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MINING, METALLURGICAL AND CHEMICAL BRANCH

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PRELIMINARY REPORT

OF THE

MINERAL PRODUCTION OF CANADA

DURING THE SIX MONTHS ENDING

JUNE 30, 1921

Published by Authority of the Right Hon. Sir George E. Foster, G.C.M.G., M.P.,
Minister of Trade and Commerce



OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1921

LIST OF PUBLICATIONS
PREPARED IN THE
MINING, METALLURGICAL AND CHEMICAL BRANCH,
DOMINION BUREAU OF STATISTICS

The publication of statistics relating to the Mineral Production of Canada will be covered by a series of reports, including:—

ANNUAL:

- (1) Preliminary Report on the Mineral Production of Canada, published semi-annually.
- (2) Annual Report on the Mineral Production of Canada.
- (3) Special Reports covering phases of:
 - (a) Metal Mining and Metallurgy, including
 - (1) Iron and Steel;
 - (2) The Non-Ferrous Metals.
 - (b) Non-Metal Mining and Milling, including
 - (1) Coal;
 - (2) All other Non-Metallic Minerals.
 - (c) Manufactures of:
 - (1) Iron and Steel Products.
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 - The Soap Industry.
 - The Starch and Glucose Industry.
 - The Wood Distillation Industry.
 - Miscellaneous Chemical Industries.
 - General Summary: Chemicals and Allied Products.

MONTHLY:

Monthly Report on the Production of Iron and Steel in Canada.
Monthly Coal Supply Bulletin.

LETTER OF TRANSMITTAL

R. H. COATS, Esq., B.A., F. S.S.,
Dominion Statistician,
Dominion Bureau of Statistics,
Ottawa.

SIR,—A Preliminary Report on the Mineral Production of Canada during the six months ending June 30, 1921, has been prepared in response to numerous requests from the mining community for data regarding recent trends in Canadian production. Detailed statistics are given for the metallic mineral production of Canada during the half-year, and sections have been added dealing with several of the more important non-metallics.

The preparation of the report has been largely the work of Mr. A. C. Young, and the co-operation of the Dominion Department of Mines and of the several provincial departments has enabled the officers of the Bureau to expedite their work and at the same time, to make a fairly complete record.

I have the honour to be, sir,

Your obedient servant,

S. J. COOK,
Chief M. M. & C. Branch.

Dominion Bureau of Statistics,
Mining, Metallurgical and Chemical Branch,
August 29, 1921.

PRELIMINARY REPORT

OF THE

MINERAL PRODUCTION OF CANADA

DURING THE SIX MONTHS ENDING JUNE 30, 1921

During the past six months there has been more than the normal inquiry from the mining industry of Canada for statistical information regarding the progress of the industry. The industrial depression consequent upon the instability of markets has led many progressive firms into new fields, in the hope that they might be able to find new uses for their products or openings for the manufacture of new products. The extractive industries have as a consequence been retarded, particularly in the case of mining. It is with a view to placing before the mining community up-to-date information regarding the progress during the past six months, that this bulletin has been prepared.

No attempt has been made to obtain a complete record of the production of non-metallic minerals during the half-year. Data have been collected, however, regarding some of the more important non-metallics, such as coal, petroleum, salt and to these subjects individual sections of the report have been given. In order to round out the record, a general section has been added in which notes on several of the non-metallics have been included. Data regarding recent imports and exports have been added.

SUMMARY

The value of the economic mineral production of Canada during the first six months of the present year reached a total of \$24,264,423 as compared with \$75,737,472 for the metals produced during the twelve months of the calendar year preceding. The value of the production for the half-year period was thus slightly more than thirty-two per cent of the annual production just recorded. In point of value, therefore, if present conditions continue until the end of the year, the production of metallic minerals in 1921 will not be much in excess of the similar production of 1911, which reached a total of \$46,105,423.

Among the metals, lead was easily the leader during the half-year. The quantity produced was more than ninety-one per cent of the total during the entire calendar year 1920, and even at the lower price which prevailed for this metal during the half-year the value of the production exceeded fifty-eight per cent of that assigned to the calendar year output for 1920. The demand for the metal has been fairly good, a considerable quantity finding its way into the manufacture of type metals, babbitts and solders, and for the manufacture of corroded white lead as well as in the production of lead shot and other forms used as ammunition. The silver-lead ores of British

Columbia furnish by far the greater part of the lead during the period, but appreciable amounts were also recovered from lead ores mined in Ontario and Quebec. Canada's foreign trade in lead shows an appreciable decline in imports during the six months period, the total for this year being only about one-tenth of the value of lead and its products imported during the calendar year 1920. Exports on the other hand during the six months were more than double the amount of the twelve months of the preceding year. It will be seen that the lead mining industry in Canada has been able to maintain its position even in the face of declining prices and commercial depression.

The production of zinc is closely allied to the production of lead, most of these two metals being produced from the silver-lead-zinc ores of British Columbia. During the six months, the production of zinc amounted to more than seventy per cent of the quantity produced during the calendar year 1920, and to almost forty-five per cent of the value of that year's production. As in the case of lead, prices showed a great decline, the average for zinc was nearly three cents lower than the twelve months in 1920. The production therefore of more than twenty-eight million pounds of zinc was very profitable. Foreign trade was maintained at about the same rate as during the first six months of 1921.

The leading metal industry in point of view of value produced during the six months was gold. This industry has enjoyed a considerable impetus during the past year, and the rate of production established in 1920 was easily maintained. One of the reasons for the activity in gold mining is the fact that all sales of Canadian gold are paid for in New York funds and the exchange situation between this country and the United States has enabled the gold producers to obtain approximately three dollars an ounce more for their gold than with exchange at par. At the time of writing the gold camps of Ontario are operating to capacity. More than eight million dollars worth of gold was produced in Canada during the first half-year and the output was almost fifty-two per cent of the quantity and value of the entire 1920 production.

Silver ranked fourth among the metals produced in Canada during the first six months of the present year considered in relation to the output for the twelve months of the calendar year preceding. The total production amounted to more than 49 per cent of the quantity and to more than 29 per cent of the value. Prices which slumped rapidly have been fairly stable during recent months, and while the average for the six months has been only 59.8 cents per ounce, as compared with 100.9 cents per ounce during the calendar year 1920, the steadiness of recent markets has enabled the operators to plan more definitely for the future. A number of closed mills will in all probability renew operations shortly if present conditions continue. Ontario was the principal producer, the output being obtained by the South Ontario smelters and the large reduction plants in the Cobalt area from ores mined in the Cobalt district. Exports of silver bullion during the last six months increased by more than one million ounces, and imports of silver in the several forms declined to about one-eighth of the value of silver products brought into Canada during the calendar year 1920.

Copper produced during the first half of the year amounted to only 31.5 per cent of the quantity recorded for the calendar year 1920, and to only 22.5 per cent of the value of the metal for the same year. The price of copper showed a gross decline of more than 5 1-2 cents per pound from that prevailing during the first nine months of 1920 and this slump has carried the price down until at the end of the half-year now reviewed, the price quoted for copper is more than 21-2 cents per pound lower than the average price prevailing during the ten-year period preceding the war. The hesitant and subnormal market prevailing throughout 1920 has settled somewhat this low level to a point which it is expected will remain stable. While the output of copper during the half-year amounted to nearly 26,000,000 pounds, the quantity of copper held in stock has increased to such an extent that the prospects for the industry in the im-

mediate future are not bright. The principal producing provinces were British Columbia and Ontario, the former producing slightly more than twice as much as the latter during the period.

Nickel and *Cobalt* follow in the order named, the former producing an amount equivalent to 21 per cent of the 1920 output and the latter about 20 per cent. The markets for nickel and cobalt have been dormant during the period and prices nominal.

Of the Non-Metallics, coal was, as usual, the most important. The output for the period amounted to only 86 per cent of the quantity produced during the same six months of 1920, but the value per ton determined as the average for the whole of Canada and without regard to kinds of coal produced, was \$5.75, which is somewhat higher than the average recorded for the calendar year preceding. Data regarding the output and shipments of Canadian coal, the imports of Bituminous, Anthracite and Lignite coal into Canada and the exports of domestic coal for foreign consumption, have all been compiled in fair detail, and comparative figures for preceding years have been set down. All these data are given in the section of the Report devoted to coal. A separate section has also been prepared covering the production of petroleum, and another note reviews the output of the asbestos industry and the general conditions prevailing. Salt has also been reported upon in the same manner, and a number of the other Non-Metallics, to which it did not seem desirable to devote separate reports, have been considered in a general section. Following this review is a table showing the Metallic Mineral Production of Canada during the half-year, and for purposes of comparison similar data for the twelve-months period of the calendar year 1920.

Estimate of metallic mineral production of Canada for the period January 1st to June 30th, 1921

	1920 (12 Months)			January 1st to June 30th, 1921.			Percentage of Total 1920 production.	
	Quantity.	Average Price.	Value.	Quantity	Average Price.	Value.	Quantity.	Value.
Cobalt, metallic and contained in oxide, etc.	546,023 lbs.	\$2.50 per lb.	1,365,053	109,440	\$3.00 p. lb.	328,320	20%	24.05%
Copper.....	81,600,691 "	17.456c. per lb.	14,244,217	25,707,301	12.5c. "	3,213,412	31.5%	22.56%
Gold.....	765,007 oz.	20.671834 per oz.	15,814,098	396,391	20.671834 per oz.	8,194,129	51.81%	51.81%
Iron, ore, sold for export.....	7,643 tons.		57,268	20	5.50	110		
Lead.....	35,953,717 lbs.	8.940c. per lb.	3,214,262	32,875,616	5.73 p. lb.	1,883,772	91.44%	58.61%
Nickel.....	61,335,706 lbs.	40c. "	24,534,282	12,948,454	41.4c. "	5,300,600	21.11%	21.44%
Silver.....	13,330,357 oz. fine	100.90c. per oz.	13,450,330	6,545,481	59.8c p oz	3,914,852	49.10%	29.10%
Zinc.....	39,863,912 lbs.	7.671c. per lb.	3,057,961	28,236,103	4.840c. p lb.	1,369,168	70.83%	44.77%
Total.....			75,737,474			24,264,423		32.04%

METAL PRICES

For convenience of reference a table showing the average metal prices prevailing on the recognized markets during each month of the half-year period just closed, have been compiled, for purposes of comparison the yearly average for the year 1920 has been recorded in this table.

