

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

PRELIMINARY REPORT

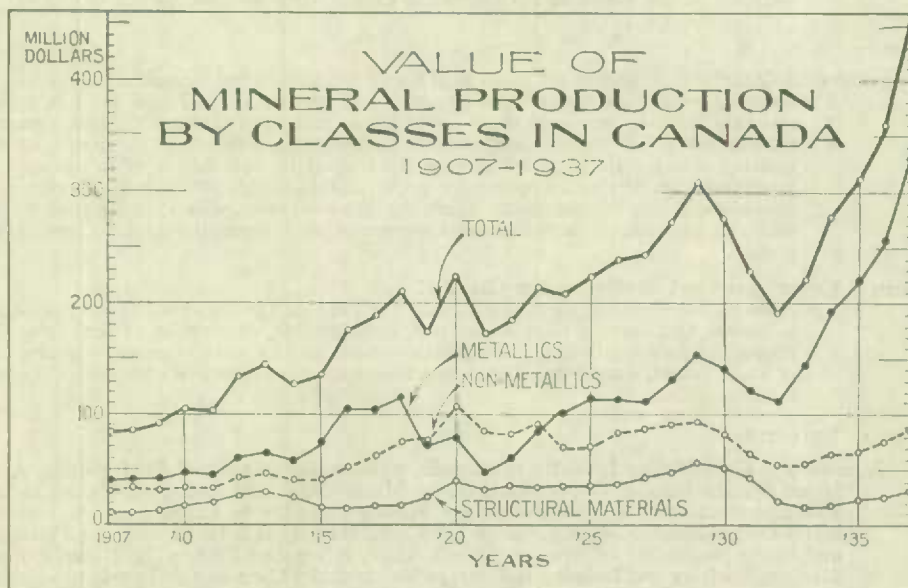
ON THE

MINERAL PRODUCTION OF
 CANADA

DURING THE CALENDAR YEAR

1937

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



OTTAWA
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 1938

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.

Monthly Reports on Canada's Leading Mineral Products.

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 9 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. Fully indexed. Chapter titles are: Canada—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—Notes on the Methods of Computing Values—Index—Directory.

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 twentieth 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—

Metals—The Gold Mining Industry in Canada, which includes Alluvial Gold Mining, Auriferous Quartz Mining, Copper-Gold-Silver Mining, and tables showing Canadian and world production of Gold.—The Silver Mining Industry in Canada, which includes Silver-Cobalt-Arsenic Mining, Silver-Lead-Zinc Mining, and tables showing Canadian and world production of Arsenic, Cobalt, Lead, Silver and Zinc.—The Nickel-Copper Mining, Smelting and Refining Industry, which includes Canadian and world production of Nickel.—The Canadian and World Production of Copper.—Metals of the Platinum Group.—The Production of Miscellaneous Metals, including Antimony, Beryl, Bismuth, Cadmium, Chromite, Lithium, Manganese, Mercury, Molybdenite, Radium, Selenium, Tin, Titanium, Tungsten.—The Non-Ferrous Smelting and Refining Industry.

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, Bituminous Sands, Fluorspar, Graphite, Magnesitic dolomite, Bog Manganese, Natural Mineral Waters, Phosphate, Silica Brick, Sodium Carbonate, Sodium Sulphate, Sulphur (Pyrites).

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

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

PREFACE

The present statistical report on Canada's mineral production is issued annually for presentation at the Annual Meeting of the Canadian Institute of Mining and Metallurgy. It contains the first detailed figures of production for 1937 and is designed to supplement the estimate issued in bulletin form on January 1st.

Outstanding features of this report are: a new high record for the total value of Canada's mineral production; an increase over the preceding year in the number of operating gold mines and mills; new output records for gold, copper, nickel, lead, zinc, platinum metals, selenium, tellurium, asbestos, crude petroleum, natural gas, nepheline syenite, sulphur, and salt. Base metal prices averaged higher than in 1936.

For several years the Bureau has co-operated with the Mines Departments of Quebec, Ontario, Manitoba, British Columbia, and Nova Scotia whereby the Bureau and the provinces use joint forms for the collection of mineral statistics. Similar arrangements were made in 1937 with the Department of Natural Resources of Saskatchewan. By this system of co-operation operators are required to file only one form in duplicate, thus making possible more accurate and complete statistics for the provinces and the Dominion.

As in former years, the Bureau has continued to co-operate with the provinces of Nova Scotia, New Brunswick, Saskatchewan, Alberta, and British Columbia in the collection of coal statistics.

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

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

R. H. COATS,

Dominion Statistician.

DOMINION BUREAU OF STATISTICS,

OTTAWA, March 7, 1938.

Quantities and Values of Mineral Products from Canadian Sources, 1936 and 1937

	1936		1937		Per cent Increase (+) or Decrease (-)	
	Quantity	Value	Quantity	Value	Quantity	Value
METALLICS						
		\$		\$		\$
Arsenic (As ₂ O ₃)..... lb.	1,365,606	42,491	1,389,426	41,032	+ 1.7	- 3.4
Bismuth..... lb.	364,165	360,523	5,711	5,654	-	-
Cadmium..... lb.	785,916	699,465	744,431	1,220,867	- 5.3	+74.5
Chromitel.....	-	13,578	-	43,250	-	+218.5
Cobalt..... lb.	887,591	804,676	507,064	848,247	-42.9	+ 5.4
Copper..... lb.	421,027,732	39,514,101	531,041,878	69,049,734	+26.1	+74.7
Gold valued at standard rate..... fine oz.	3,748,028	77,478,612	4,095,872	84,669,186	+ 9.3	+ 9.3
Estimated exchange equalization on gold produced.....	-	53,814,809	-	58,645,375	-	-
Lead..... lb.	383,180,909	14,993,769	411,221,232	21,013,404	+ 7.3	+40.1
Manganese ore..... tons	221	1,596	85	609	-61.5	-61.8
Molybdenite concentrates..... tons	-	-	13	7,500	-	-
Nickel..... lb.	169,739,393	43,876,525	1224,790,974	59,507,170	+32.4	+35.6
Palladium, rhodium, iridium, etc..... fine oz.	103,671	2,483,075	119,867	3,181,668	+15.6	+28.1
Platinum..... fine oz.	131,571	5,320,731	139,361	6,752,041	+ 5.9	+26.9
Radium and Uranium Products.....	-	-	-	-	-	-
Selenium..... lb.	350,857	621,017	399,473	691,088	+13.9	+11.3
Silver..... fine oz.	18,334,487	8,273,804	22,683,032	10,180,371	+23.7	+23.0
Tellurium..... lb.	35,591	62,997	51,622	89,306	+45.0	+41.8
Titanium ore..... tons	2,566	18,318	3,776	26,432	+47.2	+44.3
Zinc..... lb.	333,182,736	11,045,007	370,418,073	18,157,894	+11.2	+64.4
Total.....	-	259,425,194	-	334,130,834	-	+28.8
NON-METALLICS						
Fuels						
Coal..... tons	15,229,182	45,791,934	15,775,432	48,662,559	+ 3.6	+ 6.3
Natural gas..... M cu. ft.	28,113,348	10,762,243	29,599,198	11,738,822	+ 5.3	+ 9.1
Peat..... tons	1,341	7,376	1,050	5,775	-21.7	-21.7
Petroleum, crude..... brls.	1,500,374	3,421,767	2,978,268	5,370,981	+98.5	+57.0
Total.....	-	59,983,320	-	65,778,137	-	+ 9.7
OTHER NON-METALLICS						
Asbestos..... tons	301,287	9,958,183	410,026	14,505,791	+36.1	+45.7
Bituminous sands..... tons	-	-	35	142	-	-
Diatomite..... tons	615	13,050	643	18,606	+ 4.6	+36.3
Feldspar..... tons	17,846	154,475	21,330	178,160	+19.5	+15.3
Fluorspar..... tons	75	900	150	2,550	+100.0	+183.3
Graphite.....	-	88,812	-	125,776	-	+41.6
Grindstones..... tons	569	24,724	384	17,042	-32.5	-31.1
Gypsum..... tons	833,822	1,278,971	1,042,239	1,536,587	+25.0	+20.1
Iron oxides (ochre)..... tons	5,854	69,630	6,197	83,640	+ 5.9	+20.1
Lithium minerals..... \$	-	-	-	1,094	-	-
Magnesitic dolomite.....	-	768,742	-	677,207	-	-11.9
Magnesium sulphate..... tons	654	13,712	727	14,456	+11.2	+ 5.4
Mica..... tons	801	74,556	899	132,011	+12.2	+77.1
Mineral waters..... Imp. gals.	154,286	18,516	225,019	20,589	+45.8	+11.2
Nepheline syenite.....	-	37,426	-	121,481	-	+224.6
Phosphate..... tons	525	4,927	100	900	-81.0	-81.7
Quartz..... tons	1,046,649	597,781	1,369,639	1,126,278	+30.9	+85.4
Salt..... tons	391,316	1,773,144	459,027	1,799,465	+17.3	+ 1.5
Silica brick..... M	2,393	97,255	3,744	181,126	+56.5	+86.2
Soapstone.....	-	32,770	-	40,513	-	+23.6
Sodium carbonate..... tons	192	1,677	286	3,288	+49.0	+30.4
Sodium sulphate..... tons	75,598	552,981	79,884	618,028	+ 5.7	+11.8
Sulphur**..... tons	122,132	1,033,055	130,913	1,154,992	+ 7.2	+11.8
Talc..... tons	14,508	144,500	12,457	123,301	-14.1	-14.7
Total.....	-	16,740,117	-	22,482,620	-	+34.3

†Quebec only.

*Data not available for publication.

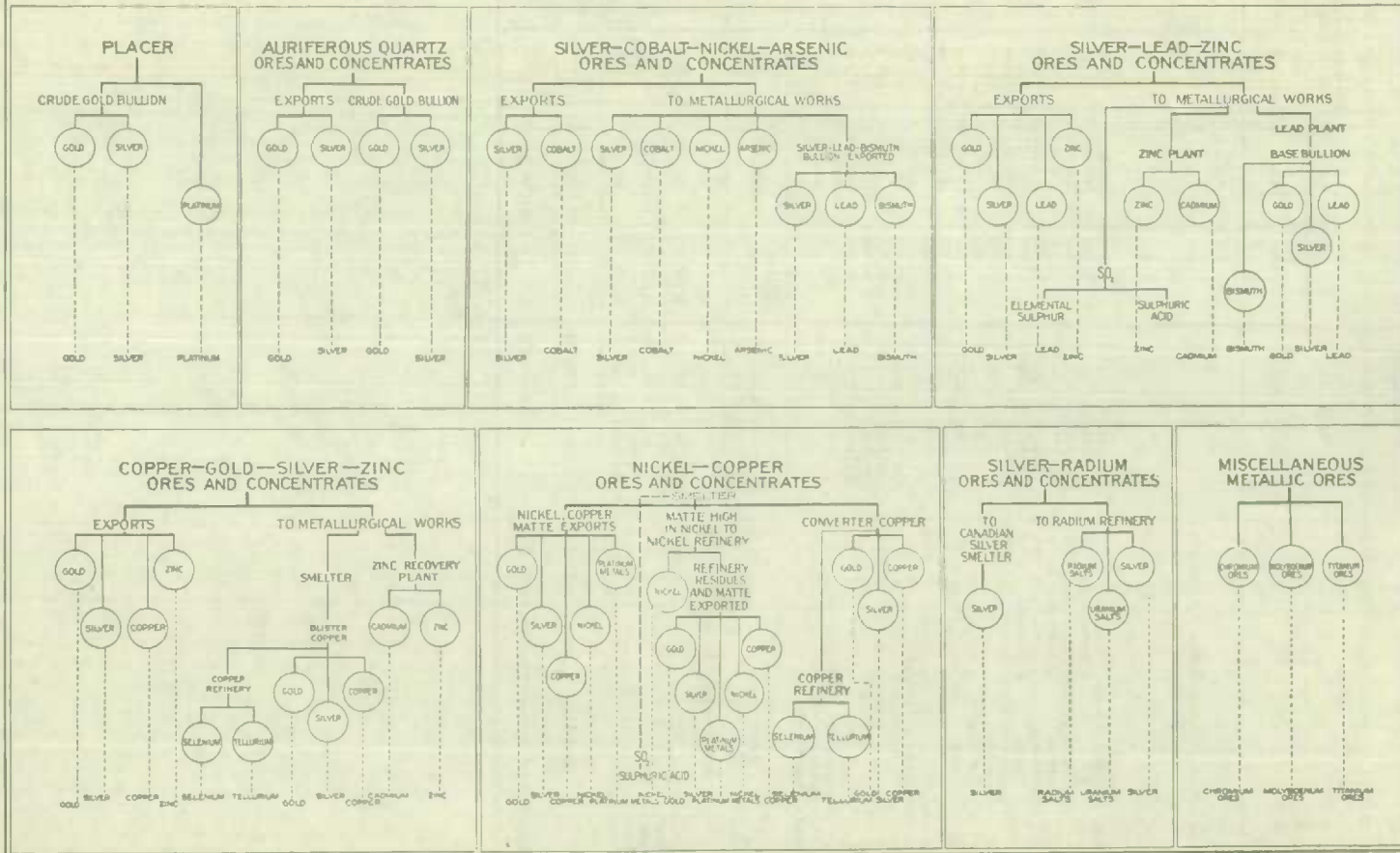
**Sulphur content of pyrites shipped and estimated sulphur contained in sulphuric acid made from waste smelter gases.

‡Does not include the quantity produced in British Columbia.

**Quantities and Values of Mineral Products from Canadian Sources, 1936 and 1937—
Concluded**

	1936		1937		Per cent Increase (+) or Decrease (-)	
	Quantity	Value	Quantity	Value	Quantity	Value
		\$		\$		\$
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS						
Clay Products						
Brick-Soft mud process (Face..... M	6,097	111,378	7,708	134,552	+26.4	+20.8
(Common..... M	24,180	302,690	27,134	364,869	+12.2	+20.5
Stiff mud process (Face..... M	30,218	575,765	37,867	749,259	+25.3	+30.1
(wire-cut)..... (Common..... M	35,502	484,078	54,440	756,747	+53.0	+58.3
Dry press..... (Face..... M	8,961	165,924	12,613	231,933	+40.8	+39.8
(Common..... M	10,241	100,785	12,901	148,567	+26.0	+47.4
Fancy or ornamental brick..... M	25	1,374	56	3,051	+124.0	+122.1
Sewer brick..... M	418	6,778	158	2,495	-62.2	-63.2
Paving brick..... M	116	3,149	103	2,634	-11.2	-16.4
Firebrick..... M	2,548	118,923	2,957	143,224	+16.1	+20.4
Fireclay..... tons	2,437	17,639	2,652	21,668	+ 8.8	+22.8
Bentonite..... tons	120	180	283	2,151	-	-
Fireclay blocks and shapes.....	-	65,171	-	75,431	-	+15.7
Structural Tile—Hollow blocks..... tons	58,501	467,860	69,564	580,245	+18.9	+24.0
Roofing tile..... No.	52,730	2,139	68,329	3,257	+29.6	+52.3
Floor tile (quarries)...sq. ft.	97,738	13,768	75,389	12,483	-22.9	- 9.5
Drain tile..... M	8,148	214,590	17,845	309,233	+119.0	+44.1
Sewer pipe, copings, flue linings, etc.....	-	588,485	-	792,768	-	+34.7
Pottery, glazed or unglazed.....	-	218,402	-	225,870	-	+ 3.4
Other clay products.....	-	11,919	-	29,497	-	+147.5
Total.....	-	3,471,627	-	4,589,933	-	+32.2
Other Structural Materials						
Cement..... brls.	4,508,718	6,908,192	6,168,971	9,095,867	+36.8	+31.7
Lime..... tons	468,401	3,335,970	546,671	4,008,500	+16.7	+20.2
Sand and gravel..... tons	22,124,160	6,921,399	28,977,135	10,338,730	+31.0	+49.4
Slate..... tons	1,247	5,414	300	2,961	-75.9	-45.3
Stone..... tons	4,981,665	5,128,739	6,374,185	6,365,678	+28.0	+24.1
Total.....	-	22,299,714	-	29,811,736	-	+33.7
Grand Total in Canadian Funds.....	-	361,919,372	-	456,793,260	-	+26.2

CHART SHOWING
THE STAGE IN THE TREATMENT OF CANADIAN ORES AT WHICH
METAL PRODUCTION IS RECORDED



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

PRELIMINARY REPORT
ON THE
MINERAL PRODUCTION OF CANADA
DURING THE CALENDAR YEAR 1937

Nineteen thirty-seven was a record year for Canada's mineral industry. Total production was valued at \$456,793,260, an increase of 26 per cent over 1936. New high output levels were established for gold, copper, nickel, lead, zinc, platinum metals, selenium, tellurium, asbestos, salt, sulphur, nepheline syenite, sodium sulphate, natural gas and crude petroleum. The total value of metals production increased 29 per cent over 1936; fuels, 9.7 per cent; non-metallic minerals other than fuels, 34 per cent, and structural materials, 34 per cent.

In the metals group improvement in average yearly base metal prices and increases in output for practically all metals combined to bring the total value to \$334,130,834 compared with \$259,425,194 in the preceding year. The 1937 value of production of the *metal mines* was greater than the total value of production from *all mines* in Canada for any year except 1936, and represented 73.5 per cent of the total production for the year under review. Gold continues to be the most important metal from point of value followed by copper, nickel, lead, zinc, silver, and platinum metals.

Fuels, which include coal, natural gas, crude petroleum, and peat had a total value of \$65,778,137 compared with \$59,983,320. Coal output was 3.6 per cent greater; natural gas production increased by 5 per cent and crude petroleum showed a marked advance of 98.5 per cent due to an increase in production from the Turner Valley oil field of Alberta.

Non-metallic minerals, other than fuels, were valued at \$22,482,620 as against \$16,740,117 in 1936. The increase in output of many of these industrial minerals over the preceding year reflected the improvement in business conditions in 1937.

Structural materials, including cement, clay products, stone and sand and gravel totalled \$34,401,669 as against \$25,770,741 in the preceding year. Increases over 1936 were recorded for each item in this group.

Values of Mineral Production of Canada by Classes 1928-1937

Year	Metallics*	Coal, natural gas, peat and crude petroleum	Other non-metallics	Clay products and other structural materials	Total
					\$
1928.....	132,012,454	74,413,160	18,826,692	49,737,181	274,989,487
1929.....	154,454,056	76,787,397	21,073,859	58,534,834	310,850,246
1930.....	142,743,764	68,184,485	15,217,864	53,727,465	279,873,578
1931.....	120,930,147	54,453,143	10,893,141	44,158,295	230,434,726
1932.....	112,041,763	49,047,342	7,740,837	22,398,283	191,228,225
1933.....	147,015,593	47,778,436	10,004,537	16,896,687	221,695,253
1934.....	194,110,968	54,262,099	10,501,762	19,286,761	278,161,590
1935.....	221,800,849	54,824,200	12,504,008	23,215,400	312,344,457
1936.....	259,425,194	59,983,320	16,740,117	25,770,741	361,919,372
1937.....	334,130,834	65,778,137	22,482,620	34,401,669	456,793,260

* Beginning with 1931 the estimated exchange equalization on gold produced is included.

Gold production, from all sources, totalled 4,095,872 fine ounces compared with 3,748,028 fine ounces in 1936, an increase of 9.3 per cent. The average price of gold during the year, in Canadian funds, was \$34.99 per fine ounce. Valued at this price production from Canadian ores in 1937 was worth \$143,314,561, or 31.4 per cent of the total value of the mineral production of the country and 43 per cent of the total value of metals production. Ontario mines produced

2,587,385 fine ounces, or 63 per cent of the total gold output; Quebec, 712,004 fine ounces, or 17.6 per cent; British Columbia, 503,403 fine ounces, or 12.3 per cent; Manitoba, 160,395 fine ounces, or 4 per cent; Saskatchewan, 65,018 fine ounces, or 1.6 per cent; Yukon Territory, 47,982 fine ounces, or 1 per cent; Nova Scotia, 19,639 fine ounces, or 0.5 per cent, and Alberta, 46 ounces. Several gold mines came into production during the year and development work and mill construction are being pushed ahead rapidly on other properties in the gold-bearing areas of Canada.

