,871	7,071	8,287	9,757
Artificial, crude, including carborundum..... cwt.	1,235,302	3,295,460	1,571,816	3,815,804
Artificial, made up into wheels, stones, etc.....	—	63,745	—	53,666
<b>Total.....</b>	—	<b>3,395,023</b>	—	<b>3,015,917</b>

**Actinolite**

The Canadian production of actinolite is obtained from deposits in Elzevir and Kaladar townships, Hastings and Addington counties, Ontario. In 1929 shipments to the United States reached a total of 30 tons worth \$375 as compared with a production of 70 tons at \$875 in the preceding year.

## Antimony

Antimony ores occur in the provinces of Nova Scotia, New Brunswick, British Columbia and the Yukon Territory. Antimony is sometimes recovered in small quantities from the silver-lead-bismuth bullion made by smelters treating silver-cobalt ores. There was no production in 1929.

Imports into Canada of antimony in 1929 amounted to 1,746,525 pounds valued at \$147,643 as against 1,529,823 pounds valued at \$140,958 in 1928. There were 58,829 pounds of antimony salts valued at \$8,703 imported during the same period as compared with 23,024 pounds worth \$5,326 during the previous year.

## Arsenic

*Production in Canada, Imports and Exports of Arsenic, 1928 and 1929*

	1928		1929	
	Quantity	Value	Quantity	Value
	lb.	\$	lb.	\$
<b>PRODUCTION—</b>				
From arsenical concentrates and residues exported.....	1,416,805	16,530	1,531,218	17,314
White arsenic.....	4,015,418	176,513	3,698,870	154,006
<b>Total.....</b>	<b>5,432,223</b>	<b>193,052</b>	<b>5,230,088</b>	<b>171,320</b>
<b>IMPORTS—</b>				
White arsenic.....	333,113	13,976	123,224	5,341
Sulphide of arsenic.....	94,380	5,566	18,295	1,865
Arsenate of soda.....	360	83	1,456	156
Arsenite of lead.....	274,785	30,803	846,017	98,179
<b>Total.....</b>	<b>-</b>	<b>50,428</b>	<b>-</b>	<b>105,541</b>
<b>EXPORTS—</b>				
Arsenic, n.o.p..... <b>Total.....</b>	<b>3,194,900</b>	<b>122,196</b>	<b>3,167,300</b>	<b>123,398</b>

## Asbestos

*Output and Shipments of Canadian Asbestos, 1928 and 1929*

Classification	1928				1929			
	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	\$	\$ cts.	Tons	Tons	\$	\$ cts.	
Crude No. 1.....	706	893	477,640	534 87	883	802	447,259	557 68
Crude No. 2.....	2,784	2,757	818,174	296 76	2,864	2,625	870,888	331 76
Other crudes.....	507	516	65,868	127 65	1,053	931	168,226	180 69
Spinning stocks.....	14,051	13,570	2,017,884	148 70	19,015	17,545	3,110,819	177 30
Single stocks.....	41,975	34,961	2,580,160	73 80	34,038	31,177	2,572,216	75 26
Mill board and paper stocks.....	71,141	78,443	3,038,227	38 73	91,892	91,157	3,515,209	38 56
Fillers, flouts and other short fibres.....	142,701	141,893	2,240,407	15 79	160,859	158,818	2,487,035	15 64
<b>Total.....</b>	<b>273,865</b>	<b>273,033</b>	<b>11,238,369</b>	<b>41 16</b>	<b>311,394</b>	<b>336,655</b>	<b>13,172,581</b>	<b>43 64</b>
Sand and gravel.....	23,441	22,787	13,469	0 59	18,976	18,970	7,303	0 38

*Imports into Canada and Exports of Asbestos, 1928 and 1929*

	1928		1929	
	tons	\$	tons	\$
<b>IMPORTS—</b>				
Asbestos in any form other than crude, and all manufactures of, n.o.p.....	-	727,843	-	897,229
Asbestos packing.....	101	108,044	114	116,207
<b>Total.....</b>	<b>-</b>	<b>835,887</b>	<b>-</b>	<b>1,013,436</b>
<b>EXPORTS—</b>				
Asbestos.....	120,192	8,802,558	143,725	10,127,208
Asbestos, sand and waste.....	135,729	2,177,729	148,305	2,507,474
Asbestos manufactures, including asbestos roofing.....	-	65,895	-	113,952
<b>Total.....</b>	<b>-</b>	<b>11,046,182</b>	<b>-</b>	<b>12,748,634</b>

## Barytes

Shipments of barytes during 1929 amounted to 105 tons valued at \$2,341 as against 127 tons at \$2,847 shipped in 1928. The deposit at Lake Ainslie, Inverness county, Nova Scotia, as in previous years, was the source of the total output.

Barytes imports were recorded at 2,646 tons evaluated at \$52,078 in 1929; in the previous year 2,878 tons worth \$58,710 were imported.

## Bismuth

Metallic bismuth was made in 1929 by the Deloro Smelting and Refining Company, Limited, Deloro, Ont., and by the Consolidated Mining and Smelting Company, Limited, at Trail, B.C. The Deloro company also exported a silver-lead-bismuth bullion for further treatment in United States smelters. During 1929 production in Canada of metallic bismuth and bismuth contained in exports amounted to 194,329 pounds valued at \$220,335 as against 14,002 pounds worth \$5,067 in 1928.

Imports of metallic bismuth into Canada during 1929 amounted to 2,701 pounds valued at \$4,932.

## Bituminous Sands

Bituminous sands production from the Fort McMurray district, Alberta, during 1929 amounted to 1,036 tons with a valuation of \$4,144 as compared with a total of 94 tons at \$374 extracted in 1928.

Importations of asphalt, solid, into Canada in 1929 were recorded at 53,750 tons appraised at \$829,328; asphalt, not solid, to the value of \$99,704 and asphaltum oil worth \$23,448 were also imported.

## Cadmium

Cadmium was produced at Trail, British Columbia, during 1929. The production of this mineral during the year amounted to 773,976 pounds valued at \$696,579 as against 491,894 pounds worth \$341,374 in 1928.

## Cement

*Production in Canada, Imports and Exports of Cement, 1928 and 1929*

	1928		1929	
	Barrels	Value \$	Barrels	Value \$
<b>OUTPUT..... Total.....</b>	<b>11,076,659</b>	<b>-</b>	<b>12,252,203</b>	<b>-</b>
<b>SOLD OR USED, BY PROVINCES—</b>				
Quebec.....	4,913,820	6,305,396	5,169,408	7,122,374
Ontario.....	3,911,795	5,520,897	4,624,712	6,608,255
Manitoba.....	693,450	1,685,084	1,000,258	2,350,600
Alberta.....	834,067	1,732,582	808,796	1,770,786
British Columbia.....	670,796	1,495,204	680,907	1,487,223
<b>Total.....</b>	<b>11,023,928</b>	<b>16,739,163</b>	<b>12,284,081</b>	<b>19,339,244</b>
Stocks, December 31.....	1,520,583	-	1,488,751	-
<b>IMPORTS—</b>				
Portland.....	34,047	146,164	55,980	189,169
Manufactures.....	-	31,594	-	64,942
<b>Total.....</b>	<b>-</b>	<b>177,758</b>	<b>-</b>	<b>254,111</b>
<b>EXPORTS—Total.....</b>	<b>267,325</b>	<b>340,624</b>	<b>234,111</b>	<b>252,865</b>
<b>APPARENT CONSUMPTION—Total.....</b>	<b>10,790,650</b>	<b>-</b>	<b>12,105,050</b>	<b>-</b>





*Production in Canada, Imports and Exports of Clay and Clay Products, 1928 and 1929—Con.*

Kind	1928		1929	
	Quantity	Total selling value	Quantity	Total selling value
		\$		\$
<b>Exports—</b>				
Building brick..... M	3,034	46,037	1,587	21,797
Clay—				
Unmanufactured..... cwt.	19,903	20,577	16,379	6,640
Manufactures.....	-	76,529	-	54,397
Earthenware.....	-	17,235	-	24,563
Porcelain insulators.....	-	124,140	-	268,109
<b>Total</b> .....	-	<b>294,518</b>	-	<b>375,506</b>

**Coal**

*Output and Value of Coal in Canada by Kinds and by Provinces, 1928 and 1929*

Provinces	1928		1929	
	Short tons	Value	Short tons	Value
		\$		\$
NOVA SCOTIA (Bituminous).....	6,743,604	27,427,556	7,063,879	28,070,451
NEW BRUNSWICK (Bituminous).....	207,738	860,104	219,188	908,624
SASKATCHEWAN (Lignite).....	471,713	831,491	577,820	988,435
<b>ALBERTA—</b>				
Bituminous.....	3,215,494	11,190,180	3,094,147	10,809,209
Sub-bituminous.....	740,496	2,076,212	668,692	1,908,954
Lignite.....	3,380,340	10,266,022	3,387,794	10,177,861
<b>Total</b> .....	<b>7,336,330</b>	<b>23,532,414</b>	<b>7,150,633</b>	<b>22,896,024</b>
BRITISH COLUMBIA (Bituminous).....	2,804,594	11,004,353	2,490,377	10,160,987
YUKON (Bituminous).....	414	2,915	458	1,818
<b>Canada—</b>				
Bituminous.....	<b>12,971,744</b>	<b>50,544,108</b>	<b>12,968,649</b>	<b>49,951,119</b>
Sub-bituminous.....	<b>740,496</b>	<b>2,076,212</b>	<b>668,692</b>	<b>1,908,954</b>
Lignite.....	<b>3,852,053</b>	<b>11,097,513</b>	<b>3,965,614</b>	<b>11,166,296</b>
<b>Total</b> .....	<b>17,564,293</b>	<b>63,757,833</b>	<b>17,592,355</b>	<b>63,926,369</b>

*Shipments of Coal from Canadian Mines by Grades and Destinations, 1928 and 1929*

(Short tons)