With the exception of Lead and Zinc, the prices used in this report are the average prices which obtained during the period on the New York and St. Louis markets. The Montreal Market prices have been used for Lead and were supplied

through the courtesy of the Montreal office of the Consolidated Mining and Smelting Company, while the prices for Zinc are those quoted on the St. Louis market.

Month	Antimony cents per lb.	(White) Arsenic cents per lb.	Cobalt cents per lb.	Cobalt Oxide (Black) per lb.	Copper cents per lb.	Lead cents per lb.	Nickel cents per lb.	Silver cents per oz.	Zinc (St. Louis) cents per lb.
January.....	5.258	11.	487.5	3.425	12.597	4.821	43.	65.950	5.413
February.....	5.250	10.5	450.0	3.00	12.556	4.373	41½	59.233	4.928
March.....	5.282	8.75	450.0	3.00	11.976	4.084	41	56.023	4.737
April.....	5.137	8.0	410.0	3.00	12.438	4.356	41	59.337	4.747
May.....	5.250	7.75	400.0	3.00	12.742	4.952	41	59.810	4.848
June.....	5.087	6.75	380.0	2.87	12.697	4.485	41	58.510	4.421
Average for 6 months...	5.21	8.75	427.0	3.04	12.501	4.512	41.4	59.810	4.849
Average for 12 months, 1920.....	8.490		250.0		17.456	8.940	40	100.90	7.671

COPPER

The decline in the price of copper which set in about September, 1920, continued to the end of the year at which time the price had reached the low level of thirteen cents. During the six months ending June 30, there was a further slight reduction, so that the average for the six months period of the current year was 12.501 cents, a decline of more than two and one-half cents from the ten-year period preceding the war. Considered in relation to the first nine months of 1920, the drop was about five and one-half cents per pound, with the result that in Canada as in other copper producing countries, production during the past six months suffered a decline. The fluctuations of the market have caused some anomalous conditions. For instance, the quantity of copper produced in 1920 was greater than was produced in 1919, but the average yearly price of the metal was so much lower that the value of the product of the metal was less than in 1919. Large stocks accumulated during the last three months last year and many copper producers found it necessary either to close down entirely or to curtail operations. Until the industrial demand for copper is restored and the stocks of new and secondary copper and copper alloys are actually used up, it is apparent that there is little prospect of activity for the copper industry. Undoubtedly, however, the development of hydro-electric enterprises, the electrification of railways, and the promotion of other large copper-consuming enterprises will cause a reaction.

The Dominion production from all sources for the period was 25,707, 301 pounds which at the average price of 12.5 cents has been valued at \$3,213,413. During the twelve months of 1920, production was 81,600,691 pounds, worth \$14,244,217. The principal producing provinces were British Columbia and Ontario the former producing 68.63 per cent and the latter 31.19 per cent of the total. (See table).

There was also a small production during the period from pyritic ores of Quebec which were mined as usual for use in the manufacture of sulphuric acid and the cinder exported for the recovery of copper.

Copper Production in Canada

January to June 1921.

Province	Output in lbs of copper	Value
British Columbia.....	17,644,370	\$ 2,205,546
Ontario.....	8,018,387	1,002,298
Quebec.....	44,544	5,568
Total.....	25,707,301	3,213,412

In order that a more detailed study of copper statistics for Canada may be made, a second table has been prepared to show the form in which the copper was produced in the several provinces of the Dominion. For purpose of comparison corresponding data for the twelve months of the calendar year 1920 have also been shown. The decline in production is brought out very clearly by these statistics. It is to be noted that the various items shown in these tables cannot be added to show the total copper production for any one province since the copper reported under some headings is included in the totals given in other columns. For example, in British Columbia copper is produced first in the form of blister and is then shipped to electrolytic plants for further refining. In Ontario some of the copper produced in the form of matte is also shipped directly to electrolytic plants. The tables follow:—

(Quantities in pounds.)

TABLE (A)—JANUARY 1ST TO JUNE 30TH, 1921.

Province.	Copper contained in Matte	Copper in Blister.	Electro- lytically Refined.	Copper in Copper Sulphate.	Estimated as recovered from Ores, concentrates or Residue exported.
British Columbia.....		15,841,923	2,320,000	43,789	1,758,658
Ontario.....	7,925,984	1,480,988	836,000	21,933	70,470
Quebec.....					44,544
Total.....	7,925,984	17,302,911	3,156,000	65,722	1,873,672

TABLE (B)—TWELVE MONTHS—1920

British Columbia.....		28,419,307	4,326,000	44,766	16,855,698
Ontario.....	32,000,079	5,781,193	854,320	26,026	59,914
Manitoba.....					3,062,577
Quebec.....					880,638
Yukon.....					277,712
Total.....	32,000,079	34,200,500	5,180,320	70,792	21,136,539

Copper Production in Canada

Returns from copper-producing mines of the Yukon Territory were incomplete at the time of writing. No reports had been received of any production from that section of the Dominion.

The output from British Columbia as formerly was mainly from the smelters at Anyox and Trail. At the former works, the product is made in the form of blister, all

of which is shipped to the United States for refining, while at Trail, copper is made in blister form, part of which is refined electrolytically at the Trail smelters and the balance, usually exported. Of the total British Columbia production is 17,644,370 pounds, 15,841,923 pounds or 89.78 per cent was contained in blister; and 1,756,192 pounds or 9.95 per cent estimated as recoverable from copper ores exported, allowing as smelter losses, from 10 to 20 pounds per ton according to the grade of ore treated. A total of 43,789 pounds was contained in copper sulphate and a further small portion of 2,466 pounds was also estimated as recovered from lead ores or concentrates shipped to United States smelters. During the period there was treated at Trail 1,433 tons blister from which 2,320,000 pounds refined cathode copper was produced.

COPPER AND ITS PRODUCTS.

IMPORTS INTO CANADA FOR 6 MONTHS ENDING JUNE 30TH.

	1920.		1921.	
	Quantity.	\$	Quantity.	\$
	cwt.		cwt.	
Copper, in bars or rods, when imported by manufacturers of trolley, telegraph and telephone wires, electric wires and electric cables, for use only in the manufacture of such articles in their own factories— (From June 6, 1919).....	188,769	3,651,293	128,786	1,745,267
Copper, in bars and rods, in coil or otherwise, in lengths of not less than 6 feet, unmanufactured.....	2,076	65,079	5,781	100,969
Copper, in bars or rods, in coil or otherwise, in lengths of not less than 6 feet, unmanufactured, n.o.p.— (From June 6, 1919).....	lbs.		lbs.	
Copper, in blocks, pigs or ingots.....	4,807,253	968,918	758,805	111,629
Copper, old and scrap.....	cwt. 7,405	107,789	cwt. 2,868	36,109
Copper ore and concentrates.....	10,800	24,800	27,500	48,015
Copper, precipitate of, crude.....	lbs. 3	8	lbs.	
Copper rollers adapted for use in calico printing.....	cwt.		cwt.	
Copper, in strips, sheets or plates, not polished, planished or coated.....	6,042	202,105	9,738	230,125
Copper tubing in lengths of not less than 6 feet, and not polished, bent or otherwise manufactured.....	lbs. 240,289	95,167	481,846	125,043
Copper wire, plain, tinned or plated.....	293,696	94,404	61,801	27,163
Copper wire cloth, or woven wire of copper.....		10,916		4,239
Copper wire, single or several, covered with cotton, linen, silk, rubber or other material, including cable so covered.....		114,479		113,732
Copper, all other manufactures of, n.o.p.....		313,897		184,244
Total Copper and its Products.....		5,648,855		2,727,135

EXPORTS.

FOR 6 MONTHS ENDING JUNE 30TH.

	Cwt.	\$	Cwt.	\$
Copper, fine, contained in ore, matte, regulus, etc....	203,180	2,801,527	36,919	431,984
Copper blister.....	195,391	4,264,517	142,810	2,431,590
Copper, old and scrap.....	3,415	51,543	153	2,330
Copper, pig.....			2,240	31,358
Copper in bars, rods, strips, sheets, plates and tubing.....	13,738	334,960	5,603	138,287
Copper wire and cable, insulated.....		57,166		428,747
Manufacturers of copper, n.o.p.....				22,476
Total Copper and its Products.....		7,509,713		3,486,772

The average monthly prices for copper for the period as supplied by the Engineering and Mining Journal were:—

	Cents per pound
January	12 597
February	12 556
March	11 976
April	12 438
May	12 742
June	12 697
Average for period	12 501
Average for 12 months, 1920	17 456

Manitoba did not produce during the period, the Mandy mine which shipped ores in 1920 to Trail being closed down, on account of difficulties in transportation, increased freight rates, and lack of markets.

The nickel-copper area of the Sudbury district as usual produced nearly all Ontario's production of 8,018,387 pounds. Of this total 7,925,984 pounds or 98.84 per cent was contained in matte produced by the Mond, International and British America Companies, and 70,470 pounds was estimated as recovered from silver-cobalt ores. The Ontario silver smelters also produced 21,933 pounds of copper in the form of copper sulphate.

The matte produced by the smelters was refined by the International Nickel Company at Port Colborne, and by the British America Nickel Corporation at Deschenes. Matte treated during the period amounted to 2,069 tons from which there was produced 836,000 pounds refined copper and 1,460,988 pounds contained in converter copper.

No copper ores were exported from Quebec during the period, but a small shipment of 2,986 tons containing 1,582,923 pounds sulphur and 103,624 pounds of copper was treated by Canadian acid-making plants and from the copper residues which were exported to United States copper smelters, some 42,904 pounds were estimated as recovered, and a further small quantity of 1,640 pounds was also obtained from a lead concentrate shipment which was exported.

The imports and exports of copper and its products are shown in the accompanying table for the first six months of 1920 and 1921. The total imports for the 1921 period were less than half those for the same time in 1920, and the exports showed about the same decrease.

GOLD

The total gold production of Canada during the first six months of this year amounted to 396,391 fine ounces, worth at the standard value for gold, \$8,194,129. The period's production, therefore, represented 52 per cent of the whole amount produced during the preceding calendar year, and at the time of writing, the gold mining industry throughout the Dominion is in a flourishing condition. A feature of the market for gold is that all sales to the Royal Mint, Ottawa, are paid for in New York funds. Exchange on the Canadian dollar in New York has remained fairly constant around 12 per cent during the period, so that gold producers benefited considerably.