Copper production totalling 531,041,878 pounds valued at \$69,049,734 was a record and represented an increase of 26 per cent in quantity and 75 per cent in value over the preceding year. The copper-nickel mines of Ontario supplied the total output of copper from that province; this amounted to 322,039,208 pounds or 61 per cent of the total for Canada. Quebec mines, viz., Noranda, Consolidated Copper and Sulphur, Aldermac, Normetal, and Waite-Amulet, recorded a total output of 94,653,135 pounds. Manitoba and Saskatchewan mines, viz., the Flin Flon and Sherritt Gordon, produced 68,352,000 pounds; British Columbia production, principally as exports in concentrates from the Britannia on Howe Sound, the Granby at Copper Mountain, and in the form of matte exported by the Consolidated Mining and Smelting Company, totalled 45,760,793 pounds. Copper was also contained in some concentrates shipped by the Stirling mine in Cape Breton during the early part of the year. The average price of copper, in Canadian funds, during the year was 13.078 cents per pound compared with 9.47695 cents in 1936.

Nickel production totalled 224,790,974 pounds valued at \$59,507,176 compared with 169,739,393 pounds valued at \$43,876,525 in 1936. In addition to the Ontario production by the International Nickel Company and Falconbridge Nickel, the B.C. Nickel Mines exported concentrates for experimental purposes. Prospecting and development work was carried on during the year at several other Canadian nickel-bearing deposits.

Silver production at 22,683,032 fine ounces valued at \$10,180,371 indicated an increase of 23.7 per cent in quantity and 23.0 per cent in value. Output by provinces, in fine ounces, was as follows—British Columbia, 11,162,689; Ontario, 4,695,220; Quebec, 908,432; Yukon and Northwest Territories, 4,082,490; Manitoba, 985,101; Saskatchewan, 821,002; Nova Scotia, 28,094, and the remainder from Alberta, which was produced in association with a small amount of gold. The average price of silver for the year in New York, converted to Canadian funds, was 44.881 cents per fine ounce as against 45.127 cents in 1936.

Lead production totalled 411,221,232 pounds valued at \$21,013,404. Of this total, British Columbia mines, principally the Sullivan, accounted for 402,789,532 pounds, or 98 per cent. Shipments in concentrates from the Mayo camp of Yukon Territory rose to 6,444,977 pounds compared with 2,568,699 pounds in 1936. The Tetreault mine in Quebec and the Stirling mine in Nova Scotia also exported lead concentrates. The average London price of lead for the year, converted to Canadian funds, was 5.11 cents per pound compared with 3.91277 cents in 1936.

Zinc production totalled 370,418,073 pounds valued at \$18,157,894 and included the refined zinc made at Trail, British Columbia, and at Flin Flon, Manitoba, plus the zinc in concentrates exported. The 1937 average price for zinc, London quotations in Canadian funds, was 4.902 cents per pound compared with 3.315 cents in the preceding year.

Platinum metals occur in association with the nickel-copper ores of Ontario and any increase in the output of these ores is reflected in the production of this group of metals. Production in 1937 totalled 259,728 fine ounces valued at \$9,933,709 compared with 235,242 fine ounces worth \$7,803,806 in 1936.

The output of cobalt was not as great as in 1936. Selenium and tellurium production by Canadian copper refining companies exceeded the output of the preceding year. Cadmium production was slightly less. This metal is recovered as a by-product at Trail, British Columbia, and at Flin Flon, Manitoba, in the refining of zinc.

Titanium ore was exported from the province of Quebec. The first commercial shipments of molybdenite since 1931 were recorded for the year under review.

Figures on the production of radium and uranium are not available for publication.

No iron ore for the manufacture of pig iron has been produced in Canada since 1923, but during the past year the provincial government of Ontario granted a bounty of two cents per

unit on the production of domestic iron beneficiated within the province. As a result, the Algoma Steel Corporation is making extensive preparations for bringing its New Helen mine into production at the rate of 2,000 tons a day and such production will reflect favourably towards an increase in the volume of the future metal production for the Dominion.

Coal production totalled 15,775,432 tons, an increase of 3.6 per cent over 1936. Output from Alberta mines was 5,551,456 tons; Nova Scotia, 7,227,768 tons, British Columbia, 1,594,928 tons; Saskatchewan, 1,046,925 tons; New Brunswick, 351,091 tons, and the remainder was mined in Manitoba, and Yukon Territory. During the year under review 2,641,000 tons of Canadian coal were moved under Dominion Government assistance compared with 2,352,000 tons in 1936. Imports of coal into Canada totalled 16,004,452 tons, of which 3,559,133 tons were anthracite, 12,443,825 tons were bituminous, and 1,494 tons were lignite. Of the total anthracite imports the United States supplied 2,003,317 tons compared with 1,685,848 tons in 1936, and Great Britain 1,134,855 tons against 1,333,602 tons in the preceding year. Anthracite was also imported from Germany, Russia, Belgium and Morocco. Of the total bituminous coal brought into Canada in 1937 the United States supplied 12,333,378 tons; Great Britain 56,073 tons, and Germany, 54,061 tons.

Natural gas production at 29,599,198 thousand cubic feet was 5.3 per cent above the 1936 total. Alberta wells supplied 17,425,000 thousand cubic feet; Ontario, 11,504,502 thousand cubic feet, and the remainder was produced in New Brunswick, Saskatchewan, Manitoba and Northwest Territories.

Petroleum production totalled 2,978,268 barrels compared with 1,500,374 barrels in 1936. This large increase was due to the successful drilling into production of new wells in the west flank at the south end of the Turner Valley field, Alberta.

The total value of non-metallic minerals, other than fuels, was \$22,482,620, an increase of 34 per cent over 1936. New high output records were recorded for asbestos, salt, sulphur, sodium sulphate, and nepheline syenite. Asbestos production totalled 410,026 tons as against 301,287 tons in the preceding year. Gypsum production totalled 1,042,239 tons, an increase of 25 per cent over 1936. Nova Scotia is the largest gypsum producing province, the greater part of the output being exported in the crude form. A large part of the production from quarries in New Brunswick, Ontario, Manitoba and British Columbia is calcined and used in wall plaster, gypsum board, and in other forms for insulating and acoustical purposes. Salt output totalled 459,027 tons against 391,316 tons in 1936. New means of consumption of salt are being sought for constantly and the use of this mineral in the manufacture of heavy chemicals is expanding yearly. Elemental sulphur is being produced at Trail from waste smelter gases and a plant to produce sulphur from pyrites mined in Quebec has been announced recently. Other important industrial minerals produced commercially in Canada are feldspar and nepheline syenite for the ceramic trade, graphite for lubricants and pencils, mica, in sheet form, for electrical insulation purposes and in ground form for dressing shingles, magnesitic-dolomite for refractories, sodium sulphate for metallurgical purposes and for use in pulp mills, iron oxides for paints and for gas purification; lithium minerals, talc and soapstone, quartz, diatomite and silica brick are also produced.

Construction operations in Canada improved in 1937 and this is reflected in the increase in total value of the production of structural materials such as brick, lime, cement, and stone, which stood at \$34,401,669 as against \$25,770,741 in 1936.

Mineral Production in Canada, by Provinces, 1936-1937

Province	1936		1937	
	Value of production	Per cent of total	Value of production	Per cent of total
	\$	%	\$	%
Nova Scotia.....	26,672,278	7.37	30,309,665	6.64
New Brunswick.....	2,587,891	0.72	2,788,439	0.61
Quebec.....	49,736,919	13.74	05,043,971	14.24
Ontario.....	184,532,892	50.99	229,938,108	50.34
Manitoba.....	11,315,527	3.13	16,055,743	3.51
Saskatchewan.....	6,970,397	1.92	10,280,180	2.25
Alberta.....	23,305,726	6.44	25,328,640	5.54
British Columbia.....	54,407,030	15.03	73,143,717	16.01
Northwest Territories and Yukon.....	2,390,706	0.66	3,904,797	0.86
Total.....	361,919,373	100.00	456,733,260	100.00

Mineral Production in Canada, by Provinces, 1937

	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon and North-west Territories
METALLICS									
Arsenic (As ₂ O ₃).....lb.	-	-	-	1,389,426	-	-	-	-	-
\$	-	-	-	41,032	-	-	-	-	-
Bismuth.....lb.	-	-	-	5,711	-	-	-	-	-
\$	-	-	-	5,654	-	-	-	-	-
Cadmium.....lb.	-	-	-	-	164,000	144,000	-	436,431	-
\$	-	-	-	-	268,960	236,160	-	715,747	-
Chromite.....tons	-	-	210	-	-	-	-	-	-
\$	-	-	3,286	39,964	-	-	-	-	-
Cobalt.....lb.	-	-	-	507,064	-	-	-	-	-
\$	-	-	-	848,247	-	-	-	-	-
Copper.....lb.	188,531	-	94,653,135	322,039,208	45,852,000	22,400,000	-	45,760,793	48,211
\$	24,656	-	12,378,737	41,716,364	6,009,603	2,929,472	-	5,984,597	6,305
Gold.....fine oz.	19,639	-	712,004	2,587,385	100,395	65,018	46	503,403	47,982
\$	405,974	-	14,718,428	53,485,993	3,315,659	1,344,042	951	10,406,263	991,876
Estimated exchange equalization on gold produced.....\$	281,195	-	10,194,592	37,046,608	2,296,562	930,938	658	7,207,808	687,014
Lead.....lb.	435,692	-	1,521,182	29,849	-	-	-	402,789,532	6,444,977
\$	22,264	-	77,732	1,525	-	-	-	20,582,545	329,338
Manganese ore.....tons	-	85	-	-	-	-	-	-	-
\$	-	609	-	-	-	-	-	-	-
Molybdenite concentrates.....\$	-	-	-	13	-	-	-	-	-
Nickel.....lb.	-	-	-	7,500	-	-	-	-	-
\$	-	-	-	224,790,974	-	-	-	-	-
Palladium, Rhodium, Iridium, etc.....fine oz.	-	-	-	59,469,423	-	-	-	37,753	-
\$	-	-	-	119,867	-	-	-	-	-
Platinum.....fine oz.	-	-	-	3,181,668	-	-	-	-	-
\$	-	-	-	139,341	-	-	-	-	20
\$	-	-	-	6,751,072	-	-	-	969	-
Radium, uranium (products).....\$	-	-	-	-	-	-	-	-	-
Selenium.....lb.	-	-	210,877	116,696	43,900	28,000	Data not available for publication)		
\$	-	-	364,817	201,884	75,947	48,440	-	-	-
Silver.....fine oz.	28,094	-	908,432	4,695,220	985,101	821,002	4	11,162,089	4,082,490
\$	12,609	-	407,713	2,107,262	442,123	368,474	2	5,009,926	1,832,262
Tellurium.....lb.	-	-	36,671	6,651	5,100	3,200	-	-	-
\$	-	-	63,441	11,506	8,823	5,536	-	-	-
Titanium ore.....tons	-	-	3,776	-	-	-	-	-	-
\$	-	-	26,432	-	-	-	-	-	-
Zinc.....lb.	5,811,652	-	8,566,927	-	36,200,000	32,700,000	-	287,139,494	-
\$	284,887	-	419,951	-	1,774,524	1,602,954	-	14,075,578	-
Total.....\$	1,631,595	609	38,655,129	264,915,702	14,192,291	7,466,016	1,611	64,021,186	3,846,795
NON-METALLICS									
Fuels									
Coal.....tons	7,227,768	351,091	-	-	3,180	1,046,925	5,551,456	1,594,928	84
\$	25,629,464	1,134,739	-	-	7,727	1,491,602	14,541,637	5,856,578	812
Natural gas....M cu. ft.	-	576,671	-	-	600	90,925	17,425,000	-	1,500
\$	-	283,922	-	11,504,502	180	34,018	4,517,666	-	335
Peat.....tons	-	-	-	1,050	-	-	-	-	-
\$	-	-	-	5,775	-	-	-	-	-
Petroleum, crude..brls.	-	18,083	-	164,990	-	-	2,783,824	-	11,371
\$	-	25,496	-	355,552	-	-	4,933,078	-	56,855
Total.....\$	25,629,464	1,444,157	-	7,244,028	7,907	1,525,629	23,992,381	5,856,578	58,002

Mineral Production in Canada, by Provinces, 1937—Continued

	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon and North-west Territories
Other Non-Metals									
Asbestos.....	tons	-	410,025	-	-	-	-	-	-
\$	-	-	14,505,541	250	-	-	-	-	-
Bituminous sands.....	tons	-	-	-	-	-	35	-	-
\$	-	-	-	-	-	-	142	-	-
Diatomite.....	tons	481	-	38	-	-	-	124	-
\$	15,302	-	-	1,868	-	-	-	1,346	-
Feldspar.....	tons	-	12,285	9,045	-	-	-	-	-
\$	-	-	105,612	72,548	-	-	-	-	-
Fluorspar.....	tons	-	-	150	-	-	-	-	-
\$	-	-	-	2,550	-	-	-	-	-
Graphite.....	tons	-	-	-	-	-	-	-	-
\$	-	-	-	125,776	-	-	-	-	-
Grindstones.....	tons	8	288	-	-	-	-	89	-
\$	403	12,139	-	-	-	-	-	4,500	-
Gypsum.....	tons	921,848	36,906	-	53,780	13,941	-	15,764	-
\$	974,392	131,727	-	233,895	88,095	-	-	108,478	-
Iron oxides (ochre).....	tons	-	-	5,617	-	-	-	580	-
\$	-	-	77,040	-	-	-	-	6,000	-
Lithium minerals.....	\$	-	-	-	1,694	-	-	-	-
Magnesitic dolomite.....	\$	-	677,207	-	-	-	-	-	-
Magnesium sulphate.....	tons	-	-	-	-	-	-	727	-
\$	-	-	-	-	-	-	-	14,456	-
Mica.....	tons	-	500	399	-	-	-	-	-
\$	-	-	122,037	9,974	-	-	-	-	-
Mineral waters Imp. gal	-	-	198,319	20,700	-	-	-	-	-
\$	-	-	19,097	889	-	-	-	-	-
Nepheline syenite.....	\$	-	-	121,481	-	-	-	-	-
Phosphate.....	tons	-	100	-	-	-	-	-	-
\$	-	-	900	-	-	-	-	-	-
Quartz (a).....	tons	11,732	127,535	1,142,372	-	88,000	-	-	-
\$	14,078	-	448,327	633,073	-	30,800	-	-	-
Salt.....	tons	47,865	-	407,771	3,391	-	-	-	-
\$	216,401	-	-	1,539,599	43,465	-	-	-	-
Silica brick.....	M	2,920	-	818	-	-	-	-	-
\$	121,146	-	-	59,980	-	-	-	-	-
Soapstone.....	\$	-	40,513	-	-	-	-	-	-
Sodium carbonate.....	tons	-	-	-	-	-	-	286	-
\$	-	-	-	-	-	-	-	2,288	-
Sodium sulphate.....	tons	-	-	-	-	79,804	-	80	-
\$	-	-	-	-	-	617,548	-	489	-
Sulphur*.....	tons	-	28,534	14,009	-	-	-	88,370	-
\$	-	-	194,496	140,090	-	-	-	820,406	-
Talc.....	tons	-	-	12,457	-	-	-	-	-
\$	-	-	-	123,301	-	-	-	-	-
Total.....	\$	1,341,812	143,866	16,191,976	3,065,274	133,254	648,348	142	957,954

* Sulphur content of pyrites shipped and estimated sulphur contained in sulphuric acid made from waste smelter gases.
(a) Includes low grade silica sand for fluxing purposes.

Mineral Production in Canada, by Provinces, 1937—Concluded

	Nova Scotia	New Brun- swick	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Yukon and North- west Terri- tories
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS									
Clay Products									
Brick—Soft mud process—									
Face..... M	20	-	300	7,098	-	-	62	228	-
\$	280	-	3,500	119,915	-	-	1,385	9,472	-
Common..... M	350	1,882	2,284	11,027	5,234	-	2,632	3,725	-
\$	3,500	26,918	21,566	157,777	77,868	-	25,902	51,338	-
Stiff mud process (wirecut) Face.. M									
\$	639	798	13,333	21,887	299	54	109	748	-
Common..... M	14,307	17,688	260,091	420,810	7,553	1,561	2,177	25,072	-
\$	4,472	1,849	31,832	14,584	-	258	145	1,300	-
\$	58,753	21,863	451,191	203,538	-	2,555	813	18,044	-
Dry press—									
Face..... M	-	-	1,659	9,448	-	59	1,447	-	-
\$	-	-	40,283	176,645	-	1,677	13,328	-	-
Common..... M	-	-	3,292	3,674	-	-	5,935	-	-
\$	-	-	51,025	53,840	-	-	43,702	-	-
Fancy or orna- mental brick..... M	-	-	-	55	-	-	1	-	-
\$	-	-	-	2,972	-	-	79	-	-
Sewer brick..... M	-	-	-	158	-	-	-	-	-
\$	-	-	-	2,495	-	-	-	-	-
Paving brick..... M	-	-	-	-	-	-	100	3	-
\$	-	-	-	-	-	-	2,503	131	-
Firebrick..... M	-	-	-	-	-	522	17	2,418	-
\$	-	-	-	-	-	27,010	871	115,343	-
Fireclay..... tons	1,189	42	-	-	-	771	-	650	-
\$	3,795	1,660	-	-	-	6,881	-	9,332	-
Bentonite..... tons	-	-	-	-	132	-	-	151	-
\$	-	-	-	-	1,154	-	-	997	-
Fireclay blocks and shapes..... \$	753	800	-	-	-	63,106	-	10,772	-
Structural tile—									
Hollow blocks..... tons	4,321	589	21,323	34,202	638	775	3,771	3,945	-
\$	38,937	4,586	176,290	278,321	5,432	7,553	30,959	38,167	-
Roofing tile..... No	-	-	-	59,199	-	-	-	9,130	-
\$	-	-	-	2,974	-	-	-	283	-
Floor tile (quarries) Sq. ft.	-	-	-	73,191	-	-	-	2,198	-
\$	-	-	-	12,169	-	-	-	314	-
Drain tile..... M	70	416	439	16,078	58	-	44	740	-
\$	2,991	18,461	13,998	242,323	3,524	-	2,200	25,736	-
Sewer pipe, copings, flue linings, etc. \$	279,136	355	43,415	342,637	-	-	85,490	41,725	-
Pottery, glazed or unglazed..... \$	-	32,805	-	54,507	-	-	135,245	3,322	-
Other clay products \$	1,961	-	-	17,392	-	7,999	-	2,145	-
Total..... \$	404,413	125,126	1,061,359	2,088,315	85,531	118,342	344,654	352,193	-
Other Structural Materials									
Cement..... brls.	-	-	2,578,023	2,650,652	328,518	-	267,106	344,072	-
\$	-	-	3,537,798	3,657,067	745,736	-	531,541	623,725	-
Lime..... tons	17,687	19,599	155,934	292,098	22,597	-	10,651	27,805	-
\$	150,115	150,362	902,438	2,343,895	214,965	-	93,478	159,247	-
Sands and gravel..... tons	2,965,208	1,418,480	8,509,950	10,105,659	1,745,127	1,220,038	1,040,822	1,972,251	-
\$	1,452,969	700,278	2,472,355	3,462,580	594,421	521,854	330,098	707,575	-
Slate..... tons	-	-	114	171	-	-	-	186	-
\$	-	-	171	-	-	-	-	2,790	-
Stone..... tons	226,698	55,468	1,808,030	3,840,306	54,191	-	13,222	376,270	-
\$	290,307	134,041	2,222,751	3,141,247	71,728	-	26,135	468,469	-
Total..... \$	1,992,391	1,074,681	9,135,513	12,604,789	1,626,850	521,854	989,852	1,955,896	-
Grand Total in Cana- dian Funds..... \$	30,309,665	2,788,439	65,043,971	229,938,108	16,055,743	10,280,180	25,328,640	73,143,717	3,804,797