Destination	1928				1929			
	Run of mine	Screened	Slack	Total	Run of mine	Screened	Slack	Total
Prince Edward Island.....	5,784	71,007	1,271	<b>78,062</b>	3,211	77,060	2,213	82,484
Nova Scotia.....	346,213	610,082	680,185	<b>1,636,480</b>	336,323	651,450	842,754	<b>1,830,527</b>
New Brunswick.....	212,875	134,139	117,283	<b>464,297</b>	213,091	148,579	129,496	<b>491,166</b>
Quebec.....	66,417	1,172,220	1,143,579	<b>2,382,216</b>	67,591	1,137,190	1,167,838	<b>2,372,624</b>
Ontario.....	515	35,488	9,277	<b>45,281</b>	703	46,491	9,392	<b>56,586</b>
Manitoba.....	157,133	428,167	243,110	<b>828,410</b>	153,431	425,603	239,463	<b>818,497</b>
Saskatchewan.....	227,241	1,097,591	408,959	<b>1,733,791</b>	258,039	1,032,924	424,422	<b>1,715,385</b>
Alberta.....	256,865	562,641	593,022	<b>1,412,528</b>	261,381	537,695	599,549	<b>1,398,625</b>
British Columbia.....	92,470	636,044	389,368	<b>1,117,882</b>	61,440	725,564	253,316	<b>1,040,320</b>
Yukon.....	-	289	-	<b>289</b>	-	221	-	<b>221</b>
<b>Total domestic shipments</b> .....	<b>1,365,543</b>	<b>4,747,669</b>	<b>3,586,054</b>	<b>9,699,266</b>	<b>1,346,110</b>	<b>4,782,786</b>	<b>3,668,413</b>	<b>9,797,309</b>
Railroads.....	4,330,869	508,028	397,613	<b>5,236,510</b>	4,030,712	813,766	362,829	<b>5,207,107</b>
Ships' bunkers.....	304,516	225,300	13,387	<b>543,223</b>	253,946	111,470	-	<b>365,422</b>
<b>Total railroads and ships' bunkers</b> .....	<b>4,635,405</b>	<b>793,328</b>	<b>411,000</b>	<b>5,839,733</b>	<b>4,284,658</b>	<b>925,242</b>	<b>362,829</b>	<b>5,572,729</b>
United States.....	14,636	122,602	60,237	<b>197,475</b>	20,667	104,540	53,608	<b>178,815</b>
Alaska.....	-	-	-	-	-	23,891	-	<b>23,891</b>
Newfoundland.....	5,210	262,950	7,135	<b>275,395</b>	10,215	234,863	954	<b>246,032</b>
West Indies.....	-	-	-	-	-	-	-	-
Europe.....	-	-	-	-	-	-	-	-
United Kingdom and Irish Free State.....	-	-	-	-	-	-	-	-
Other places.....	486	7,127	-	<b>7,613</b>	-	839	-	<b>839</b>
Lost at sea.....	-	-	-	-	-	569	-	<b>569</b>
<b>Total external shipments</b> .....	<b>20,432</b>	<b>392,679</b>	<b>67,372</b>	<b>490,483</b>	<b>30,882</b>	<b>364,702</b>	<b>54,562</b>	<b>450,146</b>
<b>Total</b> .....	<b>6,021,380</b>	<b>5,933,676</b>	<b>4,064,426</b>	<b>16,019,452</b>	<b>5,661,650</b>	<b>6,072,730</b>	<b>4,685,604</b>	<b>15,819,984</b>

Output, Exports, Interprovincial Shipments, Imports and Coal made Available for Consumption  
in Canada, by Provinces, 1929

(Short tons)

Province	Canadian Coal				Imported from U.S.A.	Imported from Great Britain	Imported from other countries	Coal available for consumption
	Output	Received from other provinces	Shipped to other provinces	Exported				
<b>PRINCE EDWARD ISLAND—</b>								
Anthracite.....	-	-	-	-	4,957	2,223	-	7,180
Bituminous.....	-	82,484	-	-	8,982	-	-	91,466
Total.....	-	82,484	-	-	13,939	2,223	-	98,646
<b>NOVA SCOTIA—</b>								
Anthracite.....	-	-	-	-	26,695	31,612 (a)	5,601	63,908
Bituminous.....	7,063,879	-	2,887,167	351,176	14,153	21,991	-	3,861,680
Total.....	7,063,879	-	2,887,167	351,176	40,848	53,603	5,601	3,925,588
<b>NEW BRUNSWICK—</b>								
Anthracite.....	-	-	-	-	45,108	52,709 (a)	12,697	110,514
Bituminous.....	219,188	425,331	262	20,609	75,767	341	-	699,756
Total.....	219,188	425,331	262	20,609	120,875	53,050	12,697	810,270
<b>QUEBEC—</b>								
Anthracite.....	-	-	-	-	831,196	598,784 (a)	99,106	1,529,086
Bituminous.....	-	2,372,595	-	130	1,242,180	92,941 (b)	76	3,707,662
Lignite.....	-	*33	-	-	-	-	-	33
Total.....	-	2,372,628	-	130	2,073,376	691,725	99,182	5,236,781
<b>CENTRAL ONTARIO—</b>								
Anthracite.....	-	-	-	-	2,202,236	44,130	-	2,246,366
Bituminous.....	-	-	-	110	11,332,168	-	-	11,332,058
Sub-bituminous.....	-	*10,195	-	-	-	-	-	10,195
Lignite.....	-	*46,391	-	34	-	-	-	46,355
Total.....	-	56,586	-	146	13,534,404	44,130	-	13,634,974
<b>MANITOBA AND HEAD OF LAKES—</b>								
Anthracite.....	-	-	-	-	61,901	-	-	61,901
Bituminous.....	-	46,804	-	397	1,774,346	-	-	1,820,753
Sub-bituminous.....	-	91,867	-	-	-	-	-	91,867
Lignite.....	-	675,642	-	2,937	1,896	-	-	674,601
Total.....	-	814,313	-	3,334	1,838,143	-	-	2,649,122
<b>SASKATCHEWAN—</b>								
Anthracite.....	-	-	-	-	365	-	-	365
Bituminous.....	-	150,612	-	76	2,477	-	-	153,013
Sub-bituminous.....	-	74,560	-	-	-	-	-	74,560
Lignite.....	577,820	1,301,909	231,858	8,151	41	-	-	1,639,761
Total.....	577,820	1,527,081	231,858	8,227	2,883	-	-	1,867,699
<b>ALBERTA—</b>								
Bituminous.....	3,094,147	47,926	173,800	45	1,327	-	-	2,964,655
Sub-bituminous.....	668,892	-	230,303	-	-	-	-	438,389
Lignite.....	3,387,794	4,184	1,038,207	1,015	-	-	-	1,452,766
Total.....	7,150,633	52,110	2,347,310	1,060	1,327	-	-	4,855,700
<b>BRITISH COLUMBIA—</b>								
Anthracite.....	-	-	-	-	485	-	(c) 112	597
Bituminous.....	2,490,377	52,402	111,925	438,286	18,364	95	-	2,011,027
Sub-bituminous.....	-	53,681	-	-	-	-	-	53,681
Lignite.....	-	141,906	-	20,004	12,171	-	-	134,073
Total.....	2,490,377	247,989	111,925	458,290	31,020	95	112	2,199,378
<b>YUKON—</b>								
Bituminous.....	458	-	-	-	67	-	-	525
Total.....	458	-	-	-	67	-	-	525
<b>CANADA—</b>								
Anthracite.....	-	-	-	-	3,172,943	729,458	117,516	4,019,917
Bituminous.....	12,868,649	3,178,154	3,178,154	810,829	14,469,831	115,308	76	26,642,495
Sub-bituminous.....	668,682	230,363	230,363	-	-	-	-	668,682
Lignite.....	3,965,614	2,170,065	2,170,065	32,143	14,108	-	-	3,947,579
Total.....	17,502,355	5,578,522	5,578,522	842,972	17,656,882	844,826	117,592	35,278,853

(a) Russia. (b) Newfoundland. (c) Japan.

\* Includes all coal shipped to any point in Ontario from western mines.

## Imports of Anthracite, Bituminous and Lignite Coal into Canada, by Months, 1928 and 1929

(Short tons)