Ontario is the premier gold-producing province of the Dominion, the output from this province alone, during the past six months constituting 73.5 per cent of the entire Canadian production. At the present time, the gold mines of Ontario are being operated to capacity and the industry is prosperous. During the earlier months of the year, however, the productive capacity of these mines was curtailed principally because of the shortage of hydro-electric power. The mild winter and the unusually light snowfall left the rivers and streams with little of the customary reserve water supply in the spring.

British Columbia ranked second as a gold-producing province, and accounted for 22.9 per cent of the total produced. Compared with the gold output recorded for the province during the year 1920, the production for the six months showed a remarkable gain in spite of the fact that several of the larger mines operated during 1920, were idle during the half-year period just closed.

The Yukon, which for so many years led the way in gold production, has long conceded first and second place, and for the period now reported ranked third among the producing areas. The whole production in the Yukon was, as usual, from placer deposits, and while most of the gold was obtained by two large operators, considerable quantities were recovered by the three hundred or more individuals, or partnerships, also working in the Territory.

Quebec, Nova Scotia and Manitoba followed in order, for the six months period, but the combined output of gold from the three provinces amounted to only about one thousand fine ounces in all, an almost negligible amount in comparison with the production by the leaders.

Returns have been received by the Bureau from all the principal producers and additional data have been supplied through the courtesy of the Director of the Royal Mint and the Superintendent of the Mining Lands and Yukon Branch of the Department of the Interior. The Provincial Governments have also assisted in the compilation and checking of the data given so that for this record, practically all sources of authentic information have been drawn on.

In evaluating the production of gold, the standard practice has been followed and the gold content in fine ounces, of the bullion, residues, etc., produced has been computed at \$20,671,824 per ounce (U. S. Standard).

In the table given below the quantities and values of gold produced in each of the provinces have been compiled to show the output for the twelve months of 1920, and for the first six months of the current year. The percentage of the output credited to each province is also shown, both for the year and the half-year, and in addition, the ratio of the half-year output to the full year production has been determined in percentages.

Province.	Production during the 12 months 1920.			Production during the 6 months 1921.			
	Fine Ozs.	Value \$	% Production of each Province.	Fine Ozs.	Value \$	% Production of each Province.	Ratio of 6 mos. Production to 12 mos. 1920 in %
Ontario.....	564,995	11,679,483	73.9	291,395	6,023,669	73.5	38.0
British Columbia.....	124,808	2,580,010	16.3	91,057	1,882,315	22.9	11.9
Yukon.....	72,778	1,504,455	9.5	12,970	268,114	3.3	1.6
Quebec.....	955	19,742	0.3	540	11,163	0.3	0.1
Manitoba.....	781	16,145		173	3,576		
Nova Scotia.....	690	14,263		256	5,292		
Canada.....	765,007	15,814,098	100.0	396,391	8,194,129	100.0	51.6

The next table shows the production of gold by provinces, division being made to indicate the quantity produced from each of the several sources.

Canadian Gold Production by Provinces

(Fine Ounces).

Province	Placer	Bullion produced as such from Gold Ore Mines	Contained in blister Copper and lead bullion produced in Canadian Smelters	Contained in Ores, Concentrates and Residues Export
Nova Scotia.....		* 256		
Quebec.....				540
Ontario.....		290,605		790
Manitoba.....		*173		
British Columbia.....	a5,360	680	33,346	51,671
Yukon Territory.....	12,970			
Total.....	18,330	291,714	33,346	53,001

(a) Estimated at fifty per cent of 1920 production.

*Reported as received at Royal Mint, Ottawa.

As stated above, practically all Canadian gold sales are to Royal Mint at Ottawa, and for this reason a table has been prepared showing the receipts of gold bullion during the six months' period, together with the metal contents of the bullion received. The table follows:—

Receipts at the Royal Mint

January 1st to June 30th, 1921.

Province.	Gross Weight, Ounces.	Precious Metal Content.	
		Fine Gold, Ounces.	Fine Silver, Ounces.
British Columbia.....	60.10	32.723	21.63
Manitoba.....	256.27	172.754	27.56
Nova Scotia.....	288.54	255.545	13.67
Ontario.....	339,404.58	260,273.324	46,882.65
Vancouver assay office.....	45,757.53	42,129.750	2,360.49
Jewelry and Scrap.....	11,216.31	2,426.995	2,365.66
Total.....	396,983.33	305,921.091	51,671.66

Gold in Nova Scotia was obtained altogether from the working of auriferous quartz deposits, the product of which was shipped to the Royal Mint. The production by each operator was very small, so that the record of receipts at the Royal Mint is a more reliable guide to production than the record from the operators themselves.

In Quebec, gold occurs in the pyritic deposits of the Eastern Townships which are mined principally for their sulphur content, and in the zinc lead ores of Portneuf County. It was estimated that 540 fine ounces of gold were recovered from shipments concentrates exported during the period to United States smelters.

For the first half of 1921, seven operators in Ontario reported having been in operation and the total gold production, as noted above, was 290,605 fine ounces. The Porcupine area produced by far the greater amount but Kirkland Lake had in the neighbourhood of thirty thousand ounces to its credit at the end of the period.

The months of April, May and June saw great advances in the gold production of Northern Ontario, and at the end of the period, activity in the gold camps was at its height. Labour has been fairly plentiful and operating conditions favourable, so that with the benefit of New York exchange, the production of gold has been most profitable, and seems likely to advance rather than otherwise.

There has been little activity to gold mining in Manitoba and the outlook for gold production to any appreciable extent is not hopeful owing to the fact that present transportation facilities are inadequate. Some gold is obtained from the working of auriferous quartz deposits and last year there was a production of gold from the Mandy copper mines in The Pas district.

In British Columbia the gold production was partly from placer workings but the greater share was obtained from the copper-gold ores. A small amount was also extracted from gold quartz ores. While the output of gold in British Columbia during the past few years has been below the usual production of some 250,000 ounces, an improvement in production has been noted during the past six months, and although the provincial output for the year 1920 represented only 16.3 per cent of the Dominion total, the corresponding percentage for the half-year just closed was 22.9, a figure which is significant when it is remembered that the output for Canada during the six months was nearly 52 per cent of that produced during the preceding calendar year.

The Yukon placer deposits were worked during the period by a small army of miners, although the most of the output was reported by the two principal companies working in the field. The Department of the Interior collects a royalty of 2½% of the value of the gold produced, a fixed value of \$15 per ounce for royalty purposes being placed on the crude gold.

Based on the returns made to the Mining Lands and Yukon Branch of the Department of the Interior the production for the Yukon during the period was 16,212.02 crude ounces. It has been customary to compute the fine gold and silver contents of the crude placer gold as 80% fine gold; 18% silver and 2% base metals. While there has been some discussion as to whether these percentages are representative of the gold coming out of the Yukon, still, in order that true comparisons may be made with previous reports, this method has been used in making up this report.

The production of placer gold during the first six months of this year, as reported by the Department of the Interior, (Mining Lands and Yukon Branch) is shown below.

Month.	Dawson. Ounces.	Whitehorse. Ounces.	Total. Ounces.
January.....	813.77		813.77
February.....	621.16	1.06	622.22
March.....		22.85	22.85
April.....	34.49	1.69	36.18
May.....			
June.....	14,713.60	3.40	14,717.00
Total.....	16,183.02	29.00	16,212.02

Imports of Gold for Six Months ending June 30th

	1920. Value.	1921. Value.
	\$	\$
Bullion or Gold Fringe.....	9,835	16,570
Gold and Silver Sweepings.....	5,382	1,290

Exports of Gold for Six Months ending June 30th

	1920.	1921.
	Value.	Value.
	\$	\$
Gold bearing quartz, dust, nuggets and bullion obtained direct from mining operations.....	3,559,982	1,586,887

LEAD

Notwithstanding the general decline in prices during 1920, and the half of 1921, the quantity of lead recovered by the Canadian smelters and contained in shipments exported has shown a notable increase. The producing provinces namely British Columbia, Ontario and Quebec have made very creditable showings as compared with the year 1920. The price of lead per pound in hundred pound lots on the Montreal market, which was 11 cents in March, 1920, had by December of the same year fallen to 6.75 cents per pound. During the period now reviewed, the average price was 5.73 cents. Lead is probably in the strongest position of any metal; the buying movement while not strong, has been fairly constant, the paint, ammunition and white metal industries absorbing considerable quantities.

The Dominion production from all sources equalled 32,875,616 pounds which at the average Montreal price of 5.73 cents had a value of \$1,883,773. The production for the calendar year 1920 was 35,953,717 pounds, average price 8.94 cents with a value of \$3,214,262. As compared with entire year 1920, the production for the half-year period was therefore 82.4 per cent of the quantity and 58.6 per cent of the value of the previous year's production. British Columbia produced 30,659,410 pounds or 93.2 per cent of the Canadian output; Ontario 1,513,774 pounds, or 4.6 per cent; and Quebec, 702,432 pounds or 2.1 per cent.

Production of Lead in Canada

Table (a) Six Months', 1921.

	Lead, Pig or Bullion, Produced.	Estimated as recovered from ores and concentrates exported.
British Columbia.....Pounds	29,897,316	762,094
Ontario....."	1,504,830	8,944
Quebec....."		702,432

Table (b) Calendar Year, 1920.

	Lead, Pig or Bullion, Produced.	Estimated as recovered from ores and concentrates exported.
British Columbia.....Pounds	26,739,500	6,053,165
Ontario....."	2,246,030	9,460
Quebec....."		905,472

The Quebec production was all contained in export shipments of lead ores or concentrates and amounted to 702,432 pounds, allowance of ten per cent being made for smelter losses. As compared with 1920, this total amounts to 77.57 per cent of the whole production for that year.

Ontario produced 1,504,830 pounds as pig lead, from lead ores at Galetta, and also 8,944 pounds contained in shipments of ores from the cobalt district. The total, 1,513,774 pounds, was 59.2 per cent of that produced during the calendar year of 1920.

British Columbia was Canada's principal producer of lead during the period and the production was made from the silver lead ores which are nearly all treated at the Trail lead smelters. The total for the province was 30,659,410 pounds or 93.49 per cent of the previous year's production. A total of 29,897,316 pounds was contained in lead bullion derived from Canadian ores only and 762,094 pounds in lead ores and concentrates shipped to the United States for treatment.