Monthly Production of Principal Minerals in Canada, 1937*

	Asbestos	Cement	Clay Products	Coal	Copper	Feldspar	Gold	Gypsum
	tons	barrels	§	tons	pounds	tons	fine oz.	tons
January.....	22,454	97,276	135,648	1,496,991	37,282,247	1,177	328,545	8,473
February.....	27,301	101,171	127,313	1,285,126	38,425,569	1,538	310,074	4,827
March.....	32,746	209,743	178,431	1,109,806	41,796,786	2,061	326,275	23,352
April.....	42,267	371,839	289,272	988,823	41,989,288	1,048	323,337	65,708
May.....	37,636	557,294	379,967	1,077,669	41,561,784	1,224	340,125	113,370
June.....	35,341	752,683	485,917	1,067,684	42,549,292	1,801	344,895	161,978
July.....	35,194	832,720	511,950	1,137,769	41,710,830	2,458	347,474	125,762
August.....	36,881	909,220	485,653	1,233,037	44,583,629	2,088	348,451	116,754
September.....	39,211	937,749	496,001	1,410,222	48,045,881	2,216	348,109	146,582
October.....	33,471	770,730	469,080	1,709,684	51,853,071	1,647	358,836	114,377
November.....	37,625	412,845	442,238	1,664,891	50,735,281	1,404	352,829	95,066
December.....	28,686	186,581	238,997	1,593,730	49,240,080	1,983	361,671	71,272
Calendar Year.....	468,813	6,139,851	4,240,557	15,775,432	529,773,738	20,765	4,690,631	1,947,721
	Lead	Lime	Natural Gas†	Nickel	Petroleum	Salt‡	Silver	Zinc‡
	pounds	tons	M cu. ft.	pounds	barrels	tons	fine oz.	pounds
January.....	34,112,307	38,377	4,052,000	16,173,486	141,078	11,910	1,390,476	19,316,188
February.....	28,504,743	39,979	3,479,000	17,330,201	153,906	11,706	1,322,833	19,866,396
March.....	35,207,467	46,583	2,839,000	18,193,641	176,657	13,504	1,658,546	31,116,491
April.....	35,154,985	47,750	2,390,000	20,260,884	188,014	26,101	1,488,350	32,502,061
May.....	34,183,050	49,511	1,866,000	18,482,389	192,845	24,343	1,352,580	30,992,409
June.....	33,276,801	47,114	1,421,000	20,959,736	209,181	24,841	2,379,448	35,165,425
July.....	31,321,744	45,804	1,297,000	15,792,349	241,737	23,487	2,767,983	36,298,712
August.....	40,590,985	44,178	1,310,000	20,662,233	288,934	20,011	3,129,097	38,344,676
September.....	40,875,577	42,125	1,675,000	19,022,019	208,753	25,922	2,357,798	30,284,709
October.....	40,769,961	47,301	2,361,000	18,491,589	342,452	28,128	1,933,964	36,400,544
November.....	33,824,605	46,575	3,056,000	19,733,115	341,517	32,520	1,615,990	30,596,302
December.....	26,373,673	36,183	3,853,000	19,695,880	408,580	13,697	1,366,034	29,911,751
Calendar Year.....	414,195,896	531,489	29,599,000	224,783,522	§2,983,654	256,176	22,763,699	376,825,663

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

†Commercial salt only.

‡Adjusted.

§Total includes production from Northwest Territories.

World Gold Production†

(In Fine Ounces)

	(a) 1936	(a) 1937		(a) 1936	(a) 1937
NORTH AMERICA—			OCEANIA—		
United States.....	3,759,645	*4,088,500	Australia.....	1,163,661	1,298,500
Canada.....	3,748,028	(c) 4,054,799	Fiji.....	16,943	19,000
Mexico.....	753,967	842,160	Tasmania.....	17,600	17,000
Newfoundland.....	15,070	15,000	New Guinea.....	360,670	375,000
Puerto Rico.....	483	*17	Papua.....	31,398	30,000
Totals.....	8,277,193	9,000,476	New Zealand.....	164,575	192,000
			Totals.....	1,754,847	1,931,500
CENTRAL AMERICA.....	78,502	83,000	AFRICA—		
SOUTH AMERICA.....	1,184,668	1,287,000	Transvaal.....	11,336,214	*11,740,891
EUROPE—			Rhodesia.....	801,513	814,000
Russia, including Siberia.....	(b) 7,289,000	(b) 7,789,000	West Africa.....	527,104	607,000
Other Europe.....	519,896	580,000	Congo, Egypt, etc.....	708,147	839,000
Totals.....	7,808,896	8,369,000	Totals.....	13,372,978	14,000,891
ASIA—			Totals for World.....	31,973,709	37,285,895
British India.....	331,389	*352,548	Total value in 1936 (\$35=1 oz.)...	\$1,224,079,815	
East Indies.....	68,083	68,000	Total value in 1937 (\$35=1 oz.)...	\$1,305,009,825	
Japan and Korea.....	1,207,638	1,200,000			
Philippines.....	597,266	*703,580			
China and Others.....	292,249	290,000			
Totals.....	2,496,625	2,614,128			

*Indicates data based on twelve months' returns.

(a) Data for 1936 revised to date and preliminary estimates for 1937 based largely on eleven months' returns by H. N. Lawrie.

(b) Estimates by H. N. Lawrie based on unofficial returns and reports on operating conditions.

(c) Later figures as contained in this report are 4,095,872 fine ounces.

†From Engineering and Mining Journal, February 1938.

World Production of Silver, Copper, Lead and Zinc, 1937

(From Engineering and Mining Journal, February, 1938)

Countries	Silver	Copper	Lead	Zinc
	fine oz.	(short tons)	(short tons)	(short tons)
United States.....	70,500,000	320,000	497,000	589,932
Canada.....	22,600,000	265,000	200,000	168,000
Mexico.....	88,000,000	53,000	247,000	34,000
Peru.....	-	38,000	-	-
Chile.....	-	425,000	-	-
Other America.....	18,000,000	-	-	-
Europe.....	19,250,000	-	-	-
Germany.....	-	28,000	182,000	179,000
Russia.....	-	100,000	60,000	88,000
Spain and Portugal.....	-	32,000	-	-
Belgium.....	-	-	85,000	257,000
Italy.....	-	-	45,000	-
France.....	-	-	-	66,000
Great Britain.....	-	-	-	72,000
Poland.....	-	-	-	112,000
Japan.....	9,900,000	95,000	-	-
India.....	6,900,000	-	-	-
Burma.....	-	-	87,000	-
Other Asia.....	3,000,000	-	-	-
Australasia.....	-	-	-	-
Australia.....	-	-	250,000	84,000
Africa.....	6,250,000	410,000	-	-
Elsewhere.....	-	168,000	240,000	195,068
Total.....	275,350,000	2,434,000	1,893,000	1,845,000

Reference Silver: Production statistics refer to new silver.**Reference Copper:** So far as possible, these statistics are based on blister copper, referred to countries wherein ore originated.**Reference Lead:** In general, the statistics cover production in terms of bullion, allocated according to origin of ore. Under elsewhere is included the production of lead for Spain.**Reference Zinc:** Production of zinc by primary metallurgical works.

Metal Prices, 1933-1937

Metal	Market	Unit	1933	1934	1935	1936	1937
			\$	\$	\$	\$	\$
Antimony (ordinaries)	New York	Pound	0-06528	0-08901	0-13618	0-12240	0-15355
Arsenic, white (nominal)	New York	Pound	0-04	0-04	0-035	0-035	0-03
Cobalt (nominal)	New York	Pound	2-50	2-50	2-50	2-50	2-31
Cobalt Oxide (nominal)	New York	Pound	1-35	1-35	1-37	1-38	1-54
Copper	New York	Pound	0-07025	0-08428	0-08640	0-09474	0-13167
	Montreal	Pound	0-08684	0-0822	0-08488	0-10070	0-13469
	London	Long ton	36-359	33-319	35-430	42-650	59-339
Gold (in Canadian funds)		Fine oz.	28-60	34-50	35-19	35-03	34-99
	New York	Pound	0-03869	0-03980	0-04065	0-04710	0-06009
Lead	Montreal	Pound	0-03705	0-04488	0-03925	0-04042	0-05799
	London	Long ton	11-670	10-935	14-238	17-599	23-326
Nickel	New York	Pound	0-35	0-35	0-35	0-35	0-35
Platinum	London	Fine oz.	*7-630	*7-75	*7-325	*8-138	*9-811
Silver	New York	Fine oz.	0-34727	0-47973	0-64273	0-45087	0-44881
Tin	New York	Pound	0-39110	0-52191	0-50420	0-46441	0-54337
	St. Louis	Pound	0-04029	0-04158	0-04328	0-04901	0-06519
Zinc	Montreal	Pound	0-04488	0-04059	0-03992	0-04153	0-05393
	London	Long ton	15-660	13-657	14-082	14-920	22-258

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

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

Metal Prices by Months, 1936-1937

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)	
	1936	1937	1936	1937	1936	1937	1936	1937	1936	1937
January	9-025	12-415	38-788	56-497	4-362	6-670	4-500	0-000	15-397	27-272
February	9-025	13-427	39-463	64-013	4-510	6-793	4-515	6-239	16-022	28-310
March	9-025	15-775	40-227	78-187	4-614	7-690	4-600	7-190	16-608	33-027
April	9-169	15-121	41-131	66-614	4-368	6-248	4-600	6-175	16-097	26-014
May	9-275	13-775	40-839	63-684	4-130	5-843	4-600	6-000	15-530	24-000
June	9-275	13-775	40-357	61-409	4-093	5-632	4-600	6-000	15-170	22-878
July	9-352	13-775	41-228	62-807	4-213	5-882	4-600	6-000	15-850	23-932
August	9-525	13-775	42-375	63-595	4-412	5-705	4-600	6-452	16-772	22-606
September	9-525	13-530	43-267	58-966	4-695	5-317	4-600	6-400	18-009	20-990
October	9-563	11-838	45-295	50-619	4-676	4-825	4-631	5-740	18-446	18-259
November	10-161	10-797	48-467	44-023	5-384	4-576	5-114	6-033	21-723	16-706
December	10-763	10-006	50-364	43-880	6-246	4-402	5-554	4-875	25-560	15-905
Average	9-474	13-167	42-650	59-339	4-642	5-799	4-710	6-009	17-599	23-326

Transposed into Canadian funds the average price of copper, based on the London market, was 9-47695 cents per pound in 1936 and 13-078 cents in 1937; the average price of lead, based on the same market, was 3-91277 cents per pound in 1936 and 5-110 cents in 1937.

Metal Prices by Months, 1936-1937

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)	
	1936	1937	1936	1937	1936	1937	1936	1937	1936	1937
January	47-250	44-913	20-250	26-734	4-221	5-36	4-848	5-847	14-488	21-153
February	44-750	44-750	19-790	20-083	4-400	6-196	4-859	6-465	15-125	25-122
March	44-750	45-130	19-663	20-677	4-548	7-779	4-900	7-381	15-983	33-188
April	44-892	45-460	20-245	20-740	4-255	6-327	4-900	7-010	15-181	26-216
May	44-809	45-025	20-248	20-346	3-980	5-688	4-900	6-750	14-536	23-092
June	44-750	44-818	19-770	20-022	3-886	5-334	4-880	6-750	13-896	21-409
July	44-750	44-750	19-580	19-986	3-796	5-579	4-783	6-923	13-579	22-568
August	44-750	44-750	19-490	19-848	3-807	5-993	4-800	7-192	13-528	24-140
September	44-750	44-750	19-579	19-889	3-891	5-438	4-850	7-190	13-906	21-406
October	44-750	44-750	19-977	19-942	3-914	4-750	4-850	6-085	14-554	17-722
November	45-431	44-750	21-050	19-707	4-388	4-371	4-974	5-630	16-301	15-808
December	45-352	44-750	21-238	18-835	4-768	4-298	5-273	5-010	17-957	15-274
Average	45-087	44-883	20-075	20-067	4-153	5-593	4-901	6-519	14-920	22-258

The average price of silver in Canadian funds based on the New York market in 1936 was 45-12654 cents per fine ounce and in 1937 it was 44-881 cents.

The average price of zinc in Canadian funds based on the London market in 1936 was 3-31501 cents per pound and in 1937 it was 4-902 cents.

Table showing the amount paid in Canadian dollars for one £ Sterling and one United States dollar, by months, 1936-1937

	London		New York	
	1936	1937	1936	1937
January.....	4-966	4-910	1-001	1-000
February.....	4-994	4-896	0-999	1-000
March.....	4-978	4-883	1-001	0-999
April.....	4-967	4-91	1-005	0-999
May.....	4-980	4-931	1-002	0-998
June.....	5-033	4-938	1-003	1-000
July.....	5-027	4-974	1-001	1-001
August.....	5-027	4-982	1-000	1-000
September.....	5-039	4-953	1-000	1-000
October.....	4-897	4-954	1-000	1-000
November.....	4-882	4-990	0-999	0-999
December.....	4-904	4-998	0-999	1-000
Average.....	4-975	4-943	1-001	0-999

General Statistics on the Mineral Industry in Canada, 1936, with Comparative Totals for 1935

Industries	No. of plants	Capital employed \$	No. of employees	Salaries and wages \$	Net income from sales (a) \$
METAL MINING—					
Alluvial gold.....	85	10,985,524	853	1,519,659	2,893,981
Auriferous quartz.....	607	250,018,578	25,097	39,826,742	88,210,233
Copper-gold-silver.....	28	40,732,717	3,738	5,473,325	15,619,897
Silver-cobalt.....	25	5,946,702	363	458,546	915,376
Silver-lead-zinc.....	89	19,372,600	1,870	2,917,832	13,814,645
Nickel-copper.....	9	30,131,192	4,406	7,331,542	18,710,379
Miscellaneous.....	11	770,957	113	142,974	3,147
Smelting and refining.....	14	143,858,717	10,015	14,346,050	*71,276,045
Total..... 1936	868	507,796,987	46,455	72,016,670	211,414,303
Total..... 1935	619	437,471,769	38,603	59,528,356	173,588,815
NON-METAL MINING, INCLUDING FUELS—					
Coal.....	553	109,703,043	26,918	28,873,135	34,852,621
Natural gas.....	3,253	77,666,588	2,075	2,456,918	9,062,657
Crude petroleum.....	2,266	33,289,876	1,052	1,298,592	3,439,317
Abrasives.....	8	77,279	30	17,442	34,846
Asbestos.....	11	18,877,326	2,647	2,642,924	7,558,708
Feldspar and quartz.....	34	1,400,024	324	235,848	628,769
Gypsum.....	14	8,954,654	514	440,297	1,060,102
Iron oxides (ochre).....	6	167,499	39	30,281	58,211
Mica.....	22	221,800	101	44,550	69,732
Salt.....	9	3,856,187	506	640,644	1,560,447
Talc and soapstone.....	7	647,929	85	70,935	143,878
Miscellaneous.....	41	2,195,621	477	526,248	1,006,184
Total..... 1936	6,224	257,057,806	24,768	37,280,814	59,475,472
Total..... 1935	6,181	244,237,709	32,755	33,150,704	45,739,144
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS—					
Brick, tile, sewer pipe, etc.....	136	19,487,227	1,651	1,397,395	2,506,008
Stoneware and pottery.....	4	376,204	124	190,753	198,665
Cement.....	9	53,343,891	1,052	1,196,664	4,739,121
Lime.....	57	6,106,901	790	640,322	2,495,991
Sand and gravel.....	5,374	2,994,127	3,638	2,090,388	6,820,340
Stone.....	558	11,899,852	2,512	2,043,216	4,292,449
Total..... 1936	6,138	94,208,392	9,776	7,468,738	21,052,574
Total..... 1935	6,098	95,796,621	8,898	7,401,505	19,253,309
Grand Total..... 1936	13,230	859,063,095	90,999	116,766,222	291,972,349
Grand Total..... 1935	12,898	777,509,099	80,256	100,080,559	238,581,268
PROVINCES					
Nova Scotia and Prince Edward Island.....	365	55,513,999	15,368	15,980,687	19,136,304
New Brunswick.....	423	5,257,820	1,744	1,248,431	2,324,747
Quebec.....	4,011	140,537,708	14,225	15,774,362	44,823,557
Ontario.....	6,297	384,535,066	31,105	46,899,805	151,874,482
Manitoba.....	274	41,722,791	2,932	3,752,367	9,366,496
Saskatchewan.....	219	14,974,371	1,828	1,937,825	5,729,747
Alberta.....	594	104,118,831	10,376	11,850,463	20,104,417
British Columbia.....	1,029	103,483,250	12,827	17,908,553	30,694,755
Yukon and Northwest Territories.....	18	8,922,650	594	1,413,729	1,926,864
Canada..... 1936	12,230	859,063,095	90,999	116,766,222	291,972,349
Canada..... 1935	12,498	777,509,099	80,256	100,080,559	238,581,268

* Value added by smelting.

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

Antimony

No commercial production of metallic antimony has occurred in Canada since 1917 and no by-product output of the metal since 1926 in which year it was reported as being contained in silver-lead-bismuth bullion produced from the cobalt-silver ores of Northern Ontario. The greater part of the refined antimony made in this country was produced at Trail, British Columbia, during 1907, 1909, 1915, and 1916 by the Consolidated Mining and Smelting Company of Canada, Limited, the metal being recovered in the treatment of silver-lead ores. It was recently announced that the metal would again be produced at Trail in 1938.

Minerals containing antimony occur in Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, and British Columbia, also in Yukon Territory. No commercial shipments of antimony ores have been made in Canada for many years.

China is the world's chief source of antimony, production totalling 17,311 metric tons in 1936, of which it is estimated that 95 per cent came from Hunan province.

The average price during 1937 was 15.355 cents per pound as against 12.24 cents per pound in 1936.

Imports of antimony or regulus of, not ground, into Canada totalled 1,176,790 pounds valued at \$136,836 in 1937 compared with 1,279,535 pounds valued at \$109,656 in 1936. Antimony and titanium oxide imports totalled 5,630,451 pounds worth \$526,745 and antimony salts, namely tartar emetic, chloride and lactate (antimonine) totalled 53,293 pounds valued at \$10,340. Imports of antimony salts for dyeing amounted to 336 pounds worth \$42 during 1937.

Arsenic

The Deloro Smelting and Refining Company, Limited, Deloro, Ontario, produces refined white arsenic in the treatment of the silver-cobalt-nickel-arsenic ores of the Cobalt district of Ontario. Arsenical gold ores occur in Nova Scotia, Quebec, Manitoba, and British Columbia, but no commercial production was reported for 1937. The O'Brien Gold Mines, Ltd., western Quebec, is equipped with a roasting plant for the purpose of removing the arsenic. The calcines are cyanided. The Beatty Gold Mine in the same district also operates a roasting plant. The chief uses of arsenic are in the manufacture of Paris green, lead arsenate, lime arsenate, weed killers, grasshopper poison, cattle dips, and in the manufacture of glass.