Month	1928				1929			
	United States	Great Britain	Other Countries	Total	United States	Great Britain	Other Countries	Total
<b>ANTHRACITE—</b>								
January	234,703	6,083	—	240,786	253,773	20,281	2,672	276,726
February	228,409	5,530	—	233,939	303,992	9,932	2,432	316,356
March	248,411	5,011	—	253,422	251,092	12,938	4,612	268,642
April	129,208	2,474	1	131,683	129,511	7,346	2,046	139,503
May	250,105	60,703	—	310,808	222,955	71,309	—	294,264
June	284,113	32,207	—	316,320	223,328	86,488	—	309,816
July	190,799	67,376	—	258,175	196,428	72,229	11,689	280,346
August	236,048	88,408	—	324,456	215,892	103,403	20,861	349,156
September	315,577	78,813	328	394,718	303,470	97,489	26,950	427,909
October	387,890	85,550	1,102	474,542	446,017	85,749	15,129	546,895
November	369,141	49,071	—	418,212	323,035	92,657	14,791	430,483
December	328,827	45,221	6,204	380,252	303,450	69,637	6,734	379,821
<b>Total</b>	<b>3,203,231</b>	<b>526,467</b>	<b>7,635</b>	<b>3,737,333</b>	<b>3,172,943</b>	<b>729,458</b>	<b>117,516</b>	<b>4,019,917</b>
<b>BITUMINOUS—</b>								
January	766,732	—	—	766,732	834,784	4,892	35	839,711
February	729,727	—	—	729,727	713,499	2,971	—	716,470
March	882,068	1,309	—	883,377	920,070	170	—	920,240
April	473,889	937	—	474,826	591,351	2,735	—	594,096
May	976,987	26,796	—	1,003,773	1,256,003	16,996	—	1,272,999
June	1,262,430	21,152	—	1,283,582	1,417,091	26,441	—	1,444,432
July	1,233,792	—	—	1,233,792	1,731,400	11,525	—	1,742,925
August	1,668,021	16,575	—	1,684,596	1,525,787	9,111	—	1,533,898
September	1,511,302	18,981	—	1,530,283	1,496,010	19,360	—	1,515,370
October	1,592,197	24,225	—	1,616,422	1,610,882	7,874	41	1,618,797
November	1,437,888	32,995	—	1,470,883	1,455,332	11,245	—	1,466,577
December	1,285,203	1,185	2	1,286,390	916,722	3,048	—	919,770
<b>Total</b>	<b>13,822,636</b>	<b>144,145</b>	<b>2</b>	<b>13,966,183</b>	<b>14,469,831</b>	<b>115,368</b>	<b>76</b>	<b>14,585,275</b>
<b>LIGNITE—</b>								
January	1,864	—	—	1,864	1,680	—	—	1,680
February	1,138	—	—	1,138	2,747	—	—	2,747
March	1,219	—	—	1,219	1,258	—	—	1,258
April	500	—	—	500	1,030	—	—	1,030
May	318	—	—	318	571	—	—	571
June	47	—	—	47	252	—	—	252
July	94	—	—	94	38	—	—	38
August	473	—	—	473	414	—	—	414
September	792	—	—	792	822	—	—	822
October	1,250	—	—	1,250	1,520	—	—	1,520
November	1,125	—	—	1,125	1,761	—	—	1,761
December	1,960	—	—	1,960	2,015	—	—	2,015
<b>Total</b>	<b>10,780</b>	<b>—</b>	<b>—</b>	<b>10,780</b>	<b>14,108</b>	<b>—</b>	<b>—</b>	<b>14,108</b>

## Coal Made Available for Consumption in Canada, 1928 and 1929

(Short tons)

Month	1928				1929			
	Output	Imports	Exports	Coal made available for consumption	Output	Imports	Exports	Coal made available for consumption
January	1,697,565	1,009,382	88,910	2,618,037	1,585,072	1,118,117	89,414	2,613,775
February	1,406,341	964,824	60,812	2,310,353	1,649,960	1,035,573	76,464	2,609,069
March	1,404,401	1,138,018	75,162	2,467,257	1,387,696	1,190,140	74,235	2,503,601
April	1,146,311	607,000	32,820	1,720,509	1,394,330	734,619	31,660	2,097,289
May	1,264,127	1,314,899	53,147	2,525,879	1,404,861	1,507,834	62,436	2,910,259
June	1,350,941	1,599,949	64,989	2,885,901	1,360,774	1,754,500	80,227	3,035,047
July	1,341,091	1,494,061	60,372	2,774,780	1,316,153	2,023,309	49,781	3,289,681
August	1,552,191	2,009,525	72,513	3,489,203	1,362,166	1,883,468	65,187	3,180,447
September	1,413,523	1,925,793	93,479	3,245,837	1,417,749	1,944,101	78,211	3,283,639
October	1,742,530	2,092,214	90,472	3,744,272	1,598,568	2,167,212	82,964	3,682,816
November	1,722,304	1,890,020	79,545	3,532,779	1,534,190	1,898,821	74,926	3,358,085
December	1,522,968	1,668,602	91,720	3,099,850	1,490,836	1,301,606	77,467	2,714,975
<b>Total</b>	<b>17,564,293</b>	<b>17,714,296</b>	<b>863,941</b>	<b>34,414,648</b>	<b>17,562,355</b>	<b>18,619,300</b>	<b>842,972</b>	<b>35,278,683</b>



## Cobalt

## Production in Canada and Exports of Cobalt, 1928 and 1929

	1928		1929	
	Pounds	\$	Pounds	\$
<b>PRODUCTION—</b>				
Cobalt, computed as cobalt in metal, oxides and salts sold, and in ores and residues exported.....				
<b>Total</b>	<b>954,590</b>	<b>1,672,329</b>	<b>929,415</b>	<b>1,601,915</b>
<b>EXPORTS—</b>				
Cobalt alloys, cobalt metallics, cobalt oxides, cobalt salts and cobalt ores.....				
<b>Total</b>	<b>-</b>	<b>1,734,461</b>	<b>-</b>	<b>1,786,163</b>

## Coke

## Production in Canada, Imports, Exports and Apparent Consumption of Coke, by Provinces, 1928 and 1929

(Short tons)

		Nova Scotia, New Brunswick and Quebec	Ontario	Manitoba, Saskatchewan, Alberta and British Columbia	Canada
		<b>PRODUCTION.....</b>	1928	695,384	1,434,358
	1929	841,530	1,631,069	201,300	<b>2,673,899</b>
<b>IMPORTS.....</b>	1928	128,616	914,064	17,349	<b>1,060,029</b>
	1929	79,087	1,123,761	23,670	<b>1,226,518</b>
<b>EXPORTS.....</b>	1928	1,006	7,447	16,605	<b>25,058</b>
	1929	834	2,010	22,364	<b>25,208</b>
<b>APPARENT CONSUMPTION.....</b>	1928	822,994	2,340,975	179,129	<b>3,343,098</b>
	1929	919,783	2,752,820	202,606	<b>3,875,209</b>

## Coke Production in Canada by Months, 1929

(Short tons)

Month	Bituminous coal used for coke making			Coke Made	Disposition of coke by makers			
	Canadian	Imported	Total		For use by maker		Sold	Total
					In coke plant	In own smelter		
January.....	80,811	218,850	299,661	<b>229,798</b>	22,888	96,398	121,657	240,943
February.....	73,633	205,752	279,385	<b>291,761</b>	20,910	94,294	114,915	230,119
March.....	82,960	232,169	315,129	<b>228,118</b>	23,598	112,823	80,141	216,562
April.....	80,138	225,422	305,560	<b>220,346</b>	24,098	114,201	64,114	202,413
May.....	81,647	236,714	318,361	<b>239,739</b>	21,029	118,052	59,727	204,808
June.....	76,711	228,102	307,813	<b>220,643</b>	22,640	116,333	59,742	198,745
July.....	80,770	235,859	316,629	<b>225,445</b>	20,337	118,735	63,072	202,114
August.....	80,104	234,735	314,839	<b>226,515</b>	20,909	119,480	64,482	203,931
September.....	79,168	230,732	309,900	<b>220,485</b>	23,556	104,996	78,126	206,678
October.....	85,790	238,035	324,425	<b>233,034</b>	21,102	105,350	104,745	234,107
November.....	73,099	228,896	302,595	<b>221,212</b>	23,036	102,061	105,939	231,036
December.....	81,414	235,989	317,403	<b>221,863</b>	28,120	100,255	120,775	249,150
<b>Total.....</b>	<b>959,845</b>	<b>2,751,855</b>	<b>3,711,700</b>	<b>2,673,899</b>	<b>279,183</b>	<b>1,362,008</b>	<b>1,028,435</b>	<b>2,669,626</b>

## Copper

## Production in Canada, Imports and Exports of Copper, 1928 and 1929

	1928		1929	
	Pounds	Value \$	Pounds	Value \$
<b>PRODUCTION—</b>				
<b>By Provinces—</b>				
Quebec.....	33,697,949	4,909,791	55,337,169	10,019,901
Ontario.....	66,607,510	8,770,149	88,833,291	14,612,271
British Columbia.....	102,283,210	14,902,664	103,937,349	18,778,864
Yukon.....	*107,377	15,645	—	—
<b>Total.....</b>	<b>202,696,046</b>	<b>28,598,249</b>	<b>248,107,809</b>	<b>43,411,636</b>
<b>By Sources—</b>				
In blister copper produced.....	124,824,371	18,322,883	100,228,619	28,066,731
In copper sulphate produced.....	102,850	28,008	154,357	27,950
In ores exported.....	51,235,921	7,470,763	69,504,366	12,583,285
In matte exported.....	26,442,904	2,776,505	19,220,467	2,733,070
<b>Total.....</b>	<b>202,696,046</b>	<b>28,598,249</b>	<b>248,107,809</b>	<b>43,411,636</b>
<b>IMPORTS—</b>				
Copper in bars or rods, when imported by manufacturers of trolley, telegraph and telephone wires and electric cables for use only in the manufacture of such articles in their own factories.....	36,063,400	5,537,148	54,824,600	9,922,096
Copper in bars or rods, in coil or otherwise, in lengths of not less than 6 feet, unmanufactured.....	539,300	102,740	719,200	164,642
Copper in blocks, pigs or ingots.....	7,883,600	1,176,941	12,084,000	2,246,600
Copper, old and scrap.....	5,606,300	785,141	4,958,300	827,832
Copper, ore and concentrates.....	100	52	—	—
Copper in strips, sheets or plates not polished or coated.....	2,586,700	521,559	2,806,300	698,974
Copper tubing in lengths of not less than 6 feet, and not polished, bent or otherwise manufactured.....	2,549,901	602,730	2,662,706	721,369
Copper wire, plain, tinned or plated.....	827,059	217,735	937,858	267,464
Copper wire cloth, or woven wire of copper.....	—	14,128	—	9,613
Copper wire, single or several, covered with cotton, linen, silk, rubber or other materials, including cable so covered.....	—	677,923	—	809,729
Copper, all other, manufactures of, n.o.p.....	—	1,074,156	—	1,313,811
Copper, precipitate of, crude.....	3,825	102	—	—
Anodes of nickel, zinc, copper, silver or gold.....	—	15,853	—	16,127
Copper, sub-acetate of, or verdigris, dry.....	410	94	681	177
Copper, sulphate of (blue vitriol).....	3,741,971	190,515	2,118,304	114,637
Copper, sulphate of, dehydrated, for agricultural or spraying purposes.....	1,027,074	84,130	2,252,122	122,056
Copper rollers adapted for use in calico printing.....	—	21,003	—	37,664
<b>Total.....</b>	<b>—</b>	<b>11,021,950</b>	<b>—</b>	<b>17,272,791</b>

\*Includes small quantities produced in 1925-26-27 but not reported until 1928.