The Yukon Territory did not produce any lead in 1920 and at the time of writing no reports had been received of shipments reported to have been made from the silver lead mines of Mayo.

The imports for the period during 1921 showed a considerable decline compared with the previous year, the total being only valued at \$147,389 as against \$1,135,115 for the same period in 1920.

Exports showed more than 50 per cent increase in value, the figures being \$451,765 for 1921 as against \$205,252 in same period 1920.

A detailed statement of imports and exports follows:—

Lead and Its Products

Imports into Canada for 6 months ending June 30th.

	1920.		1921.	
	Lbs.	\$	Lbs.	\$
Lead, bars and sheets.....	188,105	14,622	77,888	5,888
Lead, old and scrap.....	18,910	1,350	18,649	949
Lead, pig and block.....	11,340,827	979,604	1,251,013	62,046
Pipe, lead.....	27,217	2,886	59,929	4,146
Shot and bullets, lead.....	1,206	244	13,908	1,039
Tea lead.....	105,095	14,352	40,600	3,878
Manufactures of lead, n.o.p.....		122,257		69,443
Total Lead and its Products.....		1,135,115		147,389

Exports for 6 months ending June 30th.

	1920.		1921.	
	Cwt.	\$	Cwt.	\$
Lead, metallic, contained in ore, etc.....	38,154	204,423	28,826	132,163
Lead in pigs, etc.....	96	829	71,892	319,602
Total Lead.....	38,250	205,252	100,718	451,765

The prices of lead by months on the Montreal and Toronto market, which were supplied through the courtesy of the Consolidated Mining and Smelting Co., have been fairly steady, averaging for the period 5.73 cents per pound for Montreal, and 5.82 cents per pound for Toronto.

Pig Lead Prices

	Hundred pound lots.	
	Montreal.	Toronto.
January.....	\$6.093	\$6.050
February.....	5.683	5.600
March.....	5.377	5.361
April.....	5.404	5.614
May.....	6.021	6.242
June.....	5.795	6.045
Average for 6 months—1921.....	5.73c. per lb.	5.82c. per lb.
Average for 12 months—1920.....	8.940c. per lb.	

NICKEL

Considering the total lack of markets, the production of nickel during the period in Canada has been considerable. As usual the principal output was from the nickel copper area of Sudbury, Ontario, supplemented by a small production derived from the treatment of silver cobalt ores. Due to the overstocked condition of the world's nickel markets and the consequent comparatively small demand for nickel, large stocks piled up during the two years following the armistice, but the Canadian output during the last six months was creditable. Compared with the quantity and value of that for the twelve months of 1920, the output for the period was 21.11 per cent of the quantity and 21.44 per cent of the value. The following table clearly indicates the decline.

Production of Nickel in Canada

Nickel Copper Ores.	Unit of Measure.	1920 12 months.	1921 Jan. 1— June 30.
Ore mined.....	tons	1,135,792	158,481
Ore smelted.....	"	1,086,159	241,991
Bessemer matte produced.....	"	57,938	12,785
Copper content of matte.....	lbs.	32,000,079	7,925,984
Nickel content of matte.....	lbs.	61,114,556	12,924,986
From silver-cobalt ores:—			
Nickel as metal and contained in oxide, etc.....	lbs.	221,150	23,468

Refinery Production

Matte treated.....	tons	17,297	4,069
Refined and converter copper.....	lbs.	6,807,002	2,344,140
Refined nickel and nickel castings.....	lbs.	10,791,547	3,117,934
Nickel oxide.....	lbs.	4,866,001	318,732

Of the producing companies, the Mond and International operated their smelters throughout the period, but at a reduced capacity. The British-American Nickel Corporation late in February had closed down their entire works (mine, smelters and refinery), pending reorganization of the company, and a period of more active markets. No great improvement may be expected during the year or until the demand increases.

Of the total Canadian production of 12,948,454 pounds, 12,924,986 pounds was contained in matte produced by the three operating smelters in the Sudbury nickel-

copper field, and 23,468 pounds was produced by the silver smelters either as metal or contained in nickel oxide and salts at the average New York price, namely 41-4 cents per pound, the total production had a value of \$5,260,660.

Of the nickel refineries only the Port Colborne plant of the International Nickel Company operated throughout the six months. There was treated 2,735 tons of matte from which was recovered 2,441,482 pounds of nickel as castings and refined metal and as nickel contained in nickel oxides. The Deschenes plant of the British America Nickel Corporation operated for the first three months of the year, and treated 1,334 tons matte, recovering 462 tons or 924,000 pounds electrically refined nickel.

The exports of nickel, fine and contained in matte or speiss, during the first six months of 1921 were \$1,121,555 as against \$5,639,154 for the same period during 1920.

Imports and Exports of Nickel

(From Reports of the Trade of Canada.)

	1920.		1921.	
IMPORTS INTO CANADA FOR 6 MONTHS ENDING JUNE 30TH.	pounds	\$	pounds	\$
Nickel in bars and rods, strips, sheets and plates.....	16,239	8,008	19,387	8,172
EXPORTS FOR 6 MONTHS ENDING JUNE 30TH.				
Nickel, fine, contained in ore, matte or speiss—	22,621,200	3,766,414	2,272,400	438,803
Nickel, fine.....	5,342,100	1,872,740	1,945,500	682,752
Total.....		5,639,154		1,121,555

(Imports of Nickel into United States)

(Supplied by the U.S. Bureau of Foreign and Domestic Commerce.)

January 1—June 30, 1921.

	Tons	Nickel Contents.	Value.
		lbs.	\$
Nickel matte.....	1,358	1,797,858	381,037
Nickel and alloys of any kind in pig ingots, bars, rods or plates.....		342,277	107,355

(Exports of Nickel from United States)

Nickel oxide.....	104,258	45,426
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SILVER

Judging from returns for the first six months, the production of silver in Canada for the year 1921 bids fair to equal if not surpass that of the previous year. The uniform price of silver during recent months, while still below last year's average has tended to stabilize the industry and enable operators to survey the situation and plan their action with some degree of confidence. Declining costs of materials and wages have each contributed towards a greater margin between cost of operation and value of metal produced.

These factors have affected the situation to a greater extent in Ontario than in the other provinces where silver is more or less a by-product in the recovery of other metals. The Cobalt district is credited with the major portion of the production and during the latter part of the half-year period showed signs of renewed activity. During the early months of the year the low price of silver, the high cost of production and the power shortage caused a great depression. A number of companies operating on low grade ores were forced to close down. The Mining Corporation took advantage of the situation and closed its mill in March to make alterations with a view to an increased capacity when more favorable conditions should prevail. The mill was re-opened in May with brighter prospects for profitable production. The close of the half-year saw a number of the smaller companies in operation in addition to the four leading companies—the Nipissing, Mining Corporation, O'Brien and Coniagas. A number of former producers have every prospect of an early renewal of operations should the price of silver hold steady and the expected decline in operating costs take place.

The production of silver in Canada from all sources during the first six months of 1921 totalled 6,545,481 fine ounces, which was 49.10 per cent of the total production for 1920, when 13,330,357 ounces was reported. The average price in 1920 was 100.9 cents per ounce and the total value computed at this rate was \$13,450,330. In 1921 for the first half year the average price dropped to 59.81 cents per ounce, and the value on this basis to \$3,914,852, which is 29.1 per cent of the value for the year 1920. Computed from these data the estimated total production for 1921 would be 98.20 per cent of the quantity, but only 58.2 per cent of the value of that for 1920.

As in the past, Ontario was in the lead with 4,718,537 ounces, or 72.08 per cent of the total production. British Columbia came next with 1,819,827 ounces or 27.80 per cent of the total. Silver contained in ores exported from Quebec, together with that in placer gold from the Yukon Territory amounted to 7,089 ounces or only 0.11 per cent. A small quantity, only 28 ounces in all, was recovered from Manitoba gold ores.

The above data are tabulated in the following table:—

Production of Silver in Canada during the Six Months ending June 30, 1921

Province.	Quantity.	Value.	Per cent of Total Production.
	ounces.	\$	
Ontario.....	4,718,537	2,822,157	72.08
British Columbia.....	1,819,827	1,088,439	27.80
Quebec (in ores exported).....	4,171	2,494	
Yukon Territory (contained in placer gold).....	2,918	1,745	0.12
Manitoba.....	28	17	
Total.....	6,545,481	3,914,852	100.00

The values shown in the table above have been computed from the average price for silver during the period, namely, 59.81 cents per ounce. At the average price of the previous year the value of the Ontario production during the six months this year would have been \$4,761,003, and that of British Columbia \$1,836,205, instead of a little more than half these values.

Of the Dominion total of 6,545,481 ounces, 69.01 per cent or 4,517,146 ounces was produced as bullion and refined silver; 11.39 per cent, or 745,301 ounces, was contained in blister copper and lead bullion.

The quantity estimated as recovered from exported ores, concentrates and residues was 1,280,116 ounces, or 19.55 per cent of the total for Canada. Alluvial gold from the Yukon added the further small amount of 2,918 ounces.

The Quebec production of 4,171 ounces was estimated as recovered from lead-zinc shipments to United States smelters.

In Ontario 2,166,165 ounces was recovered and sold by the southern Ontario smelters; 2,295,888 ounces by the three Cobalt reduction works—the Nipissing Mining Co., Mining Corporation of Canada, and the Cobalt Reduction Company; and producing mines in the area; 54,870 ounces was contained in shipments from the Northern Ontario gold mines and the nickel refinery at Port Colborne. In addition there was a recovery from exported ores and concentrates estimated at 201,614 fine ounces.

The several sources of silver production in Ontario produced, in the order named the percentages of the total output shown below:—

	Per Cent.
Cobalt Reduction works and mines.	48.65
South Ontario Smelters.	45.91
In exported ores.	4.28
Gold Mines and Nickel Refineries.	1.16

The province of Manitoba is practically negligible as a silver producer, only 28 ounces having been obtained in the gold ores during the six months.

British Columbia was the second largest producer with 1,819,827 ounces to its credit, an amount equal to 38.57 per cent of the Ontario production. From gold and copper ores exported to United States smelters the quantity of silver estimated as recovered was 984,507 ounces, in addition to 89,824 ounces from lead and zinc ores shipped to the same destination. The quantities just mentioned represented respectively 54.10 per cent and 4.93 per cent of the production for the province. The recovery of silver from lead bullion produced in the province amounted to 413,845 ounces, or 22.74 per cent of the provincial total, and silver contained in blister copper made within the period totalled 331,456 ounces, or 18.21 per cent of provincial production.