Production in Canada, Imports and Exports of Arsenic, 1936 and 1937

	1936		1937	
	Quantity	Value	Quantity	Value
PRODUCTION—	lb.	\$	lb.	\$
White arsenic and arsenic in other forms... Total	1,365,606	42,491	1,289,426	41,032
IMPORTS—				
White arsenic (arsenious oxide).....	529	90	7,604	462
Sulphide of arsenic.....	17,949	2,307	24,647	3,377
Soda, arseniate, biarseniate and stannate of.....	6,520	1,863	18,510	5,908
Arsenate of lead.....	223,300	20,096	237,992	19,565
Arsenate of lime.....	276,552	16,372	71,168	4,305
Total	524,850	40,728	359,921	33,617
EXPORTS—				
Arsenic, n.o.p..... Total	688,400	23,001	735,000	26,938

Bismuth

The Canadian production of bismuth in 1937 totalled 5,711 pounds valued at \$5,654 and represented bismuth in the lead-silver-bismuth bullion recovered by the Deloro Smelting and Refining Company, Limited, Deloro, Ontario, in the treatment of the silver-cobalt ores of Northern Ontario. In 1936 production totalled 364,165 pounds valued at \$360,523 and consisted of bismuth in the silver-lead-bismuth bullion made at Deloro, Ontario, and metallic bismuth produced at Trail, British Columbia, by the Consolidated Mining and Smelting Company, Limited, in the treatment of the lead ores. No metallic bismuth was produced in 1937 though a considerable quantity was sold from stock.

The chief bismuth producing countries include Germany, Peru, the United States, Japan, Mexico, Canada, and Spain, and the greater part of the world's production is recovered as a by-product in the treatment of lead, copper, silver, gold and tin ores.

The average yearly price of bismuth in 1937 was 99 cents per pound (London prices in Canadian funds).

Cadmium

Cadmium is produced at Trail, British Columbia, by the Consolidated Mining and Smelting Company, Limited, and at Flin Flon, Manitoba, by the Hudson Bay Mining and Smelting Company, Limited, as a by-product in the electrolytic refining of zinc. Production totalled 744,431 pounds valued at \$1,220,867 in 1937 compared with 785,916 pounds worth \$699,465 in the preceding year. Cadmium alloys are used in the manufacture of bearings for automobiles, and the use of cadmium-copper alloy for tramway trolley wires and for overhead telegraph and telephone lines is increasing.

The average price was \$1.64 per pound in 1937 compared with 89 cents in 1936 (London prices in Canadian funds). World production of cadmium in 1936 was estimated at 3,665 metric tons.

Chromite

A small quantity of chromite is produced annually in Thetford-Black Lake area of the Eastern Townships of Quebec and considerable preliminary work has been done on a property near Obonga Lake, northwestern Ontario.

Cobalt

Canadian production of cobalt includes the cobalt in ores and concentrates exported from northern Ontario, cobalt metal produced by the Deloro Smelting and Refining Company, Limited, Deloro, Ontario, and in cobalt oxide produced by the same company. This metal is also produced from ores mined in the Belgian Congo, Northern Rhodesia, French Morocco, and from cobaltiferous nickel speiss from British India.

The oxide is used as a colouring material in the ceramic industry and the metal is one of the chief constituents in the alloy "stellite" a cobalt-chromium-tungsten alloy which is used as a cutting tool on the lathe. This alloy has also been used in many other ways where hardness and resistance to wear is of prime importance.

Production in Canada and Exports of Cobalt, 1936 and 1937

	1936		1937	
	Pounds	\$	Pounds	\$
PRODUCTION—				
Cobalt, computed as cobalt in metal, in oxides sold and in ores and residues exported..... Total	887,591	804,676	507,064	848,247
IMPORTS—				
Cobalt oxide.....	410	610	617	871
EXPORTS—				
Cobalt alloys, cobalt metallic, cobalt oxides and cobalt ores. Total	-	842,947	-	909,140

Copper

Canadian copper production in 1937 was the greatest ever recorded. Owing to improvement in prices at the beginning of the year, several properties which had been closed down were re-opened. The nickel-copper mines of the Sudbury district of Ontario are responsible for 61 per cent of the total Canadian production. In Quebec the Noranda increased its output, the Waite-Amulet started shipping concentrates to the Noranda smelter in July, and the Normetal Mining Corporation to the same smelter in September. The Aldermac reported an increase in exports of copper concentrates each month and the Consolidated Copper and Sulphur Co. Ltd., at Eustis in the Eastern Townships, maintained steady production throughout the year. In British Columbia the Britannia copper mine exported more copper concentrates than in 1936 and the Granby Consolidated Mining, Smelting and Power Company, Limited, re-opened its copper mine near Allenby. The Hudson Bay Mining and Smelting Company, Limited, at Flin Flon, Manitoba, reported a greater production, and the Sherritt-Gordon mines, after a shutdown of several years, began shipping copper concentrates to the Hudson Bay smelter in August.

The average price for the red metal on the London market, transposed to Canadian funds, was 13.078 cents per pound as against 9.477 cents in 1936. In January the average price was 12.34 cents, rising to 16.603 cents in March. In April the price averaged 14.601 cents and in June, 13.541 cents. A slight rise occurred during the remaining summer and early autumn months but in November reached a low point of 9.787 cents. The average December price was only slightly improved.

Production in Canada, Imports and Exports of Copper, 1936 and 1937

	1936		1937	
	Pounds	Value \$	Pounds	Value \$
PRODUCTION—				
By Provinces—				
Nova Scotia.....	779,307	73,855	188,531	24,656
Quebec.....	66,340,175	6,287,058	94,653,135	12,378,737
Ontario.....	287,914,078	26,898,920	322,039,208	41,716,364
Manitoba.....	29,853,220	2,829,190	45,952,000	6,009,603
Saskatchewan.....	14,971,609	1,418,859	22,400,000	2,929,472
British Columbia*.....	21,160,343	2,006,219	45,809,004	5,990,902
Total.....	421,027,732	39,514,101	531,041,878	69,049,734
By Sources—				
In blister and anode copper produced.....	382,310,369	36,231,553	464,022,377	60,884,847
In ores, concentrates and copper matte exported.....	13,894,160	930,053	54,026,509	7,065,588
In nickel-copper matte exported.....	24,823,203	2,352,495	12,992,992	1,299,299
Total.....	421,027,732	39,514,101	531,041,878	69,049,734
IMPORTS—				
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.....	742,400	93,489	1,048,800	158,528
Copper bars for use only in the manufacture of electrical conductors, and copper rods for such manufacture, individual units of conductors not to exceed area of No. 7-0 gungo conductor.....	18,700	1,858	7,400	825
Copper in bars or rods, in lengths of not less than 6 feet, unmanufactured.....	165,500	30,723	333,500	61,180
Copper in blocks, pigs or ingots.....	189,300	19,858	15,500	1,941
Copper, scrap, cathode plates, etc.....	7,000	316	4,600	455
Copper in strips, sheets or plates not polished or coated.....	378,700	71,262	707,300	155,463
Copper tubings in lengths of not less than 6 feet, and not polished, bent or otherwise manufactured.....	431,244	109,253	675,896	193,637
Copper wire.....	21,055	5,017	37,576	6,831
Copper wire cloth, or woven wire of copper.....	-	6,263	-	7,523
Copper, manufactures of, n.o.p.....	-	388,399	-	536,135
Copper, precipitate of, crude.....	-	-	246	33
Anodes of nickel, zinc, copper, silver or gold.....	-	6,384	-	7,098
Copper, sub-acetate of, or verdigris, dry.....	7,015	1,212	-	-
Copper, sulphate of (blue vitriol).....	4,542,122	149,889	5,665,495	238,636
Copper rollers adapted for use in calico printing.....	-	78,621	-	124,315
Copper, sulphate of, dehydrated, for agricultural or spraying purposes.....	7,000	583	-	-
Total.....	-	960,127	-	1,492,600
EXPORTS—				
Copper, fine, contained in ore, matte, regulus, etc.....	45,519,600	2,971,042	73,767,600	7,409,381
Copper, blister.....	-	-	10,884,300	1,333,073
Copper, old and scrap.....	8,108,700	535,753	5,551,000	549,638
Copper in ingots, bars, cakes, slabs and billets.....	310,860,400	27,460,714	296,141,300	38,705,380
Copper in rods, strips, sheets, plates, and tubing.....	48,152,900	4,789,923	51,224,800	7,310,329
Copper wire and cable.....	-	469,789	-	436,834
Copper manufactures, n.o.p.....	-	294,433	-	410,647
Total.....	-	36,501,654	-	56,155,282
Copper coin, foreign.....	-	3,048	-	2,382
Copper coin, Canadian.....	-	570	-	113

*Includes a small production from the N.W.T.

Gold

Gold mining is now one of Canada's leading industries and gold-bearing ores are mined in every province of the Dominion except Prince Edward Island, New Brunswick, and Alberta. Gold production from all sources totalled 4,095,872 fine ounces valued at \$143,314,561 in 1937 compared with 3,748,028 fine ounces worth \$131,293,421 during 1936. The value of Canadian gold production is 31.4 per cent of all minerals produced and 43 per cent of all metals produced.

Nova Scotia's gold mines increased their output to 19,639 fine ounces, an increase of 65 per cent over 1936. It is of interest to note that the Government of Nova Scotia, in co-operation with the Youth Employment Commission of the Department of Labour at Ottawa, has established an apprenticeship system to train unemployed youth in the various branches of hard rock mining. A gold mine equipped with a mill has been taken over for the project.

Gold is now the most valuable mineral product of Quebec. The Noranda copper-gold mine is the largest single producer of the yellow metal in the province, in fact it is the third largest gold producer in Canada, being exceeded only by the Hollinger and the Lake Shore, but there are many important auriferous quartz mines in Quebec and it is expected several others will reach the production stage in 1938.

Ontario is the premier gold producing province. Production reached 2,587,385 fine ounces in 1937, an increase of 9 per cent over 1936. The Porcupine Camp with an output of 1,120,525 fine ounces continued to lead all other districts; Kirkland Lake with a production of 999,489 fine ounces was next. The balance was made up from mines in the Matachewan area, Sudbury, Algoma, Thunder Bay, Kenora, Rainy River, and Patricia districts. Many new properties came into production during the year and several will join the ranks of the producers in 1938.

Output from Manitoba mines was a record also. Production came from the two base metal mines, the Flin Flon and the Sherritt-Gordon, and six straight gold mines. Central Manitoba Mines, Ltd., after many years of operation closed down in July. A new property, the Gurney Gold Mine, began production in October.

Saskatchewan's production is made up of the gold in ores mined by the Hudson Bay Mining and Smelting Company, Limited, on the Saskatchewan side of the boundary and the Monarch Gold Mining Syndicate. It is expected that the 1,000 ton mill now under construction by the Consolidated Mining and Smelting Company, Limited, at the Box property, Lake Athabasca, will be in production during 1938.

Production in British Columbia reached 503,403 fine ounces worth \$17,614,071 compared with 451,938 fine ounces worth \$15,831,388 in 1936. Considerable interest centred on a new find in the Zeballos river district, Vancouver Island, where very high grade ore was discovered. It has also been reported that the underground mill, 500-700 tons capacity, which is being built by the Consolidated Mining and Smelting Company, Limited, at their Big Missouri property, will likely be completed early in the new year.

Gold production of the Yukon, principally placer, was slightly less than in 1937.

In the Northwest Territories, in the Gordon Lake and Yellow Knife areas, extensive development work was conducted on gold bearing deposits.

Production of New Gold in Canada, by Provinces and Sources, 1936 and 1937

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

	1936		1937	
	Fine troy ounces	\$	Fine troy ounces	\$
NOVA SCOTIA—				
In gold bullion and ores exported	11,960	247,235	19,630	405,974
Estimated exchange equalization on gold produced	-	171,724	-	281,195
Total value—Canadian funds	-	418,959	-	687,169
QUEBEC—				
In blister copper, in ores shipped and in gold bullion	666,905	13,788,150	712,004	14,718,428
Estimated exchange equalization on gold produced	-	9,575,533	-	10,194,592
Total value—Canadian funds	-	23,363,683	-	24,913,020
ONTARIO—				
*Porcupine area—In gold bullion	1,023,251	21,154,542	1,120,525	23,163,307
*Kirkland Lake—In gold bullion	965,165	19,951,731	990,489	20,661,270
*Other gold mines—In gold bullion	316,010	6,544,909	391,921	8,101,726
Copper-nickel and other ores	73,377	1,516,837	75,450	1,550,690
Total	2,378,603	49,168,019	2,587,385	53,486,993
Estimated exchange equalization on gold produced	-	34,150,941	-	37,040,608
Total Value—Canadian funds	-	83,318,960	-	90,532,601
MANITOTA—				
In gold bullion, ores shipped and in blister copper	139,273	2,879,025	160,305	3,315,659
Estimated exchange equalization on gold produced	-	1,999,705	-	2,296,562
Total Value—Canadian funds	-	4,878,733	-	5,612,221
SASKATCHEWAN—				
In ores shipped to Canadian smelters and crude gold to Royal Canadian Mint	48,981	1,012,527	65,018	1,344,042
Estimated exchange equalization on gold produced	-	703,277	-	930,938
Total value—Canadian funds	-	1,715,804	-	2,274,980
ALBERTA—				
In alluvial gold	109	2,253	46	951
Estimated exchange equalization on gold produced	-	1,565	-	658
Total Value—Canadian funds	-	3,818	-	1,609
BRITISH COLUMBIA—				
In alluvial gold	34,711	717,540	40,000	826,873
In gold bullion	212,251	4,387,617	255,412	5,279,834
In base bullion and in matte and ores exported	204,976	4,237,230	207,991	4,209,556
Total	451,938	9,342,387	503,403	10,406,263
Estimated exchange equalization on gold produced	-	6,489,001	-	7,207,808
Total value—Canadian funds	-	15,831,388	-	17,614,071
YUKON AND NORTHWEST TERRITORIES—				
In alluvial gold	50,192	1,037,561	46,679	964,941
In ores shipped	167	3,452	1,303	26,935
Total	50,359	1,041,013	47,982	991,876
Estimated exchange equalization on gold produced	-	723,063	-	687,014
Total Value—Canadian funds	-	1,764,076	-	1,678,890
Total for Canada	3,748,628	77,478,612	4,695,872	84,669,186
Total estimated exchange equalization on gold produced	-	53,811,899	-	58,615,375
Grand total value including exchange	-	131,293,421	-	143,314,561

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

NOTE.—In 1936 the estimated average price of a troy ounce of fine gold in Canadian funds was \$35.03; in 1937 the corresponding price was \$34.99.

Imports into Canada and Exports of Gold, 1936 and 1937

	1936	1937
	\$	\$
IMPORTS—		
Coin and bullion—		
Coins, British, Canadian and foreign gold coins.....	863,855	1,217,772
Gold bullion in bars, blocks, ingots, drops, sheets or plates, unmanufactured.....	28,522	17,643
Total	892,377	1,235,415
Gold, other—		
Bullion, or gold fringe.....	8,633	3,435
Manufactures of gold and silver—		
Leaf.....	61,724	68,027
Sweepings.....	321	34
Manufactures, n.o.p.....	26,565	39,297
Electroplated ware.....	1,077,866	1,379,157
Gold, unmanufactured, for commercial purposes.....	135,764	137,669
Total	1,310,873	1,627,619
EXPORTS—		
Coin and bullion—		
Gold coin—		
Canadian.....	—	—
Foreign.....	4,746,207	12,030,499
Gold bullion—		
†Canadian.....	(a) 71,488,985	(a) 105,724,140
Foreign.....	—	—
Total—Canadian	71,488,985	105,724,140
Foreign	4,746,207	12,030,499
Total coin and fine gold bullion	76,235,192	117,754,639
*Gold-bearing quartz, dust, nuggets and crude bullion obtained direct from mining operations.....	5,891,517	7,101,093
Jewellers' sweepings (gold, silver and platinum).....	825,251	1,338,358
Total	6,716,768	8,439,451

* Total content in 1936—172,176 fine ounces of gold, and in 1937—211,359. (a) Non monetary.

† Metal content in 1936—2,039,237 fine ounces of gold, and in 1937—3,030,042 fine ounces.

Fine Gold and Fine Silver Content of Shipments to the Royal Canadian Mint, Ottawa, Canada, by Sources, 1937

	Gold	Silver
	Fine ounces	Fine ounces
British Columbia.....	298,591-999	50,602-40
Alberta sundries.....	45-736	4-19
Saskatchewan sundries.....	754-661	180-56
Manitoba.....	88,499-409	15,143-57
Ontario.....	2,565,456-794	381,276-01
Quebec.....	848,391-511	73,103-99
Nova Scotia.....	19,387-604	639-52
Jewellery and scrap.....	22,184-750	5,162-37
Vancouver Assay Office.....	89,827-890	17,803-37
Yukon sundries.....	21-449	2-12
Other—		
Foreign gold coin.....	270-202	0-99
Foreign mines.....	5-321	0-85
Total	3,033,446-326	549,919-94

PRODUCTION OF IRON AND STEEL IN CANADA

Production of pig iron in Canada during 1937 was 32 per cent greater than in the previous year and the output of steel ingots and castings was up 26 per cent. The tonnage of pig iron at 897,855 long tons was the greatest since 1929 when 1,080,160 tons were made, and the output of steel at 1,401,011 tons was higher than in any year since 1918 when the tonnage was 1,672,954.

The demand for primary iron and steel was supported by the general improvement in business and particularly by the advances made by the heavy manufacturing industries. The automobile trades with a gain of about 28 per cent in production took a larger tonnage of steel, as did the manufacturers of railway rolling stock, agricultural implements and industrial machinery. Consumption was also greater in the mining and construction industries. Exports of primary steel continued at about the 1936 level.

Production of Pig Iron and Ferro-Alloys in Canada, 1936 and 1937

(Tons of 2,240 pounds)

	1936			1937		
	For own use	For sale	Total	For own use	For sale	Total
Pig Iron—						
Basic.....	511,375	19,554	530,929	682,438	39,273	721,711
Foundry.....	2,107	82,936	85,043	72	105,670	105,742
Malleable.....	4,390	57,809	62,259	1,915	68,487	70,402
Total.....	517,872	160,359	678,231	684,425	213,430	897,855
Ferro-alloys.....	—	76,284	76,284	—	75,288	75,288

Production of Steel Ingots and Castings, 1936 and 1937

(Tons of 2,240 pounds)

	1936			1937		
	For own use	For sale	Total	For own use	For sale	Total
STEEL INGOTS—						
Open hearth—Basic.....	1,035,209	2,504	1,037,713	1,272,768	292	1,273,060
Electric.....	43,749	87	43,836	61,076	28	61,104
Other.....	—	—	—	—	—	—
Total Steel Ingots.....	1,078,958	2,591	1,081,549	1,333,844	320	1,334,164
STEEL INGOTS—						
Open hearth—Basic.....	2,213	7,995	10,208	2,254	21,504	23,758
Bessemer.....	—	575	575	—	980	980
Electric.....	370	23,077	23,447	5,112	36,997	42,109
Total Direct Steel Castings.....	2,583	31,647	34,230	7,366	59,481	66,847
Grand Total.....	1,081,541	34,238	1,115,779	1,341,210	59,801	1,401,011

Lead

British Columbia's mines account for 98 per cent of the total Canadian production of lead. The great Sullivan silver-lead-zinc mine at Kimberley, owned and operated by the Consolidated Mining and Smelting Company, Limited, is the chief source. The concentrates produced in the mill at Chapman camp, a short distance from the mine, are shipped by rail 200 miles to the Company's smelter. The Company also buys concentrates from other mines situated in the Kootenay district. Lead is also contained in the ores exported by the Britannia copper mine and by the Silbak Premier Mines. Production from the Mayo camp in the Yukon Territory showed a considerable increase over 1936. Concentrates were also exported from the Stirling mine in Nova Scotia and from the Tetreault property in Quebec.

The average price of lead on the London market, transposed to Canadian funds, increased to 5.11 cents per pound in 1937 from 3.913 cents in 1936.