## Production in Canada, Imports and Exports of Copper, 1928 and 1929

	1928		1929	
	Pounds	Value \$	Pounds	Value \$
<b>EXPORTS—</b>				
Copper, fine, contained in ore, matte, regulus, etc.....	76,427,900	7,023,884	86,999,100	8,944,965
Copper, blister.....	104,764,700	15,375,344	148,278,500	26,711,867
Copper, old and scrap.....	8,061,700	809,839	11,559,600	1,574,712
Copper, pig.....	—	—	—	—
Copper in bars, rods, strips, sheets, plates and tubing.....	158,200	40,988	132,100	35,900
Copper wire and cable.....	—	259,430	—	119,030
Copper manufactures, n.o.p.....	—	25,930	—	13,522
<b>Total.....</b>	<b>—</b>	<b>23,585,415</b>	<b>—</b>	<b>37,399,996</b>
Copper coin, foreign.....	—	16,232	—	9,286

## Feldspar

*Production in Canada, Imports and Exports of Feldspar, 1928 and 1929*

	1928		1929	
	Tons	Value	Tons	Value
<b>PRODUCTION—</b>		\$		\$
Quebec.....	12,943	104,789	15,790	133,492
Ontario.....	18,954	180,153	21,563	209,657
<b>Total.....</b>	<b>31,897</b>	<b>284,942</b>	<b>37,353</b>	<b>343,149</b>
<b>IMPORTS—Total.....</b>	<b>3,171</b>	<b>53,818</b>	<b>3,855</b>	<b>65,987</b>
<b>EXPORTS—Total.....</b>	<b>28,101</b>	<b>230,945</b>	<b>29,896</b>	<b>242,915</b>

## Fluorspar

Fluorspar was produced near Madoc, Ontario, and also at the Rock Candy Mine, owned by Consolidated Mining and Smelting Company, in British Columbia. The Ontario output amounted to 70 tons worth \$1,120 and the British Columbia production totalled 17,800 tons valued at \$45,528. Thus, the total output in 1929 was 17,870 tons having a value of \$46,648. There was no production during the years 1926-1928 inclusive.

Imports of fluorspar in 1929 totalled 12,092 tons worth \$159,798, as compared with 14,362 tons valued at \$153,046 imported in the preceding year. Hydrofluosilicic acid amounting to 36 tons appraised at \$4,706 was also imported in 1929 as against 6 tons worth \$1,646 imported in 1928.

## Gold

*Production of Gold in Canada, by Provinces and by Sources, 1928 and 1929*

	1928		1929	
	Fine ounces	Value	Fine ounces	Value
<b>NOVA SCOTIA—</b>		\$		\$
In gold bullion and in concentrates exported—Total.....	1,290	26,667	2,687	55,545
<b>QUEBEC—</b>				
In gold bullion, blister copper and in ores exported—Total.....	60,006	1,240,434	89,206	1,844,052
<b>ONTARIO—</b>				
<b>Porcupine Area—</b>				
In gold bullion.....	978,172	20,220,609	932,713	19,280,888
In slags exported.....	1,244	25,716		
<b>Kirkland Lake Area—</b>				
In gold bullion.....	591,466	12,226,687	678,745	14,030,904
In slags and concentrates exported.....	331	6,842	280	5,788
<b>Sudbury Area—</b>				
In matte and blister copper exported.....	3,850	79,587	8,472	175,132
Miscellaneous.....	3,371	69,685	2,052	54,822
<b>Total.....</b>	<b>1,578,434</b>	<b>32,629,126</b>	<b>1,622,862</b>	<b>33,547,534</b>
<b>MANITOBA—</b>				
In gold bullion—Total.....	19,813	409,571	22,455	464,186
<b>ALBERTA—</b>				
Total.....	68	1,406	5	103
<b>BRITISH COLUMBIA—</b>				
In alluvial gold.....	6,739	139,307	5,158	109,625
In gold bullion.....	16,157	333,995	17,009	364,010
In blister copper.....	31,057	642,005	18,458	381,561
In base bullion and in ores exported.....	142,664	2,949,127	112,955	2,334,987
<b>Total.....</b>	<b>196,617</b>	<b>4,064,434</b>	<b>154,180</b>	<b>3,187,183</b>
<b>YUKON—</b>				
In alluvial gold.....	34,116	705,240	35,678	737,530
In ores exported.....	248	5,127	222	4,589
<b>Total.....</b>	<b>34,364</b>	<b>710,367</b>	<b>35,900</b>	<b>742,119</b>
<b>Canada.....</b>	<b>1,890,592</b>	<b>39,052,095</b>	<b>1,937,295</b>	<b>39,840,722</b>



## Receipts at the Royal Mint, Ottawa, Canada, 1928 and 1929

Source	1928			1929		
	Gross Weight	Precious metal content		Gross Weight	Precious metal content	
		Fine Gold	Fine Silver		Fine Gold	Fine Silver
	Oz.	Oz.	Oz.	Oz.	Oz.	Oz.
Nova Scotia.....	1,585.81	1,289.86	77.33	2,927.88	2,696.773	131.67
New Brunswick.....	-	-	-	-	-	-
Quebec.....	509.70	463.52	40.74	15,383.37	13,326.247	842.65
Ontario.....	1,537,294.54	1,217,622.04	199,470.15	412,057.63	328,556.127	54,067.83
Manitoba.....	44,350.96	15,037.18	1,272.46	68,923.47	25,309.123	2,948.32
Saskatchewan.....	-	-	-	-	-	-
Alberta.....	-	-	-	5.68	5.229	0.37
British Columbia including Dominion of Canada Assay Office, Vancouver.....	92,054.73	76,154.26	11,985.50	67,063.39	54,085.088	7,851.37
Yukon.....	-	-	-	37.05	32.273	3.72
Jewellery and scrap, various sources.....	33,673.19	14,528.92	4,729.74	35,130.59	14,350.362	7,569.50
Foreign.....	25.20	16.92	6.99	-	-	-
<b>Total.....</b>	<b>1,799,494.13</b>	<b>1,325,112.76</b>	<b>217,582.93</b>	<b>601,529.06</b>	<b>438,351.232</b>	<b>73,415.43</b>

## Gold Bullion Received at Dominion of Canada Assay Office, Vancouver, B.C., 1929

	Calendar Year 1929			
	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.....	429	54,844.08	46,932.21	853,409.12
Yukon Territory.....	154	7,970.97	7,877.84	120,825.77
Alaska.....	1	31.71	31.36	572.70
Washington.....	-	-	-	-
Alberta.....	2	7.09	6.11	112.46
California.....	1	162.59	162.57	2,723.52
Dental and jewellery scrap.....	705	6,969.40	6,239.48	54,484.94
<b>Total.....</b>	<b>1,292</b>	<b>69,985.84</b>	<b>61,249.57</b>	<b>1,032,128.51</b>

## Imports into Canada and Exports of Gold, 1928 and 1929

	1928	1929
	\$	\$
<b>IMPORTS—</b>		
Coin and bullion—		
Coins, British, Canadian and foreign gold coins.....	27,654,313	2,856,947
Gold bullion, in bars, blocks, ingots, drops, sheets or plates, unmanufactured.....	925,612	889,541
<b>Total</b> .....	<b>28,579,925</b>	<b>3,746,488</b>
Gold, other—		
Bullion or gold fringe.....	47,537	37,401
Manufactures of gold and silver—		
Leaf.....	127,085	124,296
Sweepings.....	168	564
Manufactures, n.o.p.....	58,275	78,939
Electroplated ware.....	1,282,513	1,410,202
Medals of gold, silver or copper, and other metallic articles, actually bestowed as trophies or prizes, and received and accepted as honorary distinctions, and cups or other metallic prizes won in bona fide competitions.....	17,143	24,016
<b>Total</b> .....	<b>1,532,721</b>	<b>1,675,418</b>
<b>EXPORTS—</b>		
Coin and bullion—		
Gold coin—		
Canadian.....		25
Foreign.....	56,121,042	29,252,140
Gold bullion—		
Canadian.....	48,914,498	409,577
Foreign.....		
<b>Total—Canadian</b> .....	<b>48,914,498</b>	<b>409,602</b>
<b>Total—Foreign</b> .....	<b>56,121,042</b>	<b>29,252,140</b>
<b>Total coin and fine gold bullion</b> .....	<b>105,035,540</b>	<b>29,661,742</b>
Gold-bearing quartz, dust, nuggets and crude bullion obtained direct from mining operations.....	10,457,877	29,905,983
Jewellers' sweepings (gold, silver and platinum).....	436,939	423,642
<b>Total</b> .....	<b>10,894,816</b>	<b>30,419,625</b>

## Graphite

## Production, Imports and Exports of Graphite, 1928 and 1929

	1928		1929	
	Tons	Value	Tons	Value
		\$		\$
<b>PRODUCTION</b> ..... <b>Total</b>	<b>1,997</b>	<b>57,041</b>	<b>1,461</b>	<b>163,174</b>
<b>IMPORTS—</b>				
Crucibles, plumbago.....	—	55,488	—	66,833
Plumbago not ground or otherwise manufactured.....	—	4,023	—	6,546
Plumbago ground and manufactures of, n.o.p.....	—	68,515	—	82,391
<b>Total</b> .....	<b>—</b>	<b>128,026</b>	<b>—</b>	<b>155,770</b>
<b>EXPORTS—</b>				
Graphite or plumbago, crude or refined..... <b>Total</b>	<b>1,053</b>	<b>45,384</b>	<b>1,582</b>	<b>88,647</b>

## Gypsum

*Production in Canada, Imports and Exports of Gypsum, 1928 and 1929*

	1928		1929	
	Tons	Value	Tons	Value
		\$		\$
<b>PRODUCTION—</b>				
Crude—				
Lump or mine run.....	43,224	80,467	44,465	83,234
Crushed.....	1,018,172	1,770,077	964,875	1,147,289
Fine ground.....	9,576	55,170	2,201	17,271
Calcined.....	175,396	1,837,934	199,842	2,091,065
<b>Total.....</b>	<b>1,246,388</b>	<b>3,745,648</b>	<b>1,211,383</b>	<b>3,339,859</b>
<b>IMPORTS—</b>				
Gypsum, crude (sulphate of lime)*.....	1,097	40,312	1,244	18,671
Plaster of Paris or gypsum ground, not calcined.....	256	7,379	163	5,283
Plaster of Paris, calcined and prepared wall plaster.....	10,363	142,550	16,356	189,438
<b>Total.....</b>	<b>11,816</b>	<b>190,241</b>	<b>17,765</b>	<b>213,392</b>
<b>EXPORTS—</b>				
Gypsum or plaster, crude.....	824,536	1,240,987	893,445	1,086,939
Plaster of Paris, ground, and prepared wall plaster.....	8,232	140,946	7,938	137,046
<b>Total.....</b>	<b>832,768</b>	<b>1,381,933</b>	<b>901,383</b>	<b>1,223,985</b>

\* Consists of crown filler and anhydrous sulphate of lime.