The Yukon territory was credited with only 2,918 ounces contained in placer gold.

The imports into Canada for the six months ending June 30, 1921, of silver in the form of bullion bars, blocks, ingots, drops, sheets or plates, unmanufactured, amounted to only \$228,044, or about one-eighth the value during the same period in 1920, when the imports under the same items amounted to \$1,824,261 in value.

Exports of silver contained in ore, concentrates, etc., amounted to 1,578,514 ounces valued at \$937,592, or 59.39 cents per ounce, as against 1,026,575 ounces valued at \$1,229,676, or 119.78 cents per ounce, during the first six months of 1920. Silver bullion exported during the same periods was 5,439,058 ounces valued at \$3,321,467, or 61.06 cents per ounce in 1921, and 4,198,434 ounces valued at \$5,127,249, or 122.12 cents per ounce in 1920.

The price of silver has remained fairly steady during the past three months. From an average of 65.950 cents per fine ounce in January the price declined to 56.023 cents in March, but recovered in April to an average of 59.337 cents, and in the succeeding three months held with only a slight variation of less than one cent per ounce. The

average for the six months was 59.81 cents per fine ounce, as shown by the table, which gives average monthly prices in both New York and London.

Month.	Average Price.	
	New York.	London.
	Cents per oz. .999	Pence per oz. .925
January.....	65.950	39.985
February.....	59.233	34.745
March.....	56.023	32.479
April.....	59.337	34.250
May.....	59.810	34.165
June.....	58.510	34.971
Average.....	59.810	35.099

ZINC

As indicated by smelter recoveries, the production of zinc showed a remarkable increase in comparison with the record for 1920. The shortness of demand and the slack metal market did not decrease the output. The Canadian production for the period was entirely derived from British Columbia, and was nearly all produced by the Consolidated Mining and Smelting Company principally from company-owned mines. During the past six months, neither Ontario nor Quebec produced any zinc.

The prices of all metals were held up to a fair and uniform price during the first nine months of 1920 when a simultaneous drop of about 40 per cent occurred. As a result of this, with a total lack of market and the closing of United States smelters which formerly treated considerable amounts of Canadian ores, many small operators were compelled to discontinue for a time. The range of average yearly prices for the last four years on the St. Louis market, as published by the *Engineering and Mining Journal*, were as follows: 1917, 8.730 cents; 1918, 7.890 cents; 1919, 6.988 cents; 1920, 7.671 cents. During the period reviewed the average price for the six months on the same market was 4.849 cents per pound. The New York quotations are usually one-half a cent higher, the difference being due to the freight charges. While the general trade in the metal has not been strong during the period it was noted that considerable sales were made, the paint and galvanizing industries absorbing fair amounts.

Of the total Canadian production of 28,236,103 pounds, the production of refined zinc by the Trail Smelters amounted to 28,218,000 pounds or 14,109 tons and it has been estimated that 18,103 pounds was recovered from zinc concentrates exported, an allowance of 20 per cent of the metal contents being made to cover losses in smelting.

At the average St. Louis price of 4.849 cents, the 28,236,103 pounds had a value of \$1,369,168. The total production for the 12 months of 1920 was 39,863,912 pounds valued at \$3,057,961. The figures for the period show, therefore, that this half-year's production represented 70.83 per cent of the quantity and 44.77 per cent of the value of zinc produced during the calendar year 1920.

The total imports during the 1921 period were valued at \$201,958 as against \$284,289 during the same period, 1920.

The exports showed a considerable increase for the half-year. From January to June, 1921, the total value of zinc and its products equalled \$642,135 or almost six times the value of zinc exports for the same period in 1920.

IMPORTS AND EXPORTS—ZINC AND ITS PRODUCTS.

	Imports—6 months ending June 30th.			
	1920.		1921.	
	lbs.	\$	lbs.	\$
Zinc dust.....	147,065	20,818	247,208	27,473
Zinc in blocks, pigs, bars and rods.....	4,685	520	35,857	2,512
Zinc in sheets and plates.....	1,592,994	183,454	1,314,498	122,965
Zinc seamless drawn tubing.....				
Zinc spelter.....	504,694	41,249	366,428	19,618
Zinc, manufactures of, n.o.p.....		38,248		29,390
Total Zinc and its Products.....		284,289		201,958

	Exports—6 months ending June 30th.			
	tons.	\$	tons.	\$
Zinc ore.....	1,833	62,576		
Zinc spelter.....	58	11,168	5,892	642,135
Total Zinc and its Products.....		73,744		642,135

The average monthly prices of zinc on both the Toronto and Montreal markets as shown in the accompanying table have been supplied through the courtesy of the Consolidated Mining and Smelting Company.

ZINC PRICES.

	Montreal.	Toronto.
January.....	\$6.561 per 100 lbs.....	\$6.561 per 100 lbs.....
February.....	\$6.607 " ".....	\$6.607 " ".....
March.....	\$6.686 " ".....	\$6.597 " ".....
April.....	\$6.588 " ".....	\$6.514 " ".....
May.....	\$6.809 " ".....	\$6.735 " ".....
June.....	\$6.556 " ".....	\$6.356 " ".....
Average for 6 months.....	6.63 cents per lb.....	6.56 cents. per lb

IRON ORE

The production of iron ore in Canada during 1921 will probably be the lowest on record. Of the large operating mines, the Magpie, operated by the Algoma Steel Corporation reported having made no shipments, although 42,198 tons of siderite ore was mined. The Moose Mountain magnetite mine was reported idle, and made no shipments. Only one small shipment was made from Ontario by the Wallbridge Mine which consisted of 20 tons ore mined in other years. Of the large operators in Nova Scotia the Dominion Iron and Steel Company and the Nova Scotia Steel and Coal Company reported no operations in Canada, although both firms mined iron ore in Newfoundland, producing during the period 334,102 tons of hematite averaging 51.5 per cent iron. Shipments amounted to 36,419 tons, part of which came to Nova Scotia, the balance being shipped to Europe.

N.B.—Since going to press a report has been received that 740 tons of magnetite ore averaging 60 per cent iron was mined and shipped from British Columbia.

Iron and Its Products

Imports into Canada for 6 months ending June 30th.

	1920.		1921.	
	tons.	\$	tons.	\$
Iron ore.....	274,546	1,032,718	32,131	234,871

Exports for 6 months ending June 30th.

	1920.		1921.	
	tons.	\$	tons.	\$
Iron ore.....	5,940	24,613	647	2,426
Chromite (chromic iron).....	2,435	37,222	1,721	24,754

PIG IRON

Beginning with January, 1921, a monthly record of the production of pig iron and ferro-alloys in Canada has been obtained by the Bureau, and the data have been published in the Monthly Report on the Production of Iron and Steel. These monthly records do not show the values of the iron made, but the reports give in detail the grades produced, and as the iron producers follow the recognized markets in the United States, the outputs shown seem to supply all the information which is required for the guidance of the trade. More complete statistics will be prepared for the annual report.

Blast furnaces were operated during the period by the Algoma Steel Corporation at Sault Ste. Marie, the Steel Company of Canada at Hamilton, the Canadian Furnace Company at Port Colborne, the Midland Iron and Steel Company at Midland, in Ontario; and by the Dominion Iron and Steel Company at Sydney. All plants used imported iron ores.

At the end of June, six furnaces were in blast, three at Sault Ste. Marie, one at Hamilton and two at Sydney.

The average output of pig-iron of all grades for the six months' period was 52,000 long tons, the lowest monthly production being in April. The total for the period was 309,206 long tons, as compared with 449,810 tons in the same period of 1920. The output for the first six months of this year was, therefore, only about 69 per cent of the amount made during the corresponding period of 1920. Of the pig iron made, 249,008 long tons was produced from blast furnaces by firms for their own use in further processes of manufacture; 59,897 tons made in blast furnaces was produced for direct sale. Of the 301 tons of electric iron made during the period, 222 tons was made for use and 79 tons of iron castings was made for sale as such. An analysis of the pig iron output for the six months ending June shows that 71 per cent of the total was basic iron; 21 per cent foundry iron, and 8 per cent malleable iron. Coke was the only fuel used in the manufacture of pig iron in Canada during the period.

The production of ferro-alloys, including the several grades of ferro-silicon, and also spiegeleisen, amounted to 10,781 tons during the half-year.

The tables which follow show respectively the output of pig-iron by grades, and ferro-alloys during the period, and the total production of pig-iron by grades for each month of the past five years.

Total Production of Pig-Iron in Canada for the Six Months ending June, 1921

(Tons of 2,240 lbs.).

	Made in Blast Furnaces		Made in Electric Furnaces		Total.
	For Own Use.	For Sale.	For Own Use.	For Sale.	
Pig Iron:—					
Basic.....	220,376	167			220,543
Foundry.....	23,717	39,988	222		63,927
Malleable.....	4,915	19,742			24,657
Castings.....				79	79
Total Pig Iron.....	249,008	59,897	222	79	309,206
Total Ferro-Alloys.....					10,781

Total Production of Pig-Iron in Canada by Months from 1917 to date

(In 1,000's of Long Tons).

Month.	1917.	1918.	1919.	1920.	1921.
January.....	80	66	93	73	41
February.....	75	70	78	64	58
March.....	93	86	82	69	60
April.....	90	93	83	77	40
May.....	97	94	74	87	57
June.....	89	92	59	80	56
July.....	83	98	54	84	..
August.....	90	86	60	93	..
September.....	90	85	51	94	..
October.....	92	96	50	105	..
November.....	87	95	65	94	..
December.....	78	106	70	54	..
Total.....	1,044	1,067	819	974 To date	312
Monthly Average.....	87	89	68	81 To date	52

STEEL

The total production of steel ingots and direct steel castings during the six months ending June amounted to 295,140 long tons, of which 284,197 tons was produced for use in further processes of manufacturing by the makers; the balance, or 10,943 tons, was made for sale. By far the greater amount of steel made was produced by the basic open hearth process, the total for this item amounting to 282,648 long tons, of which 280,839 tons was in the form of steel ingots and was used by the makers, and the balance, or 1,809 tons, in direct steel castings. Of this latter amount, 1,423 tons was made for sale, and 386 tons for the use of the producers. Electric steel production amounted to 10,938 tons, of which 9,585 tons was produced as direct steel castings, and 1,353 tons was in the form of ingots. Nearly eight thousand tons of the direct steel castings made from electric furnaces was marketed directly as finished product. Very little acid open hearth steel was made during the six months' period, the amounts recorded being 239 tons of ingots made for further use, and 256 tons of direct steel castings, practically all of which was sold as such, making a total of 495 tons in all. Converter steel production amounted to 1,059 tons, most of which was made for direct sale as steel castings.