Production in Canada, Imports and Exports of Lead, 1936 and 1937

	1936		1937	
	Pounds	Value	Pounds	Value
PRODUCTION—		\$		\$
Nova Scotia.....	1,901,712	74,414	435,692	22,264
Quebec.....	2,047,689	80,126	1,521,182	77,732
Ontario.....	17,442	683	29,849	1,525
Manitoba.....	—	—	—	—
British Columbia.....	376,645,367	14,738,133	402,789,532	20,582,545
Yukon and Northwest Territories.....	2,568,699	100,513	6,444,977	329,338
Total.....	383,180,909	14,993,849	411,221,232	21,013,404
IMPORTS—				
Old and scrap, pig and block.....	63,879	4,234	79,327	6,148
Bars and sheets.....	36,192	2,117	45,694	3,391
Litharge.....	1,968,600	124,001	2,560,500	194,421
Acetate of lead.....	128,569	8,637	177,352	13,552
Nitrate of lead.....	163,283	9,292	312,776	23,739
Other manufactures.....	—	79,823	—	88,183
Pipe lead.....	24,084	1,818	9,061	1,488
Shots and bullets.....	8,068	828	3,327	350
Tea lead.....	—	—	1,000	85
Lead arsenate.....	223,300	20,006	237,992	19,565
Lead tetraethyl compounds of.....	3,019,356	1,414,720	4,518,567	2,032,333
Lead capsules for bottles.....	—	63,964	—	90,044
Lead pigments—				
Dry white lead.....	21,302	1,458	42,818	3,360
White lead, ground in oil.....	15,137	1,348	15,116	1,499
Dry red lead and orange mineral.....	847,859	55,353	679,276	53,805
Total.....	—	1,787,689	—	2,532,563
EXPORTS—				
Lead, contained in ore.....	9,395,500	287,569	16,529,000	862,850
Pig lead.....	321,350,900	10,113,282	353,139,600	16,978,147
White lead.....	634,200	43,555	217,000	17,842
Total.....	—	10,444,404	369,886,200	17,858,839

Manganese Ore

Manganese ore production totalled 85 tons compared with 221 tons in 1936. This was mined in New Brunswick. The world's chief sources of manganese ore are Russia, Southern and Central India, Brazil, the Gold Coast of Africa, Union of South Africa, and Czechoslovakia.

Manganese ore is used to a very considerable degree in the production of ferro-manganese and spiegeleisen, the forms in which it is usually added in the making of steel. An extensive chemical use of manganese ore is in the manufacture of dry cells. Fine glassware is almost entirely decolorized by the addition of manganese oxide. Manganese compounds are used extensively as driers in the preparation of varnish and paint.

Imports of manganese oxide into Canada in 1937 totalled 77,226 tons valued at \$802,269 compared with 64,262 tons worth \$684,175 in 1936.

Molybdenite

The only production of molybdenite during 1937 was from the property of the Phoenix Molybdenite Corporation in Renfrew county, Ontario. Prospecting and development work was done on several molybdenite showings in Ontario, Quebec, Manitoba, and British Columbia. The use of molybdenite in iron and steel alloys is constantly growing and its consumption for chemical purposes also shows an upward trend.

The Climax⁷ Molybdenum Company at Climax, Colorado, U.S.A., is the leading world producer; Mexican output is principally by the Cananea Consolidated Copper Company as a by-product of copper production. Norway is the third largest world producer.

Nickel

Nickel production in Canada in 1937 was the greatest ever recorded. Practically all of this metal produced in Canada is derived from the copper-nickel ores of the Sudbury district, Ontario. Nickel sulphide made at Copper Cliff by the International Nickel Company of Canada, Limited, is shipped to the company's nickel refinery at Port Colborne, Ontario, to be reduced to nickel metal, nickel oxide and nickel salts. Nickel is also made at Clydach, Wales, from a nickel sulphide which has been partly processed at Port Colborne. This company also operates a smelter at Coniston, about eight miles east of Sudbury, producing various grades of matte. That part of the high-grade matte which is in the ratio of 1 of copper to 2 of nickel is shipped to Huntingdon, West Virginia, for the production of monel metal. Nickel-copper matte produced at the smelter of the Falconbridge Mines, Falconbridge, is shipped to the company's refinery at Kristiansand, Norway, for treatment. Development work was carried on at several other nickel deposits in Canada and the B.C. Nickel Mines, Ltd., at Choate, British Columbia, exported concentrates for experimental purposes.

Production in Canada, Imports and Exports of Nickel, 1936 and 1937

	1936		1937	
	Quantity	Value	Quantity	Value
	Lb.	\$	Lb.	\$
PRODUCTION—				
Nickel in matte and speiss exported.....	169,739,393	43,876,525	224,790,974*	59,507,176
Refined and electrolytic nickel produced.....				
Nickel in oxides and salts sold.....				
IMPORTS—				
Nickel, nickel silver and German silver in ingots or block, n.o.p....	10,008	2,603	20,061	5,636
Nickel in bars and rods, strips, sheets and plates.....	769,061	300,141	818,940	326,469
Nickel silver and German silver in bars, rods, strips, sheets, plates or anodes.....	101,585	27,920	97,327	25,785
Nickel chromium in bars or rods, etc.....	52,825	51,170	46,246	45,204
German, Nevada and nickel silver, manufactures of, not plated....	-	126,081	-	178,572
Nickel-plated household hollow-ware.....	-	2,212	-	2,115
Nickel kitchenware.....	-	1,473	-	1,344
Nickel-plated ware, n.o.p.....	-	665,649	-	887,535
Total nickel and its products.....	-	1,177,249	-	1,472,720
EXPORTS—				
Total (metal in all forms).....	173,637,500	44,594,296	222,770,000	58,913,217

*Does not include quantity produced in British Columbia.

Output from Canadian Nickel-Copper Mines and Smelters, 1934-1937

	Unit	1934	1935	1936	1937
Ore treated.....	tons	2,896,959	3,616,223	4,620,183	6,304,517
Refined nickel(*) produced in Ontario.....	"	35,487	40,191	51,952	73,650
Blister copper produced in Ontario (copper content).....	"	95,826	119,720	137,369	154,415
Matte exported.....	"	46,755	46,371	50,644	58,673
Nickel content of matte.....	"	28,771	28,949	32,766	38,663
Copper content of matte.....	"	6,692	6,272	6,495	6,497

(*) Includes nickel in salts and oxides.

NOTE:—In addition to the totals given for 1936 and 1937 a relatively small tonnage of nickel bearing ore was exported from British Columbia.

Metals of the Platinum Group

The nickel-copper bearing ores of the Sudbury district carry metals of the platinum group. These metals are recovered in the form of residues in the refineries of the International Nickel Company and are shipped to the precious metals refinery of the company at Acton, England. Platinum metals produced by the Falconbridge Nickel Mines are contained in the nickel-copper matte shipped to Norway. A small amount of stream platinum is recovered annually in British Columbia. Canada is the world's largest producer of platinum metals. Russia, Colombia, and the Union of South Africa are also important producers. The jewellery industry is the greatest consumer of platinum metals and platinum and palladium have been standard materials for dental purposes for many years.

Production of Platinum Group Metals, Canada, 1936 and 1937

	1936		1937	
	Platinum	Palladium, Rhodium, etc.	Platinum	Palladium, Rhodium, etc.
Produced from Canadian ores.....	Oz. 131,551	103,671	139,341	119,867
	\$ 5,319,922	2,483,075	6,751,072	3,181,668
Recovered from alluvial sands.....	Oz. 20	-	20	-
	\$ 809	-	969	-
Total	Oz. 131,571	103,671	139,361	119,867
	\$ 5,320,731	2,483,075	6,752,041	3,181,668

Imports into Canada and Exports of Platinum, 1936 and 1937

	1936		1937	
	Oz.	Value	Oz.	Value
IMPORTS—		\$		\$
Platinum retorts, pans, condensers, tubing and pipe.....	-	23,788	-	7,602
Platinum wire and bars, strips, sheets or plates, also platinum, palladium, iridium, osmium, ruthenium and rhodium in lumps, ingots, powder, sponge or scrap.....	-	140,868	-	295,646
Platinum crucibles.....	-	6,489	-	6,800
Total	-	171,145	-	310,048
EXPORTS—				
Platinum, and metals of the platinum group contained in concen- trates.....	-	6,841,940	-	8,374,795
Platinum, old and scrap.....	317	10,637	671	27,760
Total	-	6,852,577	-	8,402,555

Radium-Uranium

Canada is now one of the chief sources of the world's supply of radium. Pitchblende in association with silver was discovered by Gilbert Labine in the fall of 1930 at Echo Bay, Great Bear Lake, Northwest Territories. Because of the long distance from civilization much credit is due the owners of the property for overcoming the tremendous transportation problems, and freight costs have shown considerable reduction during the past year. A plant for the recovery of radium and uranium salts was established at Port Hope, Ontario, to which concentrates are being regularly shipped. Figures of production are not available for publication.

Selenium

Selenium is recovered as a by-product of the plants of the Canadian Copper Refiners Ltd., Montreal East, and the Ontario Refining Company, Limited, at Copper Cliff, Ontario. Production totalled 399,473 pounds valued at \$691,088 in 1937 compared with 350,857 pounds valued at \$621,017 in 1936. Production is credited to the provinces from whose ores the blister copper, electrolytically refined, was obtained. The principal use of selenium is in the manufacture of alloys, glass, and rubber goods. The average price of selenium in 1937, on the London market and transposed to Canadian funds, was \$1.73 per pound.

Silver

Canadian silver production consists of the silver in base bullion made at Trail, British Columbia, fine silver made at Deloro, Ontario, silver in blister copper produced, silver in crude gold bullion, and silver in ores, concentrates and matte exported for treatment in foreign smelters. Since silver is produced in association with practically every commercial metal, it is to be expected that any increase in output of these metals results in a large output of silver. Production increased 24 per cent over 1936. The silver-lead-zinc mines of British Columbia are mainly responsible for the large output from that province and the Sullivan mine at Kimberley

is the largest single silver producer in Canada. The nickel-copper mines of Ontario now produce more silver than the once famous Cobalt area. The Flin Flon ore body on the Manitoba-Saskatchewan boundary supplies the major production in these two provinces, and the Noranda mine is the largest single producer in Quebec. Silver-lead concentrates exported from the Mayo camp in Yukon were greater than in 1936, as were also those from the Silbak Premier in northern British Columbia. Concentrates were also exported from the Tetreault property in Quebec.

The average price of silver in 1937 was 44.881 cents per fine ounce compared with 45.1265 cents in 1936, New York prices, transposed to Canadian funds.

Production, Imports and Exports of Silver, 1936 and 1937

	1936		1937	
	Quantity	Value	Quantity	Value
	fine oz.	\$	fine oz.	\$
NOVA SCOTIA—				
In gold bullion and in silver-lead ores exported..... Total	107,642	48,576	28,994	12,609
QUEBEC—				
In gold ores, in blister copper, and in copper and silver-lead zinc ores exported..... Total	724,339	326,872	908,432	407,713
ONTARIO—				
In silver bullion and nuggets.....	1,863,183	840,798	1,561,584	700,855
In gold bullion.....	476,723	215,131	513,955	230,668
In blister copper produced; and in ores, concentrates, residues and matte exported or treated in smelters outside the province.....	2,879,460	1,299,414	2,619,681	1,175,739
Total	5,219,366	2,355,343	4,695,220	2,107,262
MANITOBA—				
In gold bullion and in blister copper..... Total	791,489	357,175	965,101	442,123
SASKATCHEWAN—				
In copper-gold-silver ores shipped to Canadian smelters..... Total	642,497	289,940	621,002	368,474
ALBERTA—				
In alluvial gold..... Total	9	4	4	2
BRITISH COLUMBIA—				
In alluvial gold.....	7,810	3,525	9,000	4,039
In gold bullion.....	53,272	24,040	77,678	34,863
In base bullion and in ores exported.....	9,687,633	4,371,738	11,076,011	4,971,024
Total	9,748,715	4,399,303	11,162,689	5,009,926
YUKON AND NORTHWEST TERRITORIES—				
In alluvial gold.....	11,293	5,096	10,503	4,714
In ores exported or shipped to Canadian smelters.....	1,089,137	491,495	4,071,987	1,827,548
Total	1,100,430	496,591	4,082,490	1,832,262
CANADA	18,334,487	8,273,804	22,683,032	10,180,371
IMPORTS—				
Silver in bars, etc., unmanufactured.....	-	2,389,842	-	870,388
Silver, manufactures of, n.o.p., and articles consisting wholly or in part of sterling or other silverware.....	-	158,747	-	422,891
Silver and other coin, except gold.....	-	-	-	-
Total	-	2,548,589	-	1,293,279
EXPORTS—				
Silver contained in ore, concentrates, etc.....	3,347,107	1,494,237	5,769,332	2,567,412
Silver bullion—Domestic.....	12,783,708	5,789,310	14,620,025	6,556,357
Total	16,130,815	7,283,547	20,389,357	9,123,769
Silver bullion—Foreign.....	3,093,263	1,410,827	670,550	303,753
Silver coin—Foreign.....	-	931,129	-	1,353,988
Silver coin—Canadian.....	-	65,446	-	58,288

Tellurium

Tellurium is produced at Copper Cliff, Ontario, and Montreal East, Quebec, in the refining of blister copper. It is used as a hardening and strengthening agent in lead and its alloys. It is also employed in the manufacture of rubber products, its function being to increase tensile strength and resistance to abrasion. Production totalled 51,622 pounds in 1937 valued at \$89,306 as compared with 35,591 pounds worth \$62,997 in 1936. The average price of tellurium in 1937 on the London market and transposed to Canadian funds was \$1.73 per pound.

Titanium Ore

Shipments of titanium ore (ilmenite) were entirely from deposits located near Baie St. Paul, Quebec. The utilization of titanium white and titanium pigments is increasing annually; consumption by the Canadian paint industry in 1936 amounted to 2,456,265 pounds worth \$269,130.

Zinc

The major part of Canada's zinc production comes from the ores of the Sullivan mine in East Kootenay, British Columbia, which is owned by the Consolidated Mining and Smelting Company of Canada, Limited. Concentrates are shipped to the company's smelter at Trail, where electrolytic zinc is produced. This company also exports zinc concentrates.

Refined zinc is made also at Flin Flon, Manitoba, by the Hudson Bay Mining and Smelting Company, Limited, from copper-gold-zinc ores. During the year concentrates were exported from the Stirling mine in Nova Scotia, the Tetreault property at Notre Dame des Anges, Quebec, and the Waite-Amulet Mines, Ltd., in western Quebec. Zinc concentrates were stored by the Normetal Mining Corporation awaiting the opening of navigation in 1938. Shipments of concentrates were made from the Lake Geneva Mines, northern Ontario; data relating to these were received too late for inclusion in the totals of this report.

The average price of zinc in Canadian funds for 1937, based on London quotations, was 4.902 cents per pound compared with 3.315 cents in 1936.

Production in Canada, Imports and Exports of Zinc, 1936 and 1937

	1936		1937	
	Pounds	Value \$	Pounds	Value \$
PRODUCTION—				
Nova Scotia	6,180,219	204,874	5,811,652	284,887
Quebec	6,896,123	228,606	8,566,927	419,951
Manitoba	36,744,951	1,218,095	36,200,000	1,774,524
Saskatchewan	27,692,809	918,019	32,700,000	1,602,954
British Columbia	256,668,574	8,475,413	287,139,494	14,075,578
Total	333,183,736	11,845,907	370,418,073	18,157,894
IMPORTS—				
Zinc dust	1,619,800	68,914	1,499,500	78,508
Zinc in blocks, pigs, bars and rods, and zinc plates, n.o.p.	11,400	1,238	19,400	2,805
Zinc in sheets and strips, and zinc plates for marine boilers	5,739,200	394,327	7,040,600	574,545
Zinc spelter	—	—	2,000	199
Zinc white (zinc oxide)	13,240,889	519,425	14,481,533	742,600
Zinc sulphate	832,886	12,830	976,592	19,064
Zinc, chloride of	1,935,034	60,724	1,284,296	44,703
Zinc, manufactures of n.o.p.	—	121,863	—	244,349
Lithopone	18,859,517	666,687	22,162,600	777,752
Total	—	1,845,988	—	2,484,425
EXPORTS—				
Zinc, contained in ore	39,132,000	727,253	65,695,800	2,618,641
Zinc, scrap, dross and ashes	5,007,100	63,875	6,393,800	133,303
Zinc, spelter	280,422,900	8,523,906	268,378,000	12,739,242
Total—Exports	324,562,000	9,315,034	340,467,600	15,491,186

FUELS

Coal

Coal production in Canada during 1937 advanced 3.6 per cent to 15,775,432 tons from the 1936 total of 15,229,182 tons. Nova Scotia's output increased 8.7 per cent to 7,227,708 tons in 1937. Production in Saskatchewan rose 2.6 per cent to 1,046,925 tons. An advance of 7.1 per cent was recorded in British Columbia's output during the year when 1,594,928 tons were mined compared with 1,489,171 tons in 1936. New Brunswick's production declined 4.8 per cent to 351,091 tons, due mainly to labour trouble at several of the principal mines during the last quarter of the year. Alberta mines produced, in the aggregate, 2.6 per cent less coal in 1937 than in 1936, although bituminous coal output increased 5.4 per cent but this increase was more than offset by the decline in sub-bituminous and lignite production.

The Canadian imports of coal during 1937 reached a total of 16,004,452 tons or 16.5 per cent above the preceding year's importations. Receipts of anthracite coal from the United States increased 18.8 per cent to 2,003,317 tons, on the other hand, imports from Great Britain declined 14.9 per cent to 1,134,855 tons and from Germany, 28.3 per cent to 258,257 tons. In May, 1937, the first importation of Russian anthracite coal into Canada since 1930 was recorded and, to the end of December, 154,495 tons were received. During 1936, Canada imported 88,702 tons of anthracite coal from French Indo-China; none was imported from this source in 1937. Belgium shipped 8,131 tons of anthracite coal to Canada during the year; in addition, there was a trial shipment of 78 tons from Morocco in November. Bituminous coal imports in 1937 included 12,333,378 tons from the United States, 56,073 tons from Great Britain, 54,061 tons from Germany, and 313 tons from other countries. The United States shipped 1,494 tons of lignite coal into Canada during the year.

Exports of Canadian coal in 1937 were recorded at 355,268 tons compared with 411,574 tons in 1936. The 1937 total included 345,426 tons of bituminous coal and 9,842 tons of lignite coal.