### Iron Ore, Pig Iron, Steel Ingots and Castings

Export shipments of titanite iron ore from Baie St. Paul, Quebec, during 1929, amounted to 2,453 tons worth \$7,359 as against 2,244 tons valued at \$6,732 in 1928. No other production of iron ore was reported.

Imports of iron ore into Canada during the year amounted to 2,447,807 short tons valued at \$5,026,265.

Shipments from Wabana mines in Newfoundland while not included in the mineral production of Canada, are of interest because of the tonnage shipped to Nova Scotia. During 1929 shipments from Wabana mines totalled 1,699,039 tons valued at \$4,298,569. Of this amount 763,168 tons valued at \$1,930,815 were shipped to Canada; 85,501 tons worth \$216,317 were exported to the United States; 5,969 tons valued at \$15,102 were shipped to Great Britain; and 844,401 tons worth \$2,136,335 were exported to Germany.

### *Production of Pig Iron and Ferro-Alloys in Canada, 1928 and 1929*

(Tons of 2,240 lb.)

Item	1928			1929		
	For own use	For sale	Total	For own use	For sale	Total
<b>PIG IRON—</b>						
Basic.....	702,823	21,736	724,559	766,104	15,357	781,461
Foundry.....	47,598	185,788	233,386	7,082	227,144	234,226
Malleable.....	28,827	50,955	79,782	758	73,790	74,547
<b>Total.....</b>	<b>779,248</b>	<b>258,479</b>	<b>1,037,727</b>	<b>773,944</b>	<b>316,300</b>	<b>1,090,244</b>
<b>FERRO-ALLOYS—Total.....</b>	—	45,233	45,233	—	80,010	80,010



*Production of Steel Ingots and Castings in Canada, 1928 and 1929*

(Tons of 2,240 lb.)

	1928			1929		
	For own use	For sale	Total	For own use	For sale	Total
<b>STEEL INGOTS—</b>						
Open-hearth—Basic.....	1,189,399	—	1,189,399	1,284,487	4,187	1,288,674
Other.....	—	602	602	20,055	814	20,869
<b>Total steel ingots.....</b>	<b>1,189,399</b>	<b>602</b>	<b>1,190,001</b>	<b>1,304,542</b>	<b>5,001</b>	<b>1,309,543</b>
<b>STEEL CASTINGS—</b>						
Open-hearth—Basic.....	6,664	13,445	20,109	2,453	26,046	28,499
—Acid.....	—	—	—	24	7,254	7,278
Bessemer.....	88	1,931	2,019	60	2,080	2,746
Electric.....	124	22,466	22,590	201	31,421	31,622
<b>Total direct steel castings.....</b>	<b>6,876</b>	<b>37,842</b>	<b>44,718</b>	<b>2,738</b>	<b>67,407</b>	<b>70,145</b>
<b>Total.....</b>	<b>1,196,275</b>	<b>38,444</b>	<b>1,234,719</b>	<b>1,307,280</b>	<b>72,408</b>	<b>1,379,688</b>

**Iron Oxides**

Iron oxides production from Canadian deposits amounted to 6,518 tons worth \$115,932 in 1929 as compared with 5,414 tons at \$111,198 shipped in 1928. Deposits in Quebec and British Columbia were operated during the year.

**Kaolin**

During 1927 the production of kaolin from the St. Rémi d'Amherst deposit amounted to 24 tons valued at \$120; in 1928 an experimental shipment of 5 tons was made. There was no production reported in 1929.

**Lead**

*Production in Canada, Imports and Exports of Lead, 1928 and 1929*

	1928		1929	
	Pounds	Value	Pounds	Value
<b>PRODUCTION—</b>		\$		\$
Quebec.....	6,218,336	284,520	5,358,304	270,594
Ontario.....	6,814,757	402,280	4,715,789	291,717
British Columbia.....	317,722,140	14,537,377	307,290,905	16,518,176
Yukon.....	7,191,449	329,045	8,585,547	433,570
<b>Total.....</b>	<b>337,946,688</b>	<b>15,553,231</b>	<b>325,950,745</b>	<b>16,514,057</b>
<b>IMPORTS—</b>				
Old and scrap, pig and block.....	531,404	31,141	1,173,481	68,787
Bars and sheets.....	161,970	10,742	242,862	16,437
Litharge.....	3,977,300	279,136	5,592,200	423,261
Acetate of lead.....	30,096	3,624	110,275	10,206
Nitrate of lead.....	225,672	17,758	305,321	22,246
Other manufactures.....	—	342,319	—	203,029
Pipe lead.....	184,754	13,648	62,874	5,138
Shots and bullets.....	11,158	1,408	13,434	1,474
Tea lead.....	34,650	3,022	13,480	1,350
Lead pigments—				
Dry white lead.....	289,001	21,761	67,585	6,297
White lead, ground in oil.....	492,497	39,211	236,093	10,538
Dry red lead and orange mineral.....	1,460,943	100,733	1,791,872	134,685
<b>Total.....</b>	<b>—</b>	<b>864,533</b>	<b>—</b>	<b>1,003,048</b>
<b>EXPORTS—</b>				
Lead, contained in ore.....	14,962,800	893,709	15,976,800	1,047,441
Pig lead.....	255,421,700	10,172,075	228,374,100	10,053,102
<b>Total.....</b>	<b>270,384,600</b>	<b>11,065,784</b>	<b>244,350,900</b>	<b>11,100,543</b>

## Lime

*Production in Canada, Imports and Exports of Lime, 1928 and 1929*

	1928		1929				Total	
	Total		Quicklime		Hydrated Lime		Quantity	Value
	Quantity	Value	Quantity	Value	Quantity	Value		
	Tons	\$	Tons	\$	Tons	\$	Tons	\$
<b>PRODUCTION—</b>								
Nova Scotia.....	36,154	175,876	43,694	218,470	1,000	10,400	44,694	228,870
New Brunswick.....	11,261	130,784	11,766	135,981	3,752	38,572	15,518	174,563
Quebec.....	114,130	896,782	96,012	739,589	9,478	74,728	105,490	814,317
Ontario.....	277,186	2,467,843	290,602	2,494,559	46,915	605,551	343,577	3,100,110
Manitoba.....	28,337	319,699	21,781	184,157	10,068	174,727	31,849	358,884
Alberta.....	6,672	69,588	7,627	79,138	—	—	7,627	79,138
British Columbia.....	35,149	473,996	28,129	376,900	13,291	155,579	41,420	532,479
<b>Total.....</b>	<b>598,889</b>	<b>4,534,568</b>	<b>595,671</b>	<b>4,228,794</b>	<b>84,504</b>	<b>1,059,557</b>	<b>590,175</b>	<b>5,288,351</b>
<b>IMPORTS—Total.....</b>	<b>154,771</b>	<b>64,811</b>	—	—	—	—	<b>127,661</b>	<b>49,395</b>
<b>EXPORTS—Total.....</b>	<b>572,657</b>	<b>357,085</b>	—	—	—	—	<b>692,527</b>	<b>428,209</b>

## Magnesite

*Production in Canada, Imports and Exports of Magnesite, 1928 and 1929*

	1928		1929	
	Tons	Value	Tons	Value
<b>PRODUCTION—Calcined or Clinkered—Total.....</b>	<b>13,195</b>	<b>\$ 346,996</b>	<b>18,761</b>	<b>\$ 491,176</b>
<b>IMPORTS—</b>				
Magnesia pipe covering.....	—	187,381	—	259,080
Magnesite.....	220	9,543	125	4,423
Magnesite firebrick.....	—	140,944	—	256,635
<b>Total.....</b>	<b>—</b>	<b>337,868</b>	<b>—</b>	<b>520,138</b>
<b>EXPORTS—</b>				
Magnesite, calcined—Total.....	1,937	44,101	5,279	125,613

## Magnesium Sulphate

No activities have been reported in this industry since 1923. In that year 121 tons of refined magnesium sulphate were shipped from a deposit near Ashcroft, B.C. The importations of magnesium sulphate or epsom salts during 1929 reached a total of 2,565 tons valued at \$53,481; in the previous year 2,508 tons appraised at \$47,717 were brought into Canada.

## Manganese

Bog manganese was produced in New Brunswick during 1929, the output amounting to 300 tons valued at \$1,800. There had been no previous production since 1924 when 584 tons valued at \$4,088 were reported.

Imports of manganese oxide amounted to 99,139 tons valued at \$990,608, as against 106,443 tons worth \$1,058,821 in 1928.