The average monthly production of steel ingots and direct steel castings for the half year ending June 30, 1921, amounted to slightly more than forty-nine thousand long tons, the total output for the period being 295,000 tons. During the same months in 1920, the average production was ninety-one thousand tons, and the total, 547,000 tons. The monthly average for the eight-year period, 1907 to 1914, inclusive, was sixty-two and one-half thousand tons.

Similar tables to those shown under pig-iron have been prepared to show the trend of production in Canada of steel ingots and direct steel castings. The tables follow:—

Total Production of Steel Ingots and Castings in Canada for the Six Months ending June, 1921

	For Own Use.	For Sale.	Total Production.
Steel Ingots:—			
Open Hearth—Basic.....	280,839		280,839
Acid.....	239		239
Bessemer.....	26	44	70
Electric.....	775	578	1,353
Total Steel Ingots.....	281,879	622	282,501
Steel Castings:—			
Open Hearth—Basic.....	386	1,423	1,809
Acid.....	4	252	256
Bessemer.....	186	803	989
Electric.....	1,742	7,843	9,585
Total Direct Steel Castings.....	2,318	10,321	12,639
Grand Total.....	284,197	10,943	295,140

Total Production of Steel Ingots and Castings in Canada by Months from 1917 to date

(In 1,000's of Long Tons).

Month.	1917.	1918.	1919.	1920.	1921.
January.....	117	130	107	92	40
February.....	108	124	90	84	59
March.....	136	141	100	97	53
April.....	125	149	75	93	27
May.....	139	156	69	90	52
June.....	122	148	68	91	64
July.....	124	147	66	94	..
August.....	130	152	54	105	..
September.....	133	149	60	99	..
October.....	144	164	66	111	..
November.....	141	116	82	97	..
December.....	139	105	87	56	..
Total.....	1,558	1,681	924	1,109	To date 295
Monthly Average.....	130	140	77	92	To date 49

Imports for 6 months ending June 30th.

	1920.		1921.	
	cwt.	\$	cwt.	\$
Cast iron pipe of every description.....	4,831	29,832	21,585	94,121
Castings, malleable iron, n.o.p.....		173,745		164,253
Castings, iron, n.o.p., not malleable.....		628,748		351,927
Castings, iron, malleable when imported by manu- facturers of mowers, binders, harvesters and reapers.....		175,113		131,745
Castings, steel.....		58,596		151,732
Total Castings, n.o.p.....		1,096,034		893,778

Imports into Canada for 6 months ending June 30th.

	cwt.	\$	cwt.	\$
Ferro-manganese and spiegeleisen containing more than 15 per cent manganese.....	29,474	243,838	34,637	256,318
Ferro-silicon, containing not more than 15 per cent silicon.....	2,874	8,789	792	2,152
Ferro-silicon, containing more than 15 per cent silicon.....	807	2,330	4	35
Iron in pig and iron kentledge.....	tons. 20,057	801,554	tons. 8,692	269,197
Iron or steel billets weighing not less than 60 pounds per lineal yard.....	cwt. 77,721	234,125	cwt. 28,035	64,454
Iron or steel ingots, cogged ingots, blooms, slabs, puddled bars, and loops or other forms, n.o.p., less finished than iron or steel bars, but more advanced than pig iron, except castings.....	14,725	49,627	10,849	37,869
Spiegeleisen and ferro-manganese containing not more than 15 per cent manganese, and other ferro-alloys, n.o.p.....	2,923	118,931	104	5,822
Steel billets, n.o.p.....	1,013	3,975		
Total Smelted Products.....		1,463,169		635,847
Recapitulation—Iron and its Products.....		119,458,347		76,136,558

Exports for 6 months ending June 30th.

	1920.		1921.	
	Tons.	\$	Tons.	\$
Bars and rods.....	51,479	3,198,995	6,970	537,381
Metallic shingles and laths, and corrugated roofing.....		19,614		56,130
Rails.....	34,017	1,451,266	10,655	510,523
Structural Steel.....	2,087	200,329	2,140	289,635
Billets, ingots and blooms.....	43,582	2,193,942	4,659	293,427
Ferro-manganese and other ferro-alloys, n.o.p.....	3,634	198,579	230	9,522
Ferro-silicon.....	11,432	558,030	3,180	175,078
Pig iron.....	64,363	2,087,194	1,833	52,911
Total Smelted Products.....		5,037,745		530,938

ASBESTOS

From a review of the statistics collected for the first six months of 1921, it is apparent that the asbestos industry is passing through a period of quietness. The present condition is attributed to the state of the asbestos market which, when compared to the activity displayed during 1920 has experienced a considerable falling off. The United States manufacturers have had difficulty in disposing of their output in European markets due to some extent to the rates of exchange between European countries and the United States, and partly to the slow revival of the building trades during the half-year. The majority of the mines were working with reduced forces for much of the time. Shipments during the latter part of the period were very low as compared with those of the first three months of the year which are usually the smallest months for production. However, towards the end of the period a more plentiful supply of labour was obtained and a livelier market opened up due to the increased activity of the building trades and the gradual absorption of stocks held by manufacturers.

The Canadian production was as usual from the deposits in the Eastern townships of Quebec. The amount of asbestos rock mined during the first six months of the current year was 1,101,201 short tons of which 988,446 tons was milled. The total mill output for the period was 67,783 tons. The weight of asbestos recovered per ton of rock mined and raised during the period amounted to 123 pounds, as against 109.1 pounds from the ore mined and raised in 1920 and 100.8 pounds per ton in 1919. The weight of fibre extracted per ton of ore milled during the period was 139 pounds. Sales were made to the United States, Canadian and European markets, and for the period included 42,680 tons of asbestos fibre valued at \$2,708,338, the average value per ton being \$63.45. Of the total sales mentioned above 537 tons was crude asbestos, grade 1 and 2, and had an average value of \$768.60 per ton or a total of \$412,737. As compared with final figures for the sales made during the calendar year of 1920, namely, 199,573 tons with a value of \$14,792,201 the percentages are 21.38 per cent of the quantity and 18.3 per cent of the value.

The statistics collected for the asbestos industry are shown in the following table:

Asbestos, January 1st—June 30, 1921

Description and Disposition of Mill Output:

(Tons of 2,000 pounds)

Classification.	Total Mill Output.	Sold or Shipped.			Quantity in stock on hand at end of period.
		Quantity.	Total sales Value at Mill.	Average Value per ton.	
			\$	\$	
Crude No. 1.....	474	123	160,200	1,302.43	732
Crude No. 2.....	1,065	414	252,537	609.99	1,313
Fiberized Crude.....	414	49	24,525	500.51	562
Spinning Stocks.....	5,887	3,319	880,736	265.36	4,403
Shingle Stocks.....	9,582	4,912	439,520	89.47	6,029
Mill Board Stocks.....	3,076	1,887	123,900	65.65	1,882
Paper Stocks.....	20,948	13,384	637,015	47.59	15,087
Paper Fillers.....	13,979	7,522	133,969	17.81	9,902
By-Products (asbestos sand, finish, floats).....	12,358	11,070	55,927	5.05	4,957
Total.....	67,783	42,680	2,708,338	63.45	44,868

For comparative purposes the following table for the calendar year 1920 has been extracted from the final report as published by the Mines Branch in February of this year.

Output, Sales, and Stocks of Asbestos

	Output.	Sales.			Stocks on hand December 31.		
	Tons.	Tons.	Value.	Per ton.	Tons.	Value.	Per ton.
1920			\$	\$		\$	\$
Crude.....	4,098	894	84,762	978 88	295	443,583	1,124 73
Milled stock.....	165,348	74,723	10,922,837	62 52	22,114	1,650,981	74 66
	169,446	178,617	14,734,599	82 49	23,409	3,094,564	132 19
Asbestic.....		20,956	57,602	2 75			
Total.....		199,573	14,792,201				

The imports and exports shown below, are a fair indication of the general market conditions prevailing. It is quite possible that a percentage of the exports shown represents a balance of contracts signed during 1920.

	Imports for 6 months ending June 30.			
	1920.		1921.	
	tons	\$	tons	\$
Asbestos in any form other than crude, and all manufactures of n.o.p.....		435,256		301,075
	Exports for 6 months ending June 30th.			
	tons	\$	tons	\$
Asbestos.....	58,513	4,569,583	33,300	3,354,201
Asbestos sand and waste.....	13,396	135,147	9,330	97,152
Asbestos manufactures, including asbestos roofing.....		39,361		206,318
Total asbestos products.....		4,744,091		3,657,671

COAL

The output of coal from Canadian mines during the first six months of this year declined to 86 per cent of the amount produced during the corresponding period last year but was 5 per cent in excess of the output for the same period during 1919. With the exception of New Brunswick, none of the provinces showed an output equal to the 1920 record. New Brunswick produced 104 per cent of its 1920 output and the other provinces follow in the order named: Saskatchewan, 94 per cent; British Columbia, 91 per cent; Nova Scotia, 87 per cent; Alberta, 79 per cent.

In the table given below the output, shipments, and value of shipments of Canadian coal produced during the period have been tabulated. A part of the data included in the table has been estimated and the figures given are therefore subject to revision. The total value of coal shipped during the period amounted to \$32,882,953 and the average selling price reported from the different coal-producing areas ranged from \$2.43 a ton for lignite coal in Saskatchewan to \$8.53 a ton for anthracite in Alberta. The average for the Dominion was \$5.75. The table follows.