Output and Value of Coal in Canada, by Kinds and by Provinces, 1936 and 1937

(Short tons)

Province	1936		1937	
	Quantity	Value	Quantity	Value
		\$		\$
NOVA SCOTIA (Bituminous).....	6,649,102	22,973,281	7,227,708	25,629,464
NEW BRUNSWICK (Bituminous).....	368,618	1,190,032	351,091	1,134,739
MANITOBA (Lignite).....	4,029	9,525	3,180	7,727
SASKATCHEWAN (Lignite).....	1,020,792	1,463,686	1,046,925	1,491,602
ALBERTA—				
Bituminous.....	2,288,734	6,597,323	2,413,230	6,973,608
Sub-bituminous.....	566,235	1,432,741	505,893	1,314,211
Lignite.....	2,841,991	6,629,641	2,632,333	6,253,818
Total.....	5,696,960	14,659,705	5,551,456	14,541,637
BRITISH COLUMBIA (Bituminous).....	1,489,171	5,493,435	1,594,928	5,856,578
YUKON (Bituminous).....	510	2,286	84	812
Canada—				
Bituminous.....	10,796,135	36,256,347	11,587,101	39,595,291
Sub-bituminous.....	566,235	1,432,741	505,893	1,314,211
Lignite.....	3,866,812	8,102,846	3,682,438	7,753,147
Total.....	15,229,182	46,791,934	15,775,432	48,662,559

Shipments of Coal from Canadian Mines, by Grades and Destinations, 1936 and 1937

(Short tons)

Destination	1936					
	Run-of-mine	Cobble	Lump	Nut and other grades	Slack	Total
Prince Edward Island.....	5,948	-	49,073	4,343	11,333	70,697
Nova Scotia.....	151,325	-	332,637	20,705	841,965	1,346,632
New Brunswick.....	171,060	-	99,840	12,582	299,313	582,795
Quebec.....	39,804	-	1,104,770	154,069	1,590,045	2,889,288
Ontario.....	1,284	135	77,384	21,307	30,205	130,315
Manitoba.....	54,640	83,378	251,452	278,937	318,231	986,638
Saskatchewan.....	208,006	107,490	787,417	423,666	247,854	1,774,433
Alberta.....	227,574	-	512,553	302,730	283,165	1,326,022
British Columbia.....	29,856	-	238,926	223,576	205,887	698,245
Yukon.....	-	-	-	75	-	75
Total domestic shipments.....	889,497	191,003	3,454,052	1,442,590	3,827,998	9,805,140
Railroads—						
In Canada.....	2,663,368	-	565,104	27,832	64,996	3,321,360
In United States.....	11,638	-	326	463	-	12,427
In Newfoundland.....	-	-	6,386	-	-	6,386
Ships' bunkers.....	278,194	-	96,174	44,073	2,141	420,582
Total railroads and ships' bunkers.....	2,953,200	-	668,050	72,368	67,137	3,760,755
United States.....	2,682	-	23,889	27,428	110,367	164,366
Alaska.....	-	-	12,588	125	-	12,713
Newfoundland.....	11,839	-	91,632	-	248	103,719
Other countries.....	151	-	3,464	-	-	3,615
Lost at sea.....	-	-	-	-	-	-
Total external shipments.....	14,672	-	131,573	27,553	110,615	284,413
Total.....	3,857,369	191,003	4,253,675	1,542,511	4,005,750	13,856,308

Destination	1937					
	Run-of-mine	Cobble	Lump	Nut and other grades	Slack	Total
Prince Edward Island.....	7,828	-	45,960	4,297	12,023	70,108
Nova Scotia.....	187,080	-	405,687	29,199	936,112	1,558,078
New Brunswick.....	208,705	-	96,662	16,331	340,321	662,019
Quebec.....	54,387	-	1,052,632	134,777	1,699,583	2,941,379
Ontario.....	5,687	492	55,363	46,335	90,855	198,732
Manitoba.....	49,236	91,515	238,351	323,293	280,178	982,573
Saskatchewan.....	216,711	115,591	663,694	383,914	220,090	1,600,000
Alberta.....	259,120	-	462,179	288,809	279,114	1,289,222
British Columbia.....	43,064	-	262,563	252,489	215,946	774,062
Yukon.....	-	-	-	26	-	26
Northwest Territories.....	-	-	82	-	-	82
Total domestic shipments.....	1,031,818	207,598	3,283,173	1,479,469	4,074,222	10,076,280
Railroads—						
In Canada.....	2,773,430	-	553,937	30,660	72,212	3,430,239
In United States.....	13,118	-	140	274	526	14,058
In Newfoundland.....	-	-	9,280	-	-	9,280
Ships' bunkers.....	309,350	-	129,963	57,510	2,064	498,917
Total railroads and ships' bunkers.....	3,095,898	-	693,320	88,444	74,832	3,952,494
United States.....	1,308	-	23,019	47,655	110,627	182,609
Alaska.....	-	-	13,123	157	-	13,280
Newfoundland.....	13,796	-	104,656	11	41,090	160,153
St. Pierre.....	1,145	-	3,440	-	-	4,585
Lost at sea.....	-	-	-	-	-	-
Total external shipments.....	16,249	-	144,238	47,833	152,317	360,627
Total.....	4,143,965	207,598	4,120,731	1,615,736	4,301,371	14,389,401

Output, Exports, Interprovincial Shipments, Imports and Coal made Available for Consumption in Canada, by Provinces, 1937

(Short tons)

Province	Canadian coal				Imported from U.S.A.	Imported from Great Britain	Imported from Germany	Imported from other countries	Coal available for consumption
	Output	Received direct from mines in other provinces	Shipped direct to other provinces	Exported					
PRINCE EDWARD ISLAND—									
Anthracite.....	-	-	-	-	1,153	1,894	4,027	-	7,074
Bituminous.....	-	82,115	-	11	2,509	4,440	-	-	89,053
Total.....	-	82,115	-	11	3,662	6,334	4,027	-	96,127
NOVA SCOTIA—									
Anthracite.....	-	-	-	-	8,606	51,962	13,169	-	73,737
Bituminous.....	7,227,768	323	4,085,203	119,382	2,773	32,321	6,955	-	3,065,555
Total.....	7,227,768	323	4,085,203	119,382	11,379	84,283	20,124	-	3,139,292
NEW BRUNSWICK—									
Anthracite.....	-	-	-	-	20,352	72,351	4,927	-	97,630
Bituminous.....	351,091	619,494	38,048	84,942	13,768	14,862	-	-	876,225
Total.....	351,091	619,494	38,048	84,942	34,120	87,213	4,927	-	973,855
QUEBEC—									
Anthracite.....	-	-	-	-	362,125	981,982	236,061	162,704	1,742,875
Bituminous.....	-	3,315,791	-	75	1,136,983	3,731	38,382	313	4,495,125
Total.....	-	3,315,791	-	75	1,499,111	985,713	274,443	163,017	6,238,000
CENTRAL ONTARIO—									
Anthracite.....	-	-	-	-	1,584,285	26,607	73	-	1,610,965
Bituminous.....	-	114,606	-	1	10,212,602	52	8,724	-	10,335,983
Sub-bituminous.....	-	18,367	-	-	-	-	-	-	18,367
Lignite.....	-	46,018	-	-	-	-	-	-	46,018
Total.....	-	177,991	-	1	11,796,887	26,659	8,797	-	12,010,333
MANITOBA AND HEAD OF LAKES—									
Anthracite.....	-	-	-	-	26,632	59	-	-	26,691
Bituminous.....	-	230,943	-	657	960,167	667	-	-	1,191,120
Sub-bituminous.....	-	71,936	-	-	-	-	-	-	71,936
Lignite.....	3,180	697,682	-	237	124	-	-	-	700,749
Total.....	3,180	1,000,561	-	894	986,923	726	-	-	1,990,496
SASKATCHEWAN—									
Anthracite.....	-	-	-	-	66	-	-	-	66
Bituminous.....	-	59,453	-	253	743	-	-	-	59,943
Sub-bituminous.....	-	17,788	-	-	-	-	-	-	17,788
Lignite.....	1,046,925	1,018,857	491,273	1,950	125	-	-	-	1,572,684
Total.....	1,046,925	1,090,098	491,273	2,203	934	-	-	-	1,650,481
ALBERTA—									
Anthracite.....	-	-	-	-	34	-	-	-	34
Bituminous.....	2,413,230	11,384	353,938	565	1,293	-	-	-	2,071,404
Sub-bituminous.....	505,893	-	155,239	-	-	-	-	-	350,654
Lignite.....	2,632,333	-	1,348,075	1,566	28	-	-	-	1,282,730
Total.....	5,551,456	11,384	1,857,252	2,121	1,355	-	-	-	3,704,822
BRITISH COLUMBIA—									
Anthracite.....	-	-	-	-	61	-	-	-	61
Bituminous.....	1,594,928	144,429	101,349	139,540	2,477	-	-	-	1,500,945
Sub-bituminous.....	-	47,066	-	-	-	-	-	-	47,066
Lignite.....	-	77,791	-	6,099	1,217	-	-	-	72,909
Total.....	1,594,928	269,286	101,349	145,639	3,755	-	-	-	1,620,981
YUKON—									
Bituminous.....	84	-	-	-	63	-	-	-	147
Total.....	84	-	-	-	63	-	-	-	147
NORTHWEST TERRITORIES—									
Sub-bituminous.....	-	82	-	-	-	-	-	-	82
Total.....	-	82	-	-	-	-	-	-	82
CANADA—									
Anthracite.....	-	-	-	-	2,003,317	1,134,855	258,257	(a) 162,704	3,559,133
Bituminous.....	11,587,101	4,578,538	4,578,538	345,426	12,333,378	56,073	54,061	(b) 213	23,685,500
Sub-bituminous.....	505,893	155,239	155,239	-	-	-	-	-	505,893
Lignite.....	3,682,438	1,839,348	1,839,348	9,842	1,494	-	-	-	3,674,090
Total.....	15,775,432	6,573,125	6,573,125	355,268	14,338,189	1,190,928	312,318	163,017	31,424,616

(a) Includes 8,131 tons from Belgium, 154,495 tons from Russia and 78 tons from Morocco.

(b) Includes 113 tons from Norway and 200 tons from Estonia.

Imports of Anthracite, Bituminous and Lignite Coal into Canada, by Months, 1936 and 1937

(short tons)

Month	1936				1937			
	United States	Great Britain	Other countries	Total	United States	Great Britain	Other countries	Total
ANTHRACITE—								
January	139,917	19,132	—	159,049	136,296	15,002	6,480	157,778
February	203,788	22,957	—	226,745	134,301	23,012	6,046	163,359
March	143,432	20,163	—	163,595	150,554	13,640	2,148	166,342
April	58,256	70,646	130	129,032	228,252	41,436	73	269,761
May	179,253	207,275	16,474	403,002	221,042	124,198	24,721	369,961
June	163,630	227,835	48,900	440,365	165,816	154,949	57,939	378,704
July	105,951	197,845	63,577	367,373	142,930	172,618	72,734	388,282
August	95,838	120,700	96,227	312,765	98,810	138,760	83,812	321,382
September	113,249	136,201	63,929	313,379	127,153	133,358	63,223	323,734
October	171,637	159,875	94,887	426,399	187,528	168,528	52,182	408,238
November	126,880	106,549	73,025	306,454	232,517	128,733	44,123	405,373
December	164,017	35,424	53,441	252,882	178,118	20,621	7,480	206,219
Total	1,655,848	1,333,602	510,590	3,500,040	2,063,317	1,134,855	429,961	3,559,133
BITUMINOUS—								
January	285,633	7,512	—	293,145	409,858	6,927	—	416,785
February	296,484	6,344	—	302,828	319,208	2,125	1,743	323,076
March	335,647	6,430	—	342,077	453,338	2,417	927	456,682
April	346,736	15,156	—	361,892	636,838	6,440	3,023	646,301
May	945,133	13,347	33	958,513	1,331,358	52	1,117	1,332,527
June	1,217,789	16,558	209	1,234,556	1,537,032	6,514	22,067	1,566,213
July	1,028,548	18,972	1,562	1,049,082	1,485,683	9,424	3,055	1,498,162
August	1,208,207	8,091	134	1,216,432	1,451,277	3,534	161	1,454,972
September	1,048,010	10,645	2,447	1,061,102	1,301,455	2,402	—	1,303,857
October	1,182,997	23,732	301	1,207,030	1,417,884	3,013	8,081	1,428,978
November	1,275,550	14,665	1,613	1,291,828	1,434,385	6,537	7,831	1,448,753
December	871,393	5,368	4,107	880,868	554,462	6,688	6,369	567,519
Total	10,012,127	147,720	10,406	10,200,253	12,333,378	56,073	54,374	12,443,825
LIGNITE—								
January	484	—	—	484	314	—	—	314
February	1,269	—	—	1,269	93	—	—	93
March	588	—	—	588	47	—	—	47
April	222	—	—	222	—	—	—	—
May	83	—	—	83	40	—	—	40
June	—	—	—	—	3	—	—	3
July	—	—	—	—	1	—	—	1
August	92	—	—	92	46	—	—	46
September	430	—	—	430	1	—	—	1
October	315	—	—	315	285	—	—	285
November	349	—	—	349	322	—	—	322
December	915	—	—	915	342	—	—	342
Total	4,747	—	—	4,747	1,494	—	—	1,494

Coal Made Available for Consumption in Canada, 1936 and 1937

(Short tons)

Month	1936				1937			
	Output	Imports	Exports	Coal made available for use	Output	Imports	Exports	Coal made available for use
January	1,391,288	452,678	40,727	1,803,239	1,496,991	574,877	46,735	2,025,133
February	1,492,431	530,842	26,836	1,999,437	1,285,126	480,528	27,253	1,744,401
March	1,028,417	506,260	40,782	1,493,895	1,109,806	623,071	40,848	1,692,029
April	937,740	491,140	14,765	1,414,121	988,823	916,062	14,065	1,890,820
May	999,754	1,361,598	23,664	2,337,688	1,077,009	1,702,528	19,215	2,790,982
June	1,038,224	1,674,921	32,639	2,680,506	1,067,684	1,944,920	33,993	2,978,611
July	1,064,843	1,410,455	30,182	2,451,119	1,137,760	1,886,445	20,600	3,003,524
August	1,056,032	1,539,189	33,889	2,561,539	1,233,037	1,776,400	32,105	2,977,332
September	1,448,051	1,394,911	34,374	2,808,588	1,410,222	1,627,592	31,553	3,006,261
October	1,808,166	1,633,744	36,522	3,405,388	1,709,684	1,837,501	32,997	3,514,188
November	1,467,155	1,508,031	47,652	3,018,134	1,664,840	1,854,448	26,413	3,492,926
December	1,497,081	1,134,665	49,742	2,582,004	1,593,730	774,080	29,401	2,338,409
Total	15,229,182	13,735,940	411,574	28,562,648	15,775,432	16,004,452	355,288	31,424,616

Coke Statistics for Canada, by Months, 1937
(Exclusive of Petroleum Coke) (Short tons)

Months	Bituminous coal used in coke making			Coke Used	Disposition of coke by makers				Total
					Used		Sold		
	Canadian	Imported	Total		In coke or gas plants	In makers' smelters	For domestic use	For other uses	
January	102,280	203,137	305,417	217,610	21,056	73,421	123,946	30,776	249,199
February	92,724	184,257	276,981	198,277	18,901	66,714	112,390	29,850	227,855
March	103,586	203,688	307,274	221,039	21,136	79,001	108,124	35,484	243,745
April	97,207	200,133	297,340	214,011	20,259	77,265	63,860	24,079	195,463
May	95,781	207,943	304,724	218,206	19,963	79,635	32,328	35,451	167,377
June	91,007	197,867	288,874	209,923	18,079	77,069	59,215	36,197	190,560
July	92,978	201,768	294,746	211,569	15,435	79,689	70,918	38,962	205,004
August	94,891	203,708	298,599	214,408	16,040	79,670	62,010	39,176	196,896
September	98,923	190,774	289,697	238,086	19,381	73,712	95,045	38,035	226,773
October	95,518	208,006	303,524	218,077	10,283	74,630	100,729	41,223	244,865
November	93,041	208,298	301,339	217,132	18,832	70,929	96,916	41,579	228,256
December	103,311	205,516	308,827	221,492	19,888	75,656	112,370	38,550	246,444
Total	1,162,247	2,415,095	3,577,342	2,569,833	228,253	907,391	1,016,851	439,942	2,622,437

Production in Canada, Imports and Exports of Coke, by Provinces, 1936 and 1937,
(Exclusive of Petroleum Coke)
(Short tons)

	Nova Scotia, New Brunswick and Quebec	Ontario	Manitoba, Saskatchewan Alberta and British Columbia	Canada
PRODUCTION—				
1936	775,270	1,441,833	187,690	2,404,793
1937	853,379	1,501,765	214,689	2,569,833
IMPORTS—				
1936	33,035	561,119	18,704	612,858
1937	26,979	376,117	14,846	417,760
EXPORTS—				
1936	1,086	94	17,035	18,215
1937	962	26	35,971	36,959
AVAILABLE FOR CONSUMPTION—				
1936	807,219	2,002,858	189,359	2,999,436
1937	879,214	1,877,856	193,504	2,950,634

Natural Gas

The Canadian production of natural gas in 1937 increased 5.3 per cent to 29,599,198 thousand cubic feet from the 1936 total of 28,113,348 thousand cubic feet. Output from Alberta wells rose 0.1 per cent to 17,425,000 thousand cubic feet. This total includes only the natural gas consumed for industrial and domestic purposes and does not take into account the waste gas burned in the Turner Valley field and the gas piped to the Bow Island field for repressuring. Ontario operators reported an output of 11,504,502 thousand cubic feet or 15 per cent above the preceding year's total. New Brunswick wells produced 576,671 thousand cubic feet; in 1936 this province produced 606,246 thousand cubic feet. Saskatchewan's production totalled 90,925 thousand cubic feet compared with 90,839 thousand cubic feet in 1936.

Production in Canada and Imports of Natural Gas, 1936 and 1937

Province	1936		1937	
	M cu. ft.	Value	M cu. ft.	Value
PRODUCTION—		\$		\$
New Brunswick	606,246	298,819	576,671	283,922
Ontario	10,006,743	6,052,294	11,504,502	6,902,701
Manitoba	600	180	600	180
Saskatchewan	90,839	33,985	90,925	34,018
Alberta	17,407,820	4,376,720	17,425,000	4,517,666
Northwest Territories	1,100	245	1,500	335
Canada	28,113,348	10,763,243	29,599,198	11,738,822
IMPORTS—				
Gas for cooking, heating or illuminating, imported by pipe line	118,056	75,985	114,275	74,799

Peat

Peat production in Canada, for fuel purposes, amounted to 1,050 tons in 1937; during the preceding year 1,341 tons were produced. The 1937 output was obtained from Ontario bogs.

Petroleum

Crude petroleum and natural gasoline production in Canada set up a new high record in 1937 when 2,978,268 barrels worth \$5,370,981 were produced; in 1936 the output totalled 1,500,374 barrels at \$3,421,767. The increase in 1937 was due to the successful drilling into production of new wells in the west flank at the south end of the Turner Valley field in Alberta. Light crude oil was produced from these wells and, although the initial output was large, it was materially increased after the wells were acid-treated. Altogether a crude oil area three miles long and three-quarters of a mile wide has been proven in the southern end of the west flank of this field. In addition, a proven crude oil area exists in the north end of the field, 14 miles distant. During the year, drilling operations were in progress on 86 wells in Alberta and approximately 288,000 feet were drilled. Twenty-eight wells came into production in 1937. During 1936, drilling activities were reported on 41 wells and the total footage drilled was 94,000.

Production in the Turner Valley field recorded a sharp advance from June onwards and, on September 15th, the large refineries found it necessary to reduce their purchases to 65 per cent of the capacity of each well; on November 1st, a further cut to 45 per cent was made while on November 15th a reduction to 35 per cent of the potential output was enforced. Despite this curtailment, output in November was maintained at a high rate and rose to a new monthly record in December with the bringing into production of several new wells. Alberta's output during the year amounted to 2,783,824 barrels compared with 1,312,368 barrels in 1936.

New Brunswick wells produced 18,083 barrels in 1937; Ontario wells, 164,990 barrels, and the Fort Norman wells in the Northwest Territories, 11,371 barrels.