## Mercury

Attempts have been made from time to time to develop a cinnabar property near Kamloops, B.C., and it was reported that a small amount of mercury was taken out during 1926. No production has been reported since that time. During 1929 there was a large increase in the importations of mercury into Canada, for the chemical and metallurgical industries. During 1929, imports into Canada of mercury from the United States, Great Britain, Spain, Germany and Belgium, amounted to 346,701 pounds valued at \$748,048 as against 199,603 pounds worth \$269,746 in 1928.

## Metals of the Platinum Group

*Production of Platinum Group Metals, Canada, 1928 and 1929*

	1928		1929	
	Platinum	Palladium, Rhodium, etc.	Platinum	Palladium, Rhodium, etc.
Produced by Canadian, United States and British refineries from Canadian mattes and residues.....	Oz. 10,483	13,607	12,811	13,717
Recovered from alluvial sands.....	\$ 706,090	627,833	740,091	319,881
	Oz. 49	-	28	-
	\$ 2,819	-	1,699	-
<b>Total.....</b>	<b>Oz. 10,532</b>	<b>13,607</b>	<b>12,839</b>	<b>13,717</b>
	<b>\$ 708,909</b>	<b>627,833</b>	<b>741,790</b>	<b>319,881</b>

*Imports into Canada and Exports of Platinum, 1928 and 1929*

	1928		1929	
	Oz.	Value	Oz.	Value
		\$		\$
<b>IMPORTS—</b>				
Platinum retorts.....	-	2,881	-	41,113
Platinum wire, and in bars, strips, etc.....	-	136,777	-	157,774
Platinum crucibles.....	-	10,838	-	13,019
<b>Total.....</b>	<b>-</b>	<b>150,496</b>	<b>-</b>	<b>211,906</b>
<b>EXPORTS—</b>				
Contained in concentrates.....	1,212	77,008	2,798	220,200
Platinum, old and scrap.....	424	27,463	112	5,319
<b>Total.....</b>	<b>1,636</b>	<b>104,471</b>	<b>2,910</b>	<b>225,519</b>

## Mica

*Production of Mica in Canada, 1928 and 1929*

Grade	1928			1929		
	Quantity	Value, f.o.b. shipping point	Price per pound	Quantity	Value, f.o.b. shipping point	Price per pound
	Lb.	\$	\$	Lb.	\$	\$
Rough cobbled.....	-	-	-	-	-	-
Thumb trimmed.....	91,662	16,887	0.18	97,373	17,233	0.18
Splittings.....	25,367	14,974	0.59	22,750	13,732	0.60
Scrap.....	7,202,795	55,307	0.008	8,286,978	88,886	0.017
<b>Total.....</b>	<b>7,319,824</b>	<b>87,168</b>	<b>-</b>	<b>8,407,101</b>	<b>119,851</b>	<b>-</b>



*Imports into Canada and Exports of Mica, 1928 and 1929*

	1928		1929	
	Tons	Value	Tons	Value
<b>IMPORTS—</b>		\$		\$
Mica and manufacturers of, n.o.p.— <b>Total</b> .....	-	<b>125,301</b>	-	<b>169,018</b>
<b>EXPORTS—</b>				
Rough cobbled and thumb trimmed.....	32	15,951	2	1,342
Mica splittings.....	84	80,902	91	96,726
Mica, scrap and waste.....	4,346	78,282	4,789	112,905
Mica, plate and manufactures of (micanite).....	-	646	-	2,086
<b>Total</b> .....	-	<b>175,761</b>	-	<b>213,059</b>

**Mineral Waters**

Mineral springs and wells in Canada produced 344,136 imperial gallons of mineral waters valued at \$32,190 during 1929. In the preceding year the marketed output reached a total of 269,045 imperial gallons worth \$33,498. The 1929 shipments were made up of 12,205 imperial gallons from Quebec and 331,931 imperial gallons from Ontario.

Importations of mineral and aerated waters into Canada in 1929 were valued at \$253,940 and exports during the same period had a valuation of \$12,320.

**Molybdenum**

Molybdenite is found in many sections of Canada and during 1924, 1925 and 1926, small quantities of molybdenum concentrates were shipped from the Moss mine at Quyon, Quebec. In 1928 considerable development work was done on a molybdenite property in northwestern Quebec and in 1929 it was reported that small shipments has been made.

**Natro-Alunite**

Production of natro-alunite in Canada during 1927 was reported at 7 tons at \$248. This output was obtained from a deposit at Kyuquot Sound, Vancouver Island, British Columbia. No production has been reported since that time.

**Natural Gas***Production in Canada, and Imports of Natural Gas, 1928 and 1929*

	1928		1929	
	M cu. ft.	Value	M cu. ft.	Value
<b>PRODUCTION—</b>		\$		\$
New Brunswick.....	660,981	324,344	678,456	333,002
Ontario.....	7,632,800	4,535,312	8,572,900	4,975,480
Manitoba.....	200	60	200	60
Alberta.....	14,288,605	3,754,466	18,845,900	4,583,117
<b>Total</b> .....	<b>22,582,586</b>	<b>8,614,182</b>	<b>28,097,456</b>	<b>9,891,659</b>
<b>IMPORTS—</b>				
Gas for cooking, heating or illuminating, imported by pipe line— <b>Total</b> .....	<b>128,004</b>	<b>82,681</b>	<b>132,942</b>	<b>85,338</b>

## Nickel

## Production in Canada, Imports and Exports of Nickel, 1928 and 1929

	1928		1929	
	Quantity	Value	Quantity	Value
	Lb.	\$	Lb.	\$
<b>PRODUCTION—</b>				
Nickel in matte and speiss exported (a).....	37,783,991	6,801,118	28,172,533	5,071,056
Refined and electrolytic nickel produced.....	49,144,875	12,599,371	70,704,762	18,639,814
Nickel in oxides and salts sold.....	9,826,712	2,921,418	11,398,517	3,404,573
<b>Total.....</b>	<b>96,755,578</b>	<b>22,318,907</b>	<b>110,275,812</b>	<b>27,115,443</b>
<b>IMPORTS—</b>				
Nickel, nickel silver and German silver in ingots or blocks, n.o.p....	217,112	79,001	31,006	8,492
Nickel in bars and rods, strips, sheets and plates.....	730,106	240,378	1,243,865	388,296
Nickel silver and German silver, in bars, rods, strips, sheets, plates or anodes.....	168,494	57,191	258,445	94,827
Nickel chromium in bars or rods, etc.....	50,990	52,738	71,938	72,790
German, Nevada and nickel silver, manufactures of, not plated....	-	382,730	-	600,236
Nickel-plated household hollow-ware.....	-	85,138	-	94,796
Nickel-plated ware, n.o.p.....	-	2,451,321	-	3,224,828
<b>Total nickel and its products.....</b>	<b>-</b>	<b>3,348,597</b>	<b>-</b>	<b>4,490,365</b>
<b>EXPORTS—</b>				
Nickel, fine.....	51,188,700	13,320,034	68,408,200	17,544,513
Nickel contained in matte.....	36,370,800	5,457,222	29,630,700	4,501,389
Nickel in oxide (b).....	9,607,200	3,004,951	11,600,900	3,489,782
<b>Total.....</b>	<b>97,166,700</b>	<b>21,782,207</b>	<b>109,639,800</b>	<b>25,535,684</b>

(a) Nickel in matte and speiss exported valued at 18 cents per pound.

## Output from Nickel-Copper Mines and Smelters, 1927-1929

	Unit	1927	1928	1929
Ore mined.....	ton	1,305,917	1,457,910	1,991,910
Ore shipped.....	ton	1,305,917	1,457,910	1,991,910
Content of ores, etc., shipped—				
Copper.....	pound	55,128,978	67,485,937	103,457,440
Nickel.....	pound	87,147,139	100,420,842	128,901,304
Ore and concentrates treated at smelters.....	ton	1,350,214	1,176,704	2,033,457
Matte produced.....	ton	81,848	91,313	132,030
Content of matte—				
Copper.....	pound	51,937,215	59,408,538	92,630,143
Nickel.....	pound	79,246,144	85,786,830	116,190,232
Matte shipped to Canadian refineries.....	ton	39,842	66,463	115,599
Matte exported.....	ton	33,541	39,310	25,086

## Peat

In 1929 for the first time in many years there was a production of peat from Quebec when 1,607 tons valued at \$8,839 were produced from a bog near St. Hyacinthe. There was also a production of about 1,000 tons valued at \$4,500 from the Alfred bog in Ontario. The total production was 2,607 tons worth \$13,339.

## Petroleum

*Production of Crude Petroleum in Canada, 1928 and 1929*

	1928		1929	
	Barrels	Total value	Barrels	Total value
		\$		\$
NEW BRUNSWICK—Total.....	8,043	21,391	7,499	19,909
ONTARIO—				
Petrolia and Enniskillen.....	60,547	111,745	56,284	135,140
Oil Springs.....	35,653	68,086	30,789	76,403
Moore Township.....	2,148	3,952	1,230	2,973
Sarnia Township.....	1,221	2,246	749	1,807
Plympton Township.....	371	683	315	757
Bothwell.....	24,255	44,621	23,236	56,026
West Dover.....	773	1,422	715	1,724
Tilbury East.....	736	1,354	139	335
Onondaga.....	116	406	311	1,192
Moza Township.....	7,268	13,371	6,851	16,226
Thamesville.....	1,006	1,851	427	1,029
Dunwich.....	—	—	148	356
Total for Ontario.....	134,094	249,737	121,194	293,968
ALBERTA—Total.....	482,047	1,764,172	992,000	3,476,620
<b>Canada.....</b>	<b>624,184</b>	<b>2,635,300</b>	<b>1,120,693</b>	<b>3,790,497</b>