Coal by Provinces and Grades—For the Six Months ending June 30, 1921

Provinces.	Output.	Shipments.	Total value.	Average value per ton
Nova Scotia—			\$	\$
Bituminous.....	2,750,319	2,257,261	14,536,700	6 44
New Brunswick—				
Bituminous.....	69,230	65,768	377,508	5 74
Saskatchewan—				
Lignite.....	145,394	136,670	332,108	2 43
Alberta—				
Anthracite.....	46,402	10,357	88,419	8 53
Bituminous.....	1,261,080	1,172,804	5,711,555	4 87
Lignite.....	1,125,312	979,021	4,405,594	4 50
Total for Alberta.....	2,432,794	2,162,182	10,205,568	4 72
British Columbia—				
Bituminous.....	1,385,323	1,094,405	7,431,009	6 79
Total for Canada.....	6,783,060	5,716,285	32,882,953	5 75

Having regard to importations, the data show that Canada as a whole imported 104 per cent of the amount of anthracite coal brought in during the same period in 1920, and 132 per cent of the bituminous. Quebec was the only province which imported less anthracite during the six months than in the same period, 1920, but even then, that province imported 96 per cent of the anthracite coal received in the half-year of 1920, an increase of 12 per cent over the figures for 1919. Manitoba and the Head of Lakes imported 169 per cent of the 1920 quota of anthracite; Nova Scotia 140 per cent; New Brunswick, 128 per cent; Prince Edward Island, 108 per cent; and Central Ontario, 107 per cent. In every case also the figures show that more anthracite was imported during the past six months than in the corresponding six months in 1919.

Bituminous coal entered at Fort William and Port Arthur and the customs ports of Manitoba, amounted to 235 per cent of the 1920 figures. Nova Scotia imported 224 per cent as much bituminous as during the same period of the previous year but the entire quantity was only some 1,500 tons. Quebec was more fortunate in the matter of bituminous than in the previous year and during the first six months received 179 per cent of the amount which was brought in during the first six months of 1920. Central Ontario obtained 115 per cent as compared with importations in the first half of 1920.

Central Ontario has received during the first six months of the past three years a continually increasing amount of bituminous coal, the index numbers for the periods being 92 in 1919; 100 in 1920 and 115 in 1921.

Exports of Canadian coal have declined from the base figure of 100 for the six months ending June 30, 1920, to 68 for the same period during the present year. In 1919 the corresponding index number was 74. Total exports for the Dominion amounted to 869,004 tons this year as compared with 1,278,957 tons in the same period last year and 948,495 tons in the six months of 1919. British Columbia was the principal exporter during the period, the amount of coal shipped out of the province amounting to 517,823 tons, representing 87 per cent of the amount exported from this province during the same months in 1920. Nova Scotia shipped, for foreign trade, only 48 per cent of the amount of coal exported during the six months in 1920. The actual tonnage of exports for the six months just closed amounted to 284,601 short tons.

The total output of coal from the mines of Canada during the first six months of the present year amounted to 6,783,060 tons. During the first six months of 1920 the output was 7,929,269 tons and in the same period in 1919 the output was 6,335,532 tons. Total importations of anthracite and bituminous coal during the half-year

just closed, amounted to 8,319,246 tons, as compared with 6,768,709 tons in 1920 and 6,723,757 tons in the preceding year. Export figures have already been given and from these, all data of the coal supply of the Dominion may be determined. The output from Canadian mines plus the amount imported and less the quantities exported, leaves an amount which may be called the "Coal Supply." This figure for the six months of 1921 was 14,233,302 tons, as compared with 13,419,021 tons in 1920 and 12,130,794 tons in 1919.

It thus appears that the Canadian coal supply for the half year, as shown by the index numbers, rose from 90 in 1919 to 100 in 1920, and 106 in the half year just closed.

In the tables which follow, the output of coal from the mines of the several coal-producing provinces has been shown in detail by kinds of coal for the six months in the half year just closed. For purposes of quick comparison index numbers have been prepared, based on 1920 data, which in each case have been taken as equal to 100. Similar tables show the quantities of anthracite and bituminous coal imported into each of the Canadian provinces from the United States for the half year, and further tables give corresponding data regarding exports of coal mined in Canada. A summary table at the end shows comparative coal statistics for the Dominion for the six months' period of the past three years.

Table 2.—Output of Coal for Canada—By Kinds and Provinces, January 1st to June 30

	1919.		1920.		1921.	
	Short Tons.	Index No.	Short Tons.	Index No.	Short Tons.	Index No.
NOVA SCOTIA—						
Bituminous.....	2,795,953	89	3,149,070	100	2,750,319	87
NEW BRUNSWICK—						
Bituminous.....	87,196	132	66,211	100	69,230	104
SASKATCHEWAN—						
Lignite.....	134,546	87	153,877	100	145,394	94
ALBERTA—						
Anthracite.....	41,218	61	67,885	100	46,402	68
Bituminous.....	1,215,705	77	1,569,027	100	1,261,080	80
Lignite.....	783,357	56	1,407,869	100	1,125,312	79
Total.....	2,040,280	67	3,044,781	100	2,432,794	79
BRITISH COLUMBIA—						
Bituminous.....	1,297,557	86	1,515,330	100	1,385,323	91
TOTAL DOMINION—						
Anthracite.....	41,218	61	67,885	100	46,402	68
Bituminous.....	5,396,411	85	6,299,638	100	5,465,952	86
Lignite.....	917,903	58	1,561,746	100	1,270,706	81
GRAND TOTAL.....	6,355,532	81	7,929,269	100	6,783,060	86

Table 3.—Exports of Canadian Coal

Months.	1919.		1920.		1921.	
	Short Tons.	Index No.	Short Tons.	Index No.	Short Tons.	Index No.
TOTAL DOMINION—						
January.....	465,568	140	332,763	100	185,297	56
February.....	84,686	48	145,004	100	86,503	60
March.....	129,614	51	252,189	100	177,209	70
April.....	53,956	455	118,592	100	79,014	67
May.....	108,211	55	195,494	100	131,650	67
June.....	106,460	45	234,915	100	209,331	89
Total exports.....	948,495	74	1,278,957	100	869,004	68

Table 4.—Exports of Coal by Provinces—January 1 to June 30

	1919.		1920.		1921.	
	Short Tons.	Index No.	Short Tons.	Index No.	Short Tons.	Index No.
Nova Scotia.....	476,412	80	594,862	100	284,601	48
New Brunswick.....	24,338	28	86,033	100	63,430	74
Quebec.....	47		464	100	55	12
Ontario.....	5					
Manitoba.....	43	126	34	100	787	2,315
Saskatchewan.....	68	9	767	100	2,066	269
Alberta.....	30	1	2,661	100	242	9
B.C. and Yukon.....	447,552	75	594,136	100	517,823	87
Total.....	948,495	74	1,278,957	100	869,004	68

Table 5.—Imports of Anthracite and Bituminous Coal from the United States for the Periods Indicated

Months	1919.		1920.		1921.	
	Short tons.	Index No.	Short tons.	Index No.	Short tons.	Index No.
TOTAL DOMINION—						
Anthracite.....						
Jan.....	399,686	111	359,427	100	328,853	91
Feb.....	347,866	118	294,903	100	307,671	104
March.....	170,754	39	440,222	100	384,373	87
April.....	209,958	80	263,077	100	274,502	104
May.....	461,701	136	338,321	100	458,841	136
June.....	430,812	91	472,157	100	506,592	107
Total anthracite.....	2,020,777	93	2,168,107	100	2,260,832	104
TOTAL DOMINION						
Bituminous.....						
Jan.....	977,777	185	529,782	100	1,369,688	259
Feb.....	720,915	126	570,266	100	887,605	156
March.....	613,417	62	992,593	100	818,258	82
April.....	393,141	55	711,221	100	578,856	81
May.....	736,426	106	695,040	100	980,456	141
June.....	1,261,304	114	1,101,700	100	1,423,551	129
Total Bituminous.....	4,702,980	102	4,600,602	100	6,058,414	132

Table 6.—Imports of Coal into Canada by Kinds and Provinces, January 1st to June 30th.

	1919.		1920.		1921.	
	Short tons.	Index No.	Short tons.	Index No.	Short tons.	Index No.
NOVA SCOTIA—						
Anthracite.....	25,047	154	16,243	100	22,790	140
Bituminous.....	3,227	456	707	100	1,586	224
Total.....	28,274	166	16,950	100	24,376	143
NEW BRUNSWICK—						
Anthracite.....	29,756	117	25,468	100	32,682	128
Bituminous.....	5,672	1,189	477	100	905	190
Total.....	35,428	136	25,945	100	33,587	129
PRINCE EDWARD ISLAND—						
Anthracite.....	3,704	134	2,766	100	2,983	108
Bituminous.....	50	24	206	100	53	26
Total.....	3,754	126	2,972	100	3,036	102
QUEBEC—						
Anthracite.....	522,407	84	623,580	100	600,598	96
Bituminous.....	1,049,645	134	781,384	100	1,401,180	179
Total.....	1,572,052	111	1,404,964	100	2,001,778	142
CENTRAL ONTARIO—						
Anthracite.....	1,356,002	95	1,434,349	100	1,528,427	107
Bituminous.....	3,305,742	92	3,609,302	100	4,167,121	115
Total.....	4,661,744	92	5,043,651	100	5,695,548	112
HEAD OF LAKES—						
Anthracite.....	82,320	134	61,569	100	69,566	113
Bituminous.....	317,616	182	174,789	100	440,600	252
Total.....	399,936	169	236,358	100	510,166	215
TOTAL ONTARIO—						
Anthracite.....	1,438,322	96	1,495,918	100	1,597,993	107
Bituminous.....	3,623,358	96	3,784,091	100	4,607,721	122
Total.....	5,061,680	95	5,280,009	100	6,205,714	117
MANITOBA—						
Anthracite.....	1,457	35	4,132	100	3,726	90
Bituminous.....	16,801	58	29,039	100	38,270	132
Total.....	18,258	55	33,171	100	41,996	126
MANITOBA & HEAD OF LAKES—						
Anthracite.....	83,777	193	43,309	100	73,202	169
Bituminous.....	334,417	164	203,828	100	478,870	235
Total.....	418,194	169	247,137	100	552,162	223
SASKATCHEWAN—						
Anthracite.....					60	
Bituminous.....	190	145	131	100	1,515	1156
Total.....	190	145	131	100	1,575	1202
ALBERTA—						
Anthracite.....	32					
Bituminous.....	353	177	200	100	564	282
Total.....	385	192	200	100	564	282
BRITISH COLUMBIA & YUKON—						
Anthracite.....	52					
Bituminous.....	3,684	84	4,367	100	6,620	152
Total.....	3,736	85	4,367	100	6,620	152