Production of Crude Petroleum in Canada, 1936 and 1937

Province	1936		1937	
	Barrels	Value	Barrels	Value
		\$		\$
NEW BRUNSWICK.....	17,112	24,075	18,083	25,496
ONTARIO—				
Petrolia and Enniskillen.....	59,092	124,088	57,960	123,531
Oil Springs.....	31,795	69,947	33,853	75,580
Moore Township.....	3,200	6,720	2,253	4,805
Sarnia Township.....	584	1,226	445	949
Plympton Township.....	248	521	237	505
Bothwell Township.....	36,534	76,719	40,423	86,229
West Dover.....	15,536	32,625	10,498	22,388
Onondaga.....	262	609	516	1,460
Mosa Township.....	8,182	17,182	8,686	18,524
Brooke.....	—	—	773	1,649
Dunwich.....	307	645	303	646
Raleigh and Tilbury East.....	1,126	2,364	2,471	5,270
Thamesville.....	458	962	683	1,457
Dawn and Euphemia.....	8,171	17,159	5,889	12,559
Total for Ontario.....	165,495	350,767	164,990	355,552
ALBERTA—				
Turner Valley.....	1,281,248	2,989,447	2,754,627	4,904,138
Red Coulee—Border.....	16,185	19,143	13,500	16,200
Wainwright—Ribstone.....	14,935	11,340	14,697	11,930
Taber—Moose Dome.....	—	—	1,000	810
Total for Alberta.....	1,312,368	3,019,930	2,783,824	4,933,078
NORTHWEST TERRITORIES.....	5,399	26,995	11,371	56,855
Canada.....	1,500,374	3,421,767	2,978,268	5,370,981

Imports into Canada and Exports of Petroleum and Its Products, 1936 and 1937

Imports			Exports		
	1936	1937		1936	1937
Petroleum and asphalt (Total) \$	49,727,188	59,012,412	Oil petroleum, crude..... Gal.	216	-
Asphalt, solid..... Cwt.	125,048	166,732	\$	9	-
\$	145,527	184,175	Oil coal and kerosene, re-		
Other Asphalt..... Cwt.	7,768	4,099	fined..... Gal.	631,681	890,309
Petroleum oils (Total)..... Gal.	1,377,636,905	1,503,300,328	\$	93,267	93,039
\$	48,555,634	57,558,097	Oil, gasoline and naphtha..... Gal.	3,378,983	4,300,115
Crude petroleum..... Gal.	1,250,294,049	1,362,082,028	\$	509,150	400,800
\$	39,812,313	46,701,769	Fuel oil..... Gal.	19,412,825	11,048,568
Fuel oil for ships..... Gal.	24,048,703	24,369,010	\$	654,928	474,628
\$	692,951	750,118	Oil, mineral, n.o.p..... Gal.	614,332	1,174,183
Gasoline..... Gal.	60,987,262	72,478,101	\$	181,777	319,280
\$	4,237,685	5,388,134	Wax, mineral..... Cwt.	375	2,249
Kerosene, refined..... Gal.	2,580,758	3,866,642	\$	1,830	7,710
\$	209,215	287,574	Total Exports..... \$	1,440,961	1,295,457
Lubricating oil..... Gal.	14,296,949	15,407,215			
\$	2,946,710	3,422,361			

NON-METALLICS (except Fuels)

Abrasives

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

Production in 1937 included shipments from each of these three provinces and totalled 384 tons valued at \$17,042.

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

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

Diatomite.—Shipments of diatomite were made in 1937 from deposits located at New Annan, Nova Scotia, in Muskoka district, Ontario, and Quesnel, British Columbia. Diatomite is used as a filter aid, for insulation purposes, concrete admixture, and as a silver polish base.

Production in 1937 totalled 643 tons valued at \$18,606.

Imports into Canada and Exports of Abrasives in 1936 and 1937

	1936		1937	
	Quantity	Value	Quantity	Value
IMPORTS				
Artificial abrasives in bulk, crushed or ground, when imported for use in the manufacture of abrasive wheels and polishing composition.....	-	520,655	-	699,020
Diamond dust or bort, and black diamonds for borers.....	-	2,429,480	-	4,630,037
Emery in bulk, crushed or ground.....	-	43,535	-	60,030
Grinding wheels, manufactured by the bonding together of either natural or artificial abrasives.....	-	85,545	-	106,232
Grinding stones or blocks manufactured by the bonding together of either natural or artificial abrasives.....	-	7,339	-	16,353
Grindstones, not mounted, and not less than 36 inches in diameter, No. No.	1,013	122,028	1,587	157,699
No.	5,180	6,968	7,133	11,306
Pumice and pumice stone, lava and calcareous tufa, not further manufactured than ground.....	-	21,275	-	26,238
Sand paper, glass, flint and emery paper or emery cloth.....	-	85,398	-	80,521
Manufactures of emery or of artificial abrasives, n.o.p.....	-	55,305	-	62,864
Diatomaceous earth or infusorial earth (kieselguhr), ground or unground.....cwt.	57,031	78,687	43,940	63,917
Total.....	-	3,456,215	-	5,914,217
EXPORTS				
Grindstones, manufactured.....	-	1,688	-	135
Abrasives—				
Natural, n.o.p., in ore or bulk, crushed or ground*.....cwt.	9,661	15,200	8,422	13,153
Artificial, crude, including silicon carbide.....cwt.	1,703,721	5,132,041	2,258,435	6,544,454
Artificial, made up into wheels, stones, etc.....	-	129,431	-	141,214
Total.....	-	5,278,369	-	6,688,956

* Including infusorial earth, rotten stones, tripoli, etc.

Asbestos

The 1937 output of asbestos which was the greatest ever recorded was obtained almost entirely from the Eastern Townships of Quebec. Deposits of asbestos have been reported from other districts in Canada but there has been very little commercial production from these sources. For many years asbestos was the most important mineral from point of value produced in Quebec but the premier position has now been taken by gold. With the exception of coal, it is the most important non-metallic mineral, from point of value, produced in Canada.

Canada enjoys a very wide export market for this valuable industrial mineral. The greatest part of the production is sold in the United States though important shipments are made to Japan, Belgium, Germany, France, Australia, and the United Kingdom.

Other important producing countries are Russia, Southern Rhodesia, Union of South Africa, and Cyprus. World production of asbestos in 1936 totalled 500,000 metric tons.

Sales of Asbestos in Canada, 1936 and 1937

Grades	1936			1937		
	Shipments and sales		Average value per ton	Shipments and sales		Average value per ton
	Tons	Value		Tons	Value	
		\$	\$		\$	\$
Crudes.....	3,440	790,971	299.93	3,846	947,917	246.47
Fibres.....	133,288	6,483,946	48.65	200,247	10,235,820	51.11
Shorts.....	164,559	2,683,260	16.30	205,933	3,322,054	16.13
Total.....	301,287	9,958,183	33.05	410,026	14,505,791	35.38
Sands, gravel and stone (waste rock only)....	3,103	2,356	0.76	3,980	3,301	0.83
Total.....	304,390	9,960,539	-	414,006	14,509,092	-
	1936 Tons			1937 Tons		
Rock mined.....	4,692,004			6,477,805		
Rock milled.....	3,568,992			5,440,607		

Imports into Canada and Exports of Asbestos, 1936 and 1937

	1936		1937	
	tons	\$	tons	\$
IMPORTS—				
Asbestos brake and clutch lining.....	-	221,163	-	365,033
Asbestos in any form other than crude, and all manufactures of, n.o.p.....	-	508,646	-	718,061
Asbestos packing.....	64	60,978	76	65,963
Total.....	-	888,787	-	1,149,057
EXPORTS—				
Asbestos.....	136,547	7,391,517	194,511	10,072,852
Asbestos sand and waste.....	157,678	2,567,343	194,530	3,242,457
Asbestos manufactures, including asbestos roofing.....	-	175,038	-	330,061
Total.....	-	10,133,898	-	14,545,370

Bituminous Sands

The Fort McMurray district of Alberta has long been famous for its extensive deposits of bituminous sands and much investigation work has been done leading to their economic utilization. Experiments have followed three main channels—(1) the use as a bituminous binder in road construction, (2) the use of the separated bitumen as a source of gasoline, lubricant, etc., and (3) its use in the production of certain of the higher priced classes of asphaltic materials. During 1937 the International Bitumen Company processed a small amount of bituminous sand at its plant at Bitumont, Alberta, with a production of fuel oils and asphalt. Abasand Oils Ltd. continued construction work on separation, distillation and refining units in Horse River near McMurray.

Feldspar

Canadian production of feldspar came entirely from the provinces of Quebec and Ontario in 1937. Crude feldspar is exported to the United States though a considerable portion is ground in Canada for Canadian consumption in the manufacture of glass, enamels, white tableware, sanitary ware and certain cleansers.

Production in Canada, Imports and Exports of Feldspar, 1936 and 1937

	1936		1937	
	Tons	Value	Tons	Value
		\$		\$
PRODUCTION—(Sales)				
Quebec.....	8,115	75,703	12,285	105,612
Ontario.....	8,409	70,840	9,045	72,548
Manitoba.....	1,322	7,932	-	-
Total	17,846	154,475	21,330	178,160
IMPORTS—				
Crude.....	23	285	439	2,197
Ground.....	718	13,955	1,356	22,937
Total	741	14,240	1,795	25,134
EXPORTS—Total (a)	14,133	94,537	27,462	197,000

(a) Includes nepheline syenite in 1936.

Fluorspar

High-grade fluorspar deposits are not common in Canada and by far the greater supply of the mineral for the ceramic and metallurgical industries is imported. The most important deposit is near Grand Forks, British Columbia, and is owned and operated intermittently by the Consolidated Mining and Smelting Company of Canada, Limited, Trail, British Columbia, for use in their own plant. Production in 1937 amounting to 150 tons worth \$2,550 came entirely from deposit near Madoc, Ontario.

Imports of fluorspar into Canada during 1937 totalled 11,444 tons valued at \$168,082 as against 11,194 tons valued at \$95,268 in 1936.

Graphite

Graphite production in Canada in 1937 was valued at \$125,776 compared with \$88,812 in 1936, the entire output coming from the Black Donald mine in Renfrew county. This deposit is not suitable for crucible manufacture but is well adapted for lubricants and foundry purposes. In recent years the highest grade has been employed in the manufacture of pencils, being exported to the United States and there reduced to the requisite degree of fineness. The world's consumption of graphite has been estimated at approximately 20 per cent for crucibles, 40 per cent for foundry work, 15 per cent for paints, 7 per cent for electrical conductors, 7 per cent for lubricants, 5 per cent for electric batteries, 4 per cent for crayons, and 2 per cent for miscellaneous purposes.

Important producing countries are: Australia, Austria, Germany, Italy, Madagascar, Mexico, and Korea.

Production, Imports and Exports of Graphite, 1936 and 1937

	1936		1937	
	Tons	Value	Tons	Value
		\$		\$
PRODUCTION—Total	-	88,812	-	125,776
IMPORTS—				
Crucibles, plumbago.....	-	39,559	-	62,433
Plumbago, not ground or otherwise manufactured.....	-	5,186	-	9,545
Plumbago, ground, and manufactures of, n.o.p.....	-	88,188	-	105,188
Total	-	131,913	-	177,166
EXPORTS—				
Graphite or plumbago, crude or refined.....	3,384	138,454	2,948	133,262

Gypsum

Canada has many important deposits of gypsum. Nova Scotia's production is larger than in any other province and the greater part of the output from this province is exported in the crude form. Other producing provinces are New Brunswick, Ontario, Manitoba, and British Columbia. In addition to being marketed crude, as the hydrous calcium sulphate, it is also partly dehydrated and sold as plaster of Paris. A proportion of the calcined material enters into the manufacture of wallboard, gypsum blocks, insulating material, acoustic plaster, etc.

Anhydrite (anhydrous calcium sulphate) is exported to the United States as a fertilizer for the peanut crop, and to England where it is used in the manufacture of special plasters, sulphuric acid, and ammonium sulphate.

Canadian production in 1937 was 25 per cent greater than in 1936 and only 16 per cent less than in the peak year of 1928.

Production in Canada, Imports and Exports of Gypsum, 1936 and 1937

	1936		1937	
	Tons	Value	Tons	Value
PRODUCTION—(Sales)		\$		\$
Crude—				
(1) Lump or mine run.....	47,628	58,954	51,147	66,237
Crushed.....	709,326	794,002	897,269	957,880
Fine ground.....	738	4,108	916	5,716
(2) Calcined (sold and used).....	76,130	421,907	92,907	506,754
Total.....	833,822	1,278,971	1,042,239	1,536,587
IMPORTS—				
Gypsum, crude (sulphate of lime).....	4	150	56	610
Plaster of Paris or gypsum ground, not calcined.....	340	9,548	333	11,940
Plaster of Paris or gypsum calcined and prepared wall plaster.....	826	19,661	1,380	28,092
Total.....	1,170	29,359	1,769	40,642
EXPORTS—				
Gypsum or plaster, crude.....	650,377	756,010	841,191	960,711
Plaster of Paris, ground, and prepared wall plaster.....	752	19,280	1,234	29,552
Total.....	651,129	775,290	842,425	990,263

(1) Includes some anhydrite produced in Nova Scotia.

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

Iron Oxides

Mine shipments of iron oxides totalled 6,197 tons valued at \$83,640 in 1937 as compared with 5,854 tons worth \$69,630 in 1936. Quebec has been, for many years, the principal producer of iron oxide. The raw product is dried and shipped for use in purifying illuminating gas, or calcined and ground to be used as a pigment in the paint industry. British Columbia also reports a small annual production which is used entirely in gas works. Other deposits are known to exist in Nova Scotia, Alberta, Saskatchewan and Manitoba.

Lithium

Lithium ore was produced commercially for the first time in 1937 at a property located in southeastern Manitoba. Shipments were exported to be used in the manufacture of chemicals.

Magnesitic Dolomite

Canadian production of magnesitic dolomite is confined to Argenteuil county, Quebec. The mineral is crushed and ground to about 100 mesh, after which it is burnt in kilns.

The products are utilized as refractories in the lining of steel furnaces and copper smelting and refining furnaces. Burned brick and chemically bonded unburned brick have also been developed for use in cement kilns and metallurgical furnaces.

Several new plastic refractories have been developed for use in various industries and have shown economy in practice.

Production in Canada, Imports and Exports, of Magnesitic Dolomite, 1936 and 1937

	1936		1937	
	Tons	Value	Tons	Value
PRODUCTION—		\$		\$
Calced or clinkered— Total	-	768,742	-	677,267
IMPORTS—				
Magnesia pipe covering.....	-	33,451	-	63,546
Magnesite, crude rock.....	20	1,271	10 cwt.	84
Magnesite, dead burned, sintered, caustic, calced or plastic magnesia.....	1,163	56,515	1,019	55,360
Brick, fire, magnesite.....	-	568,565	-	653,507
Total	-	659,692	-	772,477
EXPORTS—				
Magnesite, calced, dead burned, etc.....	2,928	71,183	2,028	49,401

Magnesium Sulphate

Magnesium sulphate or epsom salts is produced in the Kamloops district of the province of British Columbia. Output in 1937 totalled 727 tons valued at \$14,456 as compared with 654 tons valued at \$13,712 in 1936. This mineral occurs also in association with sodium sulphate deposits in Saskatchewan. In addition to its medicinal value, it is used in the finishing of cotton fabrics and for weighting paper, silk, and leather.

Imports of magnesium sulphate or epsom salts totalled 1,677 tons valued at \$33,116 in 1937 as compared with 1,790 tons valued at \$37,928 in 1936.

Mica

The Canadian mica production is confined almost exclusively to the phlogopite variety, termed in the trade—amber mica. Deposits of muscovite, or white mica, are known, but attempts to mine this type have usually not proved profitable, and the production has been negligible. The productive mica region lies, for the most part, within a radius of about one hundred miles from the city of Ottawa, the northern portion of the field lying principally between or adjacent to the Gatineau and Lievre rivers, in Quebec, and the southern portion in the Perth-Kingston district in Ontario. In addition to the production shown in Ontario and Quebec for 1937, there was reported a shipment of mica of the muscovite type from a deposit located at Baker Inlet, British Columbia.

Mica finds its greatest value as an insulator in the manufacture of electrical equipment. Scrap mica is ground and graded into various sizes for use in the manufacture of roofing and rubber goods. It has been used also for its decorative effect in stucco and plaster.

During recent years Canada has been exporting increasingly larger quantities of mica to England. Demands from the English market are said to be very good at the present time.

Production of Mica in Canada, 1936 and 1937

Grade	1936			1937		
	Quantity	Value, f.o.b. shipping point	Price per pound	Quantity	Value, f.o.b. shipping point	Price per pound
	Lb.	\$	\$	Lb.	\$	\$
Knife trimmed.....	113,169	48,086	0.42	206,757	69,432	0.34
Thumb trimmed.....	35,289	3,233	0.09	172,744	11,656	0.06
Splittings.....	24,376	9,760	0.40	72,500	32,495	0.45
Scrap.....	1,417,783	10,842	0.008	1,252,887	9,370	0.007
Rough cobbled.....	10,940	2,615	0.24	93,699	9,058	0.097
Total	1,601,557	74,556	-	1,798,587	132,011	-

Imports into Canada and Exports of Mica, 1936 and 1937

	1936		1937	
	Tons	Value	Tons	Value
IMPORTS—		\$		\$
Mica and manufactures of, n.o.p.— Total	-	77,822	-	82,596
EXPORTS—				
Rough cobbled and thumb trimmed.....	84	61,474	127	98,904
Mica splittings.....	13	10,331	66	57,414
Mica, scrap and waste.....	1,237	14,152	1,222	13,042
Mica, plate, and manufactures of (micanite).....	-	1,343	-	2,410
Total	-	87,300	-	171,770

Mineral Waters

Sales of natural mineral waters in Canada during 1937 totalled 225,019 imperial gallons valued at \$20,586 as compared with 154,286 imperial gallons valued at \$18,516 in 1936. These shipments were made from mineral springs in Ontario and Quebec.

Mineral and aerated waters, n.o.p., imported during 1937 totalled \$88,607. Exports of mineral and aerated waters amounted to \$5,097.

Nepheline Syenite

Commercial production of nepheline syenite began in 1936 from deposits located in Peterborough county, Ontario, with production extending in 1937 to the Bancroft district. The rock consists of a mixture of nepheline and potash and soda feldspars, having a considerably higher alumina content than feldspar. It contains a small amount of iron-bearing impurities which have to be removed by magnetic separation before the product is marketable. It is finding favour for use in the manufacture of glass and is also found to be valuable for a variety of ceramic uses.

Phosphate

Canadian phosphate production totalled 100 tons valued at \$900 in 1937 as compared with 525 tons valued at \$4,927 in 1936. Between the years 1878 and 1892 the mining of apatite or mineral phosphate was an important industry in eastern Canada but cheaper foreign phosphate displaced that from Canadian mines.

Imported rock phosphate is used in the manufacture of superphosphates by Canadian fertilizer manufacturers. Imports of this material for fertilizer purposes totalled 113,970 tons valued at \$453,599 in 1937 as against 83,478 tons valued at \$298,179 in 1936.

Pyrites (Sulphur)

No iron pyrites is being mined as such at the present time but pyrites concentrates which are separated from copper sulphides at Eustis, Quebec, the Aldermac in western Quebec, and at the Britannia mine in British Columbia, are sold to Canadian and foreign consumers.

Sulphuric acid is made from waste smelter gases at the Trail and Copper Cliff smelters. Elemental sulphur is being recovered from the waste smelter gases at Trail and it has been recently reported that sulphur will be made from pyrites produced at the Aldermac mine in western Quebec.

Canadian production of sulphur consists of the sulphur content of pyrites shipped, the sulphur in sulphuric acid made from waste smelter gases, and elemental sulphur produced.

Production in Canada, Imports and Exports of Pyrites, 1936 and 1937

	1936		1937	
	Sulphur content	Value	Sulphur content	Value
	tons	\$	tons	\$
*PRODUCTION—				
Quebec.....	43,084	282,743	28,534	194,496
Ontario.....	14,152	141,520	14,009	140,090
British Columbia.....	64,896	608,792	88,370	820,406
Total.....	122,132	1,033,055	130,913	1,154,992
IMPORTS—				
Brimstone, or sulphur, crude or in roll or flour.....	168,774	2,802,282	225,684	3,669,082
EXPORTS—				
Pyrites (Sulphur content).....	52,192	284,718	46,317	251,834

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

Quartz

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

Production in Canada and Imports of Quartz*, 1936 and 1937

	1936		1937	
	Tons	Value	Tons	Value
		\$		\$
PRODUCTION—				
Nova Scotia.....	6,764	10,819	11,732	14,078
Quebec.....	78,975	320,634	127,535	448,327
Ontario.....	884,585	216,037	1,142,372	633,073
Manitoba.....	90	45	-	-
Saskatchewan.....	76,089	49,458	88,000	30,800
British Columbia.....	146	788	-	-
Total.....	1,046,649	597,781	1,369,639	1,126,278
IMPORTS—				
Garnister.....	4,097	8,140	2,405	5,980
Silica or crystallized quartz, ground or unground.....	4,056	84,393	4,276	103,940
Flint and ground flint stones.....	1,234	23,079	1,810	38,616
Silica sand†.....	143,610	270,824	212,840	373,760
Total.....	-	336,436	-	522,296

* Includes both crude and crushed quartz and quartzite, silica fluxing gravel and natural silica sands.
 † For making carborundum and glass and for filtration and sand blasting.