## Imports into Canada and Exports of Petroleum and Its Products, 1928 and 1929

	1928		1929	
	Quantity	Value	Quantity	Value
		\$		\$
<b>IMPORTS—</b>				
Crude petroleum in the natural state, 0.7000 specific gravity or heavier at 60 degrees temperature, when imported by oil refiners to be refined in their own factories..... gal.	853,889,703	35,237,350	1,000,000,971	46,154,347
Crude petroleum, gas oils other than naphtha, benzine and gasoline lighter than 0.8235 but not less than 0.775 specific gravity at 60 degrees..... gal.	247,624	20,269	182,035	19,599
Petroleum (not including crude petroleum imported to be refined or illuminating or lubricating oils) 0.8235 specific gravity or heavier at 60 degrees temperature..... gal.	62,680,053	2,452,504	63,264,841	2,444,259
Petroleum, and other oils imported by miners or mining companies or concerns, for use in the concentration of ores of metals in their own concentrating establishments..... gal.	236,516	66,727	144,890	81,691
Petroleum, crude, not in its natural state, 0.725 specific gravity or heavier, but not heavier than 0.770 specific gravity, at 60 degrees temperature when imported by oil refiners to be refined in their own factories..... gal.	263,771	26,378	5,726,147	376,001
<b>KEROSENE, FUEL AND ILLUMINATING OILS</b>				
Coal oil and kerosene, distilled, purified or refined, n.o.p..... gal.	3,950,094	353,339	4,500,255	398,010
Illuminating oils, composed wholly or in part of the products of petroleum, coal, shale or lignite, costing more than 30 cents per gallon..... gal.	3,952	2,959	9,486	3,910
Coal oil and kerosene, distilled, known as "engine distillate," when 0.725 specific gravity and heavier, but not heavier than 0.770 specific gravity at 60 degrees temperature..... gal.	14,598	1,588	17,092	1,714
Fuel oil, ex-warehoused for ships' stores..... gal.	32,539,383	991,622	32,302,642	868,925
<b>LUBRICATING OILS</b>				
Lubricating oils, composed wholly or in part of petroleum, and costing less than 25 cents per gallon..... gal.	6,797,536	1,144,645	7,369,099	1,289,594
Lubricating oils, n.o.p..... gal.	8,690,409	3,357,818	10,035,095	4,155,353
<b>GASOLINE AND OTHER OILS</b>				
Gasoline under 0.725 specific gravity at 60 degrees temperature gal.	116,062,590	13,526,618	135,558,699	15,096,277
Gasoline, 0.725 specific gravity and heavier, but not heavier than 0.770 specific gravity at 60 degrees temperature..... gal.	27,531,961	3,278,465	39,561,750	4,702,487
Gasoline, n.o.p..... gal.	58,565	7,335	41,115	5,322
All other oils, n.o.p..... gal.	211,832	149,548	194,794	137,337
<b>OTHER PRODUCTS OF PETROLEUM</b>				
Grease, axle..... lb.	5,245,099	293,682	7,010,528	383,513
Paraffine wax..... lb.	2,247,547	107,223	3,299,236	135,169
Paraffine wax candles..... lb.	396,717	88,798	393,158	85,543
Vaseline, and all similar preparations of petroleum for toilet, medicinal or other purposes..... lb.	-	240,900	-	250,753
Petroleum, products of, n.o.p..... gal.	1,800,009	332,155	1,828,536	297,126
<b>Total</b> .....	-	<b>61,669,969</b>	-	<b>76,886,930</b>
<b>EXPORTS—</b>				
Oil, petroleum, crude..... gal.	21,531,929	1,098,586	28,177,495	1,548,288
Oil, coal and kerosene, refined..... gal.	1,297,081	127,301	1,367,241	137,160
Oil, gasoline and naphtha..... gal.	3,957,557	680,256	4,669,078	875,027
Oil, mineral, n.o.p..... gal.	279,946	85,014	433,634	105,426
Wax, mineral..... owt.	10,010	54,501	11,856	62,171
<b>Total</b> .....	-	<b>2,051,748</b>	-	<b>2,728,072</b>

## Phosphate

Canadian production of phosphate in 1929 amounted to 1,185 tons with a valuation of \$15,685; in the preceding year 641 tons worth \$8,276 were shipped. The 1929 shipments consisted of 40 tons from the province of Quebec, and 1,145 tons from British Columbia. Imports of phosphate into Canada came entirely from the United States and totalled 18,192 tons evaluated at \$114,741 as against 10,388 tons worth \$68,266 imported in 1928. Exports of Canadian phosphate totalled 52 tons valued at \$1,408 during 1929.



## Pyrites\*

Production in Canada, Imports and Exports of Pyrites, 1928 and 1929

	1928			1929		
	Pyrites	Sulphur content	Value	Pyrites	Sulphur content	Value
	tons	tons	\$	tons	tons	\$
<b>PRODUCTION—</b>						
Quebec.....	4,389	1,552	12,061	20,186	9,926	73,119
Ontario.....	464	4,974	54,100	677	4,833	54,056
British Columbia.....	63,983	32,063	254,872	56,395	29,277	114,310
<b>Total.....</b>	<b>68,836</b>	<b>38,589</b>	<b>321,033</b>	<b>77,258</b>	<b>44,036</b>	<b>241,485</b>
<b>IMPORTS—</b>						
Brimstone, or sulphur, crude or in roll or flour.....	-	182,343	2,062,935	-	234,926	3,789,243
<b>EXPORTS—</b>						
Pyrites.....	-	31,596	249,705	-	31,987	246,771

\*Sulphur.—It has been the practice of the Bureau in past years to report export shipments of pyrites in terms of the sulphur content of the pyrites. In view of the fact that there is now an important production of sulphur in the form of sulphuric acid made from waste bessemer gases, it has been decided to modify the method of reporting production so as to show the total sulphur content of pyrites shipped and of bessemer gases used in the manufacture of sulphuric acid.

## Quartz

Production in Canada and Imports of Quartz, 1928 and 1929

	1928		1929	
	Tons	Value	Tons	Value
		\$		\$
<b>PRODUCTION—</b>				
Nova Scotia.....	7,424	28,022	10,645	24,488
Quebec.....	64,577	143,067	35,034	106,111
Ontario.....	194,503	308,608	229,739	366,118
Manitoba (Rose quartz).....	1	360	-	-
British Columbia.....	16,017	43,876	9,542	43,702
<b>Total.....</b>	<b>282,522</b>	<b>523,933</b>	<b>284,960</b>	<b>540,419</b>
<b>IMPORTS—</b>				
Silex or crystallized quartz, ground or unground.....	2,865	73,755	3,995	79,653
Flint.....	3,545	36,204	3,595	39,272
<b>Total.....</b>	<b>6,410</b>	<b>109,959</b>	<b>7,590</b>	<b>118,925</b>

## Salt

Production of Salt in Canada, by Grades, 1928 and 1929

Grade	1928			1929		
	Manu- factured	Sold	Value of salt sold (not including packages)	Manu- factured	Sold	Value of salt sold (not including packages)
	tons	tons	\$	tons	tons	\$
Table and dairy.....	56,252	56,214	708,927	54,618	54,138	785,559
Common fine.....	52,112	51,055	258,781	49,538	49,869	235,335
Common coarse.....	47,328	46,146	311,301	22,848	24,457	183,838
Land salt.....	3,662	3,685	17,798	7,214	7,479	65,452
Other grades.....	7,019	7,207	63,874	27,619	25,994	139,326
Brine for chemical works (salt equivalent sold or used).....	135,138	135,138	135,290	168,327	168,327	168,776
<b>Total.....</b>	<b>301,511</b>	<b>299,445</b>	<b>1,495,971</b>	<b>330,164</b>	<b>330,264</b>	<b>1,578,096</b>
Value of packages.....	-	-	560,822	-	-	543,022
<b>Total.....</b>	-	-	<b>2,056,793</b>	-	-	<b>2,121,108</b>

## Imports into Canada and Exports of Salt, 1928 and 1929

	1928		1929	
	Tons	Value	Tons	Value
<b>IMPORTS—</b>		\$		\$
Salt, for use of the sea or gulf fisheries.....	74,102	417,594	82,530	370,211
Salt, in bulk, n.o.p.....	68,765	254,218	54,997	208,130
Salt, n.o.p., in bags, barrels, etc.....	45,589	410,149	38,794	342,302
Salt, table, made by an admixture of other ingredients, when containing not less than 90 per cent of pure salt.....	479	35,007	245	16,177
<b>Total.....</b>	<b>189,025</b>	<b>1,122,968</b>	<b>176,566</b>	<b>936,820</b>
<b>EXPORTS—</b>				
<b>Total.....</b>	<b>2,930</b>	<b>36,399</b>	<b>9,359</b>	<b>70,762</b>

## Sand-Lime Brick

Production of sand-lime brick in Canada during 1929 totalled 59,354 thousand valued at \$732,395 as compared with 82,271 thousand worth \$1,038,510 produced in 1928. The active plants were located in Quebec, Ontario and Manitoba.

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.

## Sand and Gravel

Sand and gravel production in Canada during 1929 totalled 27,961,369 tons with a valuation of \$6,891,819 as compared with 28,102,917 tons valued at \$5,809,431 shipped in 1928.

Imports of sand and gravel into Canada during the year under review were recorded at 269,426 tons worth \$216,918 while silica sand imported for the manufacture of glass and carborundum and for use in foundries amounted to 233,963 tons invoiced at \$490,558. Corresponding data in 1928 showed, sand and gravel, 588,211 tons at \$275,322 and silica sand, 154,384 tons at \$332,338. Exports of sand and gravel in 1929 totalled 1,903,312 tons appraised at \$441,798, as against a total of 797,111 tons worth \$232,422 exported in 1928.

## Silver

## Production, Imports and Exports of Silver, 1928 and 1929

	1928		1929	
	Quantity fine oz.	Value \$	Quantity fine oz.	Value \$
<b>PRODUCTION—</b>				
<i>Nova Scotia—</i>				
In gold bullion— <b>Total</b> .....	<b>77</b>	<b>45</b>	<b>132</b>	<b>70</b>
<i>Quebec—</i>				
In gold ores; in blister copper, in copper ores and in silver-lead-zinc ores exported— <b>Total</b> .....	<b>998,959</b>	<b>528,796</b>	<b>810,539</b>	<b>429,529</b>
<i>Ontario—</i>				
In silver bullion and nuggets.....	5,954,880	3,464,311	7,345,561	3,892,633
In gold bullion.....	242,408	141,058	256,781	130,076
In concentrates, and slags exported by gold mines.....	5,759	3,350	99	52
In matto, blister copper and in ores, concentrates and residues exported.....	1,039,494	604,737	1,341,473	710,887
<b>Total</b> .....	<b>7,242,601</b>	<b>4,213,456</b>	<b>8,943,914</b>	<b>4,739,648</b>
<i>Manitoba—</i>				
In gold bullion— <b>Total</b> .....	<b>1,763</b>	<b>1,026</b>	<b>2,644</b>	<b>1,401</b>
<i>Alberta—</i>				
In gold bullion.....— <b>Total</b> .....	<b>7</b>	<b>4</b>	<b>-</b>	<b>-</b>
<i>British Columbia—</i>				
In alluvial gold.....	1,516	882	1,160	615
In gold bullion.....	1,536	894	1,363	722
In blister copper.....	770,557	448,279	623,804	330,573
In base bullion and in ores exported.....	10,169,758	5,916,358	9,484,525	5,026,134
<b>Total</b> .....	<b>10,943,367</b>	<b>6,366,413</b>	<b>10,110,852</b>	<b>5,358,041</b>
<i>Yukon—</i>				
In alluvial gold.....	7,676	4,466	8,028	4,254
In ores exported.....	2,831,957	1,647,519	3,304,046	1,750,913
<b>Total</b> .....	<b>2,839,633</b>	<b>1,651,985</b>	<b>3,312,074</b>	<b>1,755,167</b>
<b>Canada</b> .....	<b>21,936,407</b>	<b>12,761,725</b>	<b>23,190,155</b>	<b>12,283,859</b>
<b>IMPORTS—</b>				
Silver in bars, etc., unmanufactured.....	-	984,547	-	958,312
Silver manufactures of n.o.p. and articles consisting wholly or in part of sterling or other silver.....	-	350,567	-	400,125
Silver coin.....	-	-	-	-
<b>Total</b> .....	<b>-</b>	<b>1,335,114</b>	<b>-</b>	<b>1,358,437</b>
<b>EXPORTS—</b>				
Silver contained in ore, concentrates, etc.....	6,815,691	3,824,385	7,058,275	3,736,204
Silver bullion.....	14,592,406	8,456,908	14,879,770	8,022,917
<b>Total</b> .....	<b>21,408,097</b>	<b>12,281,353</b>	<b>21,938,045</b>	<b>11,759,121</b>
Silver coin, Foreign.....	-	2,561,535	-	2,603,704

## Slate

In 1923, crushed green and red slate amounting to 1,836 tons valued at \$17,289 was obtained from quarries in Melbourne township. No production has been reported since that date.

Imports into Canada in 1929 included 9,504 squares of roofing slate valued at \$123,793; slate pencils valued at \$9,398; school writing slates worth \$96,296; and slate mantles and other manufactures of slate valued at \$67,151.

## Sodium Carbonate

The production of sodium carbonate crystals in 1929 amounted to 608 tons worth \$6,688 as compared with shipments of 519 tons at \$4,922 in the preceding year.

The manufacture of soda ash from salt brine is carried on in Canada on a large scale by Brunner Mond, Canada, Limited, at Amherstburg, Ontario.

## Sodium Sulphate

Shipments of natural sodium sulphate from Canadian deposits during 1929 totalled 6,592 tons valued at \$70,396. In 1928 the production was 6,016 tons worth \$68,804.

Imports of salt cake into Canada in 1929 were recorded at 39,512 tons evaluated at \$514,212; in addition to which glauber's salt to a total of 362 tons at \$4,450 and bisulphate of soda or nitre cake amounting to 80,872 tons at \$1,081,984 were also imported into Canada.

## Stone

*Production in Canada, Imports and Exports of Stone, 1928 and 1929*

	1928		1929	
	Tons	Value \$	Tons	Value \$
<b>PRODUCTION—</b>				
Nova Scotia .....	121,168	213,775	229,125	373,329
New Brunswick .....	46,332	142,081	51,222	179,052
Quebec .....	2,992,192	4,819,200	3,485,894	5,123,458
Ontario .....	4,581,929	4,031,568	5,199,401	4,617,159
Manitoba .....	235,804	608,217	152,456	524,440
Alberta .....	5,010	24,740	5,183	24,546
British Columbia .....	271,439	391,820	352,403	447,972
<b>Canada .....</b>	<b>8,253,934</b>	<b>10,272,391</b>	<b>9,475,884</b>	<b>11,289,956</b>
<b>IMPORTS—</b>				
Building stone, other than marble or granite, sawn on more than two sides, but not sawn or more than four sides .....	306	4,085	471	6,285
Building stone other than marble or granite, planed, turned, cut or further manufactured than sawn on four sides .....	259	27,781	1,826	77,685
Flagstone, granite rough, sand-stone, and all building stone, not hammered, sawn or chiselled .....	-	214,977	-	372,049
Flagstone and building stone, other than marble or granite sawn on not more than two sides .....	-	213,448	-	233,084
Granite, sawn only .....	-	7,837	-	22,799
Granite, manufactures of, n.o.p. ....	-	63,932	-	44,857
Granite monuments .....	-	129,466	-	137,359
Paving blocks .....	-	10,919	-	-
Marble, rough, not hammered or chiselled .....	-	137,120	-	237,080
Marble, sawn or sand rubbed, not polished .....	-	170,074	-	267,497
Marble, manufactures of, n.o.p. ....	-	126,729	-	187,717
Refuse stone .....	597,134	373,453	645,768	405,077
Manufactures of stone, n.o.p. ....	-	70,826	-	70,364
<b>Total .....</b>	<b>-</b>	<b>1,550,447</b>	<b>-</b>	<b>2,064,453</b>
<b>EXPORTS—</b>				
Crushed .....	128,370	209,852	116,950	200,000
Granite and marble, unwrought .....	2,529	26,034	2,467	23,189
Freestone, limestone, and other building stone, unwrought .....	383	3,664	661	8,867
Dressed stone .....	-	10,665	-	5,065
<b>Total .....</b>	<b>-</b>	<b>250,215</b>	<b>-</b>	<b>237,121</b>



*Production of Stone in Canada by Kinds and by Provinces, 1929*

	Granite		Limestone		Marble		Sandstone	
	Tons	\$	Tons	\$	Tons	\$	Tons	\$
Nova Scotia .....	40,826	94,496	176,316	200,352	132	2,515	11,851	75,966
New Brunswick .....	8,237	98,092	33,710	62,860	-	-	9,275	17,500
Quebec .....	240,398	1,177,276	3,139,573	3,453,290	11,581	388,074	84,342	104,818
Ontario .....	495,709	539,916	4,092,871	4,010,163	-	-	10,881	67,080
Manitoba .....	-	-	152,456	524,440	-	-	-	-
Alberta .....	-	-	4,975	12,046	-	-	208	12,500
British Columbia .....	286,740	336,921	63,643	78,521	950	31,400	1,130	1,130
<b>Total for Canada .....</b>	<b>1,071,910</b>	<b>2,247,301</b>	<b>8,273,544</b>	<b>9,341,672</b>	<b>12,663</b>	<b>421,989</b>	<b>117,687</b>	<b>278,994</b>

**Talc and Soapstone**

*Production in Canada, Imports and Exports of Talc and Soapstone, 1928 and 1929*

	1928		1929	
	Tons	Value	Tons	Value
<b>PRODUCTION—</b>		\$		\$
Soapstone .....	-	40,171	-	47,986
Talc .....	14,925	179,187	15,509	181,222
<b>Total .....</b>	<b>-</b>	<b>219,358</b>	<b>-</b>	<b>229,298</b>
<b>IMPORTS—</b>				
Talc or soapstone, ground or unground— <b>Total .....</b>	<b>5,421</b>	<b>91,702</b>	<b>5,516</b>	<b>109,675</b>
<b>EXPORTS—</b>				
Talc— <b>Total .....</b>	<b>10,946</b>	<b>133,601</b>	<b>11,399</b>	<b>139,096</b>

**Zinc**

*Production in Canada, Imports and Exports of Zinc, 1928 and 1929*

	1928		1929	
	Pounds	Value	Pounds	Value
<b>PRODUCTION—</b>		\$		\$
Quebec .....	21,057,760	1,156,745	19,653,440	1,058,731
Ontario .....	58,724	3,226	4,462,940	240,419
British Columbia .....	163,530,890	8,983,079	172,096,841	9,270,857
<b>Total .....</b>	<b>184,647,374</b>	<b>10,143,050</b>	<b>196,213,221</b>	<b>10,570,007</b>
<b>IMPORTS—</b>				
Zinc dust .....	458,923	44,906	483,192	38,891
Zinc in blocks, pigs and sheets .....	9,299,015	687,923	10,631,343	787,432
Zinc spelter .....	1,845,258	107,920	2,658,483	165,566
Zinc white .....	18,128,357	1,166,491	19,052,472	1,248,608
Zinc, sulphate and chloride of .....	2,530,141	98,501	3,123,840	125,742
Zinc, manufactures of, n.o.p. ....	-	169,071	-	167,705
<b>Total .....</b>	<b>-</b>	<b>2,274,812</b>	<b>-</b>	<b>2,534,094</b>
<b>EXPORTS—</b>				
Zinc in ore .....	22,510,000	1,438,610	25,738,900	1,415,725
Zinc scrap, dross and ashes .....	6,944,000	203,884	7,638,200	262,719
Zinc spelter .....	127,188,500	6,602,867	135,085,700	7,031,645
<b>Total .....</b>	<b>-</b>	<b>8,245,370</b>	<b>-</b>	<b>8,710,089</b>

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