Salt

Salt is one of Canada's most important industrial minerals. It is produced commercially in Nova Scotia, Ontario and Manitoba, though it is known to occur in nearly every province in the Dominion. The Malagash deposits of Nova Scotia are worked by underground mining methods and by leaching for the recovery of salt. In the other provinces it is extracted by evaporation from the brine.

Experiments are constantly being carried on to develop new uses for salt, one of the most interesting being to determine its use as a dust preventative on gravel roads.

Large heavy chemical industries have been developed in Canada for the production of caustic soda, chlorine, calcium chloride, soda ash, and hydrochloric acid and the consumption for chemical purposes has shown a healthy growth during recent years.

Production of Salt in Canada, by Grades, 1936 and 1937

Grade	1936			1937		
	Manu- factured	Sold	Value of salt sold (Not includ- ing con- tainers)	Manu- factured	Sold	Value of salt sold (Not includ- ing con- tainers)
	Tons	Tons	\$	Tons	Tons	\$
Table, dairy and pressed blocks.....	77,428	76,567	867,215	78,641	76,908	810,090
Common, fine.....	81,646	83,095	358,776	104,273	105,038	404,598
Common, coarse.....	27,477	28,162	218,170	22,858	23,676	182,228
Highway salt.....	-	-	-	1,969	1,969	6,229
Land salt.....	1,061	1,046	3,780	42	89	466
Other grades.....	38,364	36,564	159,315	45,695	46,198	190,705
Brine for chemical works (Salt equivalent sold or used).....	165,882	165,882	165,882	205,149	205,149	205,149
Total.....	391,858	391,316	1,773,144	458,677	459,027	1,799,465
Value of containers.....	-	-	527,647	-	-	517,617
Grand total.....	-	-	2,300,791	-	-	2,317,082

Imports into Canada and Exports of Salt, 1936 and 1937

	1936		1937	
	Tons	Value	Tons	Value
		\$		\$
Imports—				
Salt, for use of the sea or gulf fisheries.....	31,467	99,214	38,643	106,703
Salt, in bulk, n.o.p.....	43,129	148,404	48,186	168,998
Salt, n.o.p., in bags, barrels, etc.....	33,784	212,423	20,576	189,286
Salt, table, made by an admixture of other ingredients, when con- taining not less than 90 per cent of pure salt.....	42	957	55	1,203
Total.....	108,422	460,998	116,460	466,190
Exports—				
Total.....	5,549	46,601	9,329	61,522

Sodium Carbonate

Sodium carbonate production totalled 286 tons valued at \$2,288 during 1937 as compared with 192 tons worth \$1,677 in the preceding year and came entirely from deposits located on or near the line of the Pacific and Great Eastern Railway in British Columbia.

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

Imports of soda ash or barilla during 1937 totalled 5,051 tons valued at \$113,219 as compared with 1,592 tons worth \$43,503 in 1936.

Sodium Sulphate

The sodium sulphate deposits of Saskatchewan have become, annually, of increasing importance. Its principal uses are in the metallurgical treatment of nickel-copper matte and in the manufacture of "kraft paper". Production in 1937 totalled 79,884 tons valued at \$618,028 compared with 75,598 tons worth \$552,681 in 1936. Imports of salt cake in 1937 amounted to 14,117 tons valued at \$132,352 against 11,747 tons worth \$110,676 in the preceding twelve months. Nitre cake imports totalled 1,134 tons valued at \$18,618 compared with 596 tons worth \$15,727 in 1936; Glauber's salt imports amounted to 1,701 tons valued at \$24,348 in 1937.

Talc and Soapstone

Canadian talc production in 1937, as for some years past, came chiefly from important deposits of foliated white talc located near Madoc, Ontario; two companies operated mines and mills in this area in 1937 and produced various grades of high quality talc. Preparation of the mineral for the market includes crushing, drying, grinding and bolting; the products from these mills are marketed in Canada, United States and Europe.

Soapstone products are produced from deposits of the mineral occurring in the Eastern Townships, Quebec. These properties were actively operated in 1937. The mineral is mainly used, in the shape of blocks, as a refractory lining in alkali recovery furnaces in paper mills using the sulphite process. Powdered soapstone finds a good market as a filler in various industries. Mixed with Portland cement it has been used successfully for interior plastering purposes giving a very white velvet finish. It is now used in the manufacture of fireless cookers, fireplaces, stoves, wood or coal burners and electrical heaters. Soapstone is easily carved and when polished takes a soft marble-streaked appearance. Various objects, such as tobacco jars, candlesticks, clock cases, and book-ends made of carved and polished soapstone have lately been put on the market.

Production in Canada, Imports and Exports of Talc and Soapstone, 1936 and 1937

	1936		1937	
	Tons	Value	Tons	Value
		\$		\$
PRODUCTION—				
Soapstone.....	-	32,770	-	40,513
Talc.....	14,508	144,500	12,457	123,301
Total	-	177,270	-	163,814
IMPORTS—				
Talc or soapstone, ground or unground— Total	2,936	43,185	3,184	49,079
EXPORTS—				
Talc— Total	10,222	102,071	8,698	85,953

STRUCTURAL MATERIALS AND CLAY PRODUCTS

According to figures received, the value of production of items included in this group was higher than in 1936 and indicated improvement in the construction industry. The value of building permits issued by 58 Canadian cities during 1937 was \$55,844,999, or 35.1 per cent above the aggregate of \$41,325,693 reported for 1936. The 1937 total is higher than for any year since 1931 when the value of building permits totalled \$112,222,845. The peak of construction activities in Canada, as represented by building permits, occurred in 1929 when the total value of permits was \$234,944,549. Building activities in 1937 represented 35.7 per cent of the 1926 level and the index of wholesale prices of building materials in 1937 stood at 94.3 per cent of the 1926 average level.

Cement

Canada is well equipped for the production of Portland cement. During 1937 the Canada Cement Company, Limited, operated plants at Montreal East, and Hull, Quebec; Port Colborne and Point Anne, near Belleville, Ontario; Fort Whyte, Manitoba; and Exshaw, Alberta. Other companies producing cement were the St. Mary's Cement Company, St. Mary's, Ontario; the British Columbia Cement Company, Bamberton, British Columbia, and the Coast Cement Company at Vancouver, British Columbia. Production increased 37 per cent in 1937 and reflected improved conditions in the construction industry.

Production in Canada, Imports and Exports of Cement, 1936 and 1937

	1936		1937	
	Barrels	Value	Barrels	Value
		\$		\$
OUTPUT—Total	4,839,030	-	6,142,834	-
SALES—				
Quebec.....	2,093,130	2,945,074	2,578,623	3,537,798
Ontario.....	1,542,463	2,180,895	2,650,652	3,657,067
Manitoba.....	348,042	783,095	328,518	745,736
Alberta.....	243,534	482,197	267,106	531,541
British Columbia.....	281,549	516,931	344,072	623,725
Total	4,508,718	6,908,192	6,168,971	9,095,867
Stocks, December 31.....	1,832,380	-	1,806,343	-
IMPORTS—				
Portland.....	39,867	107,180	61,082	134,113
Manufactures.....	-	7,141	-	45,744
Total	-	114,321	-	179,857
EXPORTS—Total	68,929	56,909	72,568	82,978
APPARENT CONSUMPTION—Total	4,479,656	-	6,157,485	-

Clay Products

There was a general improvement in the clay products industry; most items in this group showed increases over the preceding year. The combined values of all varieties of brick, tiles, sewer pipe, and pottery made from domestic clay, amounted to \$4,589,933 compared with \$3,471,027 in 1936.

Production (Sales) of Domestic Clay and Clay Products in Canada, 1936 and 1937

Products	Unit of measure	Sales or Shipments			
		1936		1937	
		Quantity	Value	Quantity	Value
			\$		\$
Clay—Bentonite.....	ton	120	180	283	2,151
Fireclay.....	ton	2,437	17,639	2,652	21,068
Fireclay blocks and shapes.....	x x x x	-	65,171	-	75,421
Firebrick.....	M	2,548	118,923	2,957	143,224
Brick—Soft mud process—Face.....	M	6,097	111,378	7,708	134,552
Common.....	M	24,180	302,690	27,134	384,899
Stiff mud process—Face.....	M	30,218	575,765	37,367	749,259
(wire cut) Common.....	M	35,592	484,078	54,440	750,747
Dry press—Face.....	M	8,961	165,924	12,613	231,933
Common.....	M	10,241	100,785	12,901	148,567
Fancy or ornamental brick (including special shapes, embossed and enamelled brick).....	M	25	1,374	56	3,051
Sewer brick.....	M	418	6,778	158	2,495
Paving brick.....	M	116	3,149	103	2,634
Structural tile—					
Hollow blocks (including fireproofing, and load-bearing tile).....	ton	58,501	467,860	69,564	580,245
Roofing tile.....	No.	52,730	2,130	68,329	3,257
Floor tile (quarries).....	sq. ft.	97,738	13,798	75,389	12,483
Drain tile.....	M	8,148	214,590	17,845	309,233
Sewer pipe (including copings, flue linings, etc.).....	x x x x	-	588,485	-	792,758
Pottery, glazed or unglazed (including coarse earthenware, stoneware, and all other pottery).....	x x x x	-	218,402	-	225,879
Other products.....	x x x x	-	11,919	-	29,497
Total	x x x x	-	3,471,027	-	4,589,933

Imports into Canada and Exports of Clay and Clay Products, 1936 and 1937

	Unit of measure	1936		1937	
		Quantity	\$	Quantity	\$
Imports—					
Building brick.....	ton	2,544	24,310	1,477	18,485
Building blocks.....	-	-	7,274	-	17,121
Clays—China.....	cwt.	833,807	342,654	1,103,891	445,073
Fire.....	"	1,398,931	192,640	1,590,207	250,393
Pipe.....	-	-	2,793	-	4,910
Other clays, n.o.p.....	-	-	238,159	-	224,160
Zirconium silicate.....	-	-	2,547	-	2,065
Zirconium oxide.....	-	-	23,133	-	32,668
Drain tile, unglazed.....	-	-	22	-	2,705
Drain, sewer pipe and earthenware fittings therefor, chimney linings or vents, chimney tops or inverted blocks, glazed or unglazed.....	-	-	15,297	-	20,322
Tiles or blocks of earthenware or stone prepared for mosaic flooring.....	-	-	46,377	-	44,869
Tiles, earthenware, for roofing purposes.....	-	-	6,120	-	13,821
Tiles, earthenware, n.o.p.....	-	-	132,305	-	138,033
Insulators, electric, porcelain.....	-	-	67,596	-	113,102
Pottery and chinaware.....	-	-	3,672,867	-	4,175,204
Brick, fire, other, valued at not less than \$100 per M, rectangular shaped; the dimensions of each not to exceed 125 cubic inches for use exclusively in the construction or repair of a furnace, kiln, etc.....	-	-	98,293	-	143,160
Brick, fire, n.o.p., for use exclusively in the construction or repair of a furnace, kiln, or other equipment of a manufacturing establishment.....	-	-	257,733	-	449,301
Firebrick, n.o.p.....	-	-	608,749	-	989,003
Firebrick, chrome.....	-	-	68,082	-	103,287
Magnesite brick.....	-	-	568,565	-	653,507
Siliceous brick (containing not less than 90 per cent silica).....	-	-	261,974	-	539,253
Paving brick.....	ton	1,216	11,122	1,615	13,547
Artificial teeth, not mounted.....	-	-	337,252	-	387,024
Baths, bathtubs, basins, laundry tubs, etc., of earthenware, cement or clay, n.o.p.....	-	-	90,614	-	151,264
Ceramic insulator cores, not further manufactured than burned and glazed, printed or decorated or not, and without fittings, when imported by manufacturers of spark plugs for use exclusively in the manufacture of spark plugs, in their own factories.....	-	-	54,516	-	-
Crucibles, clay or sand.....	-	-	54,162	-	38,839
Other manufactures of clay.....	-	-	70,992	-	137,460
Total.....			7,351,148		9,108,976
Exports—					
Building brick.....	M	666	11,590	1,153	20,972
Clay—Unmanufactured.....	cwt.	3,297	2,600	1,320	3,117
Manufactured.....	-	-	36,803	-	69,505
Earthenware.....	-	-	82,036	-	60,565
Porcelain insulators.....	-	-	392,927	-	442,817
Total.....			526,856		586,976

Lime

Lime production in 1937 totalled 546,671 tons and was made up of 463,903 tons of quicklime and 82,768 tons of hydrated lime. Lime production in Canada is exhibiting a healthy annual growth, the demand for lime of a high degree of purity from chemical and metallurgical plants is increasing. A new mineral product was made for the first time in Canada from lime. During 1937 the manufacture of precipitated chalk for use as a filler in newsprint was begun in Canada. This product, which is replacing clay as a filler in both newsprint and magazine paper, is made by introducing carbon dioxide gas into milk-of-lime made from high calcium quicklime. It is characterized by freedom from impurities and by the extreme fineness of the individual particles.

Production in Canada, Imports and Exports of Lime, 1936 and 1937

	Total 1936		1937					
	Quantity	Value	Quicklime		Hydrated lime		Total	
			Quantity	Value	Quantity	Value	Quantity	Value
	Tons	\$	Tons	\$	Tons	\$	Tons	\$
PRODUCTION—								
Nova Scotia.....	15,664	119,230	17,289	145,737	398	4,378	17,687	150,115
New Brunswick.....	17,842	128,016	11,630	90,067	8,269	60,295	19,899	150,362
Quebec.....	133,254	718,585	117,661	771,538	38,273	130,900	155,934	902,438
Ontario.....	246,593	1,940,060	265,982	2,066,016	26,116	277,879	292,098	2,343,895
Manitoba.....	21,760	211,035	18,252	142,840	4,345	72,125	22,597	214,965
Alberta.....	9,129	78,259	10,224	89,209	427	4,269	10,651	93,478
British Columbia.....	24,159	134,785	22,865	130,919	4,940	22,328	27,805	153,247
Total.....	468,401	3,335,979	463,903	3,436,326	82,768	572,174	546,671	4,008,500
IMPORTS—Total.....	938	12,636	—	—	—	—	5,017	32,379
EXPORTS—Total.....	11,666	97,574	—	—	—	—	10,373	85,489

Stone

Stone production in Canada includes the output of granite, limestone, marble and sandstone. The demand for high-class motor roads has increased the consumption of stone for this purpose, and certain companies now market a washed stone for concrete aggregate. Limestone is used in a finely pulverized form as a filler in the manufacture of rubber, linoleum, oilcloth, putty, and other products. Recent developments in the production of refractories have been carried to a point where, with the presence of certain stabilizing agents, it is possible to make highly effective refractories from dolomite and silica or even from calcium limestone and silica. These new products, on account of the low cost of the raw materials, can be made much more cheaply than can the corresponding magnesian products. There is also an increasing demand for marble in the form of terrazzo chips which are used for laying floors in place of marble slabs and floor tile.

Production (Sales) of Stone from Canadian Quarries, by Kinds and by Provinces, 1936 and 1937

Provinces		Granite	Limestone (a)	Marble	Sandstone	Total
1936						
Nova Scotia.....	tons	66,507	20,860	—	167,205	254,572
	\$	99,855	36,365	—	239,109	375,329
New Brunswick.....	tons	1,485	53,781	—	4,165	59,431
	\$	73,784	55,564	—	4,410	133,758
Quebec.....	tons	137,912	1,265,243	17,866	92,228	1,513,249
	\$	429,283	1,058,547	138,294	102,388	1,728,512
Ontario.....	tons	492,227	2,205,992	4,765	3,436	2,706,420
	\$	582,603	1,773,704	29,204	10,805	2,396,376
Manitoba.....	tons	185	49,261	60	—	49,506
	\$	2,038	69,837	90	—	71,965
Alberta.....	tons	—	13,876	—	40	13,916
	\$	—	26,188	—	3,200	29,388
British Columbia.....	tons	243,427	122,535	175	18,434	384,571
	\$	131,750	123,607	2,110	135,944	393,411
Canada.....	tons	941,743	3,731,518	22,866	285,508	4,981,665
	\$	1,319,313	3,143,872	169,698	495,856	5,128,739
1937						
Nova Scotia.....	tons	71,388	24,398	—	130,912	226,698
	\$	99,066	36,774	—	163,467	299,307
New Brunswick.....	tons	936	49,929	—	4,603	55,468
	\$	74,961	50,600	—	8,480	134,041
Quebec.....	tons	158,369	1,616,999	14,957	17,705	1,808,030
	\$	702,026	1,438,534	61,348	20,843	2,222,751
Ontario.....	tons	497,500	3,328,118	6,008	8,680	3,840,306
	\$	516,838	2,576,579	24,900	22,930	3,141,247
Manitoba.....	tons	138	54,053	—	—	54,191
	\$	1,796	69,932	—	—	71,728
Alberta.....	tons	—	13,182	—	40	13,222
	\$	—	24,935	—	3,200	28,135
British Columbia.....	tons	251,207	115,755	—	9,308	376,270
	\$	303,725	110,683	—	54,061	468,469
Canada.....	tons	979,638	5,202,434	20,965	171,248	6,374,185
	\$	1,698,412	4,368,037	86,248	272,991	6,365,678

NOTE.—In addition to the above production there were produced 1,247 tons of slate valued at \$5,414 in 1936 and 300 tons at \$2,961 in 1937; also not included in the limestone statistics is limestone consumed in the cement industry. Limestone used in the Canadian lime industry is also excluded. It is estimated that approximately 1,000,000 tons of limestone were burned in the manufacture of lime in 1937.

(a) Includes dolomite.

Imports and Exports of Stone, 1936 and 1937

	1936		1937	
	Tons	Value \$	Tons	Value \$
IMPORTS—				
Building stone, other than marble or granite, sawn on more than two sides, but not sawn on more than four sides	-	-	-	-
Building stone other than marble or granite, planed, turned, cut or further manufactured than sawn on four sides	92	9,222	8	314
Flagstone, sandstone, and all building stone, not hammered, sawn or chiselled	3,049	20,446	5,818	34,479
Flagstone and building stone, other than marble or granite, sawn on not more than two sides	460	3,456	1,202	8,479
Granite, sawn only	-	7,094	-	11,022
Granite, manufactures of, n.o.p.	-	4,733	-	6,908
Granite monuments	-	17,628	-	16,732
Granite, rough, not hammered or chiselled	-	70,667	-	80,273
Marble, rough, not hammered or chiselled	-	15,765	-	16,729
Marble, sawn or sand rubbed, not polished	-	24,107	-	31,991
Marble, not further manufactured than sawn for tombstones	-	11,715	-	12,655
Ornamental marble	-	-	-	12,561
Marble, manufactures of, n.o.p.	-	15,774	-	15,327
Refuse stone	304,440	184,481	592,593	348,319
Slate—including roofing, pencils, writing, mantels and manufactures of n.o.p.	-	34,155	-	54,771
Manufactures of stone, n.o.p.	-	17,055	-	25,170
Total	-	436,298	-	675,730
EXPORTS—				
Crushed stone	49,728	90,924	132,006	233,824
Granite and marble, unwrought	1,156	8,758	1,234	11,408
Freestone, limestone and other building stone, unwrought	571	2,090	659	1,380
Dressed stone	-	3,380	-	3,840
Total	-	105,182	-	250,438

Sand and Gravel.

Sands and gravel production in 1937 totalled 28,977,135 short tons valued at \$10,338,730 compared with 22,124,160 tons worth \$6,921,399 in 1936. Imports of sand and gravel in 1937 totalled 132,460 tons valued at \$97,607. Exports were recorded at 364,270 tons worth \$78,441. Gravel is used to a very considerable extent in road building, for railway ballast, and in concrete aggregate. During recent years several of our larger Canadian mines have used sand and gravel as back filling and for statistical purposes this is construed as commercial consumption.



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