Table 6.—Imports of Coal into Canada by Kinds and Provinces, January 1st to June 30th.—*Concluded*

	1919.		1920.		1921.	
	Short tons.	Index No.	Short tons.	Index No.	Short tons.	Index No.
CANADA—						
Anthracite.....	2,020,777	93	2,268,107	100	2,260,832	104
Bituminous.....	4,702,980	102	4,600,602	100	6,058,414	131
Grand total.....	6,723,757	99	6,768,709	100	8,319,246	122

Comparative Coal Statistics for the Dominion, for the Six Months ending June 1919-20-21

Table 7a.—Output from Canadian Mines

	1919.	Index No.	1920.	Index No.	1921.	Index No.
January.....	1,337,852	83	1,604,775	100	1,369,294	85
February.....	1,136,188	87	1,307,934	100	1,202,978	92
March.....	1,261,524	96	1,307,478	100	1,135,966	87
April.....	1,044,288	88	1,189,274	100	955,811	80
May.....	951,957	95	1,169,685	100	998,218	85
June.....	623,723	57	1,350,123	100	1,120,793	83
Total.....	6,355,532	80	7,929,269	100	6,783,060	86

* Table 7b.—Imports of Coal into Canada

	1919.	Index No.	1920.	Index No.	1921.	Index No.
January.....	1,377,463	155	889,209	100	1,698,541	191
February.....	1,068,781	124	865,169	100	1,195,276	138
March.....	784,171	55	1,432,815	100	1,202,631	84
April.....	603,090	62	974,298	100	853,358	88
May.....	1,198,127	116	1,033,361	100	1,439,297	139
June.....	1,692,116	108	1,573,857	100	1,930,143	123
Total.....	6,723,757	99	6,768,709	100	8,319,246	123

Table 7c.—Exports of Coal from Canada

	1919.	Index No.	1920.	Index No.	1921.	Index No.
January.....	465,568	140	332,763	100	185,297	56
February.....	84,686	58	145,004	100	86,503	60
March.....	129,614	51	252,189	100	177,209	70
April.....	53,956	45	118,592	100	79,014	67
May.....	108,211	55	195,494	100	131,650	67
June.....	106,460	45	234,915	100	209,331	89
Total.....	948,495	74	1,278,957	100	869,004	68

Table 7d.—Coal Supply

	1919.	Index No.	1920.	Index No.	1921.	Index No.
January.....	2,249,747	104	2,161,221	100	2,882,538	133
February.....	2,120,283	105	2,028,099	100	2,311,751	114
March.....	1,916,081	77	2,488,104	100	2,161,388	87
April.....	1,593,431	78	2,044,980	100	1,730,155	84
May.....	2,041,873	102	2,007,552	100	2,305,865	114
June.....	2,209,379	82	2,689,065	100	2,841,605	106
Total.....	12,130,794	90	13,419,021	100	14,233,302	106

PETROLEUM

The most of Canada's production of crude petroleum is obtained from the oil fields of Southwestern Ontario. The Provinces of New Brunswick and Alberta also produce a small percentage. From returns covering the operations for the half-year the total production has been found to be approximately 92,242 barrels crude petroleum. As compared with the whole 1920 production of 196,251 barrels, the output for the half-year is about 47 per cent in quantity.

The production by provinces is as follows: New Brunswick, 4,009 barrels valued at \$18,800, averaging \$4.69 per barrel; Ontario, a total of 83,673 barrels valued \$251,020 (excluding bounty) or an average of \$3.52 per barrel, and Alberta, 4,560 barrels, value \$14,592, averaging about \$3.20 per barrel.

From a report supplied by the supervisor of bounties in Ontario, the production for the province by fields can be shown, with approximate selling values, etc.

Crude Petroleum production: Ontario

(January 1st to June 30th, 1921.)

Field.	Quantity in Barrels.	Value Less Bounty.	Bounty Paid.	Total Value.
Petrolia and Enniskillen.....	33,428-19/35	\$ 100,284.57	\$ 17,549.98	\$ 117,834.55
Oil Springs.....	18,755-24	56,267.00	9,846.73	67,113.73
Moore Township.....	2,646-29	7,939.93	1,389.58	9,329.51
Sarnia Township.....	2,020-28	6,062.40	1,050.82	7,113.22
Plympton Township.....	231-16	694.40	121.63	816.03
Bothwell.....	13,543-11	40,629.95	7,110.23	47,740.18
Tilbury East.....	432-05	1,296.40	226.87	1,523.27
West Dover.....	3,560-23	10,682.00	1,869.35	12,551.35
Raleigh Township.....	2,037-14	6,112.20	1,069.63	7,181.83
Dutton.....				
Onondaga.....	312-10	936.80	163.95	1,100.75
Belle River.....				
Moza Township.....	5,385-08	16,155.70	2,827.25	18,982.75
Thamesville.....	1,369-26	3,958.77	692.87	4,651.64
Total.....	83,673-32	\$ 251,020.12	\$ 43,918.89	\$ 294,939.01

A review of the imports and exports of petroleum for the first months of 1920 and 1921, as published in the reports of the Canadian Trade show the total imports of petroleum and its products during the period in 1921 as having exceeded those of 1920 by more than \$2,000,000. On the other hand exports which are always small have shown a slight decrease.

Petroleum and its Products

IMPORTS FOR 6 MONTHS ENDING JUNE 30TH.

Crude, Fuel and Gas Oils.

	1920.		1921.	
	Gals.	\$	Gals.	\$
Crude petroleum in its natural state, -7900 specific gravity or heavier at 60 degrees temperature, when imported by oil refiners to be refined in their own factories.....	131,534,278	8,830,367	189,146,512	11,329,103
Crude petroleum, gas oils other than naphtha, benzine and gasoline lighter than -8325 but not less than than -775 specific gravity at 60 degrees.....	42,121	6,445	54,839	5,099
Petroleum (not including crude petroleum imported to be refined, or illuminating or lubricating oils) -8325 specific gravity or heavier at 60 degrees temperature.....	54,776,794	2,709,924	33,986,597	2,349,675
Petroleum, imported by miners or mining companies or concerns, for use in the concentration of ores of metals in their own concentrating establishments.....			12,605	2,592
Kerosene and Illuminating Oils.				
Coal oil and kerosene, distilled, purified or refined....	2,871,369	462,424	4,030,539	488,489
Illuminating oils, composed wholly or in part of the products of petroleum, coal, shale or lignite, costing more than 30 cents per gallon.....	86,539	67,893	57,500	30,179
Lubricating Oils.				
Lubricating oils, composed wholly or in part of petroleum, and costing less than 25 cents per gallon....	345,227	67,403	633,689	117,368
Lubricating oils, n.o.p.....	1,989,063	949,066	1,708,575	941,916
Other Oils.				
Gasoline under -725 specific gravity at 60 degrees temperature.....	2,472,476	660,098	5,865,757	1,331,284
All other oils, n.o.p.....	112,204	66,749	16,842	14,593
Total, Petroleum Asphalt and their Products.....		18,323,426		20,449,229

EXPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	Gals.	\$	Gals.	\$
Oil, coal and kerosene, crude.....	1,130,615	87,731	1,561,002	123,487
Oil, coal and kerosene, refined.....	1,158,813	180,283	449,442	72,162
Oil, gasoline and naphtha.....	76,556	28,430	579,449	158,711
Oil, mineral, n.o.p.....	62,911	18,051	25,563	8,794
Wax, mineral.....	cwt. 14,040	114,859	cwt. 781	7,422
Total Petroleum and its Products.....		435,354		370,576

SALT

With the exception of one small firm the returns from all the producers of salt in Canada covering the period January 1st to June 30th of this year were received. The total output and sales which are tabulated below show the tonnages of the different grades produced.

The output as compared with that for the calendar year of 1920 shows a decline. A few of the large producers were closed down during the early months of the year, but with continued operation the output for the whole twelve months should nearly equal the production of former years.

Salt.—January 1 to June 30, 1921

	Quantity Manufactured. Short Tons.	Quantity Sold. Short Tons.	Value of Salt Sold not Includ- ing Packages.	Value of Packages.
1. Production and Sales of Salt during period—			\$	\$
Table and Dairy.....	21,255	20,106	354,860	
Common Fine.....	23,435	18,587	195,482	
Common Course.....	14,661	12,755	140,860	
Land Salt.....	716	691	5,525	
Other Grades.....	1,600	475	2,624	
Brine for Chemical Works (Salt equivalent sold or used).	8,085	6,960	24,360	
Total.....	69,752	59,574	723,657	382,966

2. Total Quantity of Salt in stock at end of period, 13,301 tons.

Both imports and exports have fallen off during the period. From the table shown below in which is tabulated the data for the first six months of 1920 and 1921, it may be seen that the imports have decreased about \$133,133 and the exports about \$3,550.

IMPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	1920.		1921.	
	Cwt.	\$	Cwt.	\$
Salt for the use of the sea or gulf fisheries.....	513,825	212,066	495,051	111,086
Salt in bulk, n.o.p.....	351,923	101,886	415,061	132,851
Salt, n.o.p. in bags, barrels and other coverings.....	250,863	186,772	172,004	123,654
Total.....	1,116,611	500,724	1,082,116	367,591

EXPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	Cwt.	\$	Cwt.	\$
Salt.....	3,345	5,065	1,924	1,515

OTHER NON-METALLICS

A list of the non-metallics not covered in the above report includes Actinolite, Arsenic, Barytes, Chromite, Feldspar, Fluorspar, Graphite, Gypsum, Magnesite, Magnesium Sulphate, Manganese, Mica, Natural Gas, Oxides, Phosphate, Pyrites, Quartz, Sodium Sulphate, Talc and Tripolite. While it was impossible to collect complete statistics for the majority of the above commodities, a survey of the returns received from the most important operators indicates that the production in many of the above minerals will be lower than that of the year 1920.

The items which have not shown any appreciable falling off are Actinolite, Feldspar, Gypsum, Natural Gas, Quartz and Talc.

The final figures for the quantities and value of the production of the above-mentioned commodities for the calendar year of 1920 have been supplied by the Department of Mines and are shown in the following table:—

Production of Non-Metallics, 1920 *

		Quantity.	Value.
Actinolite.....	Tons	100	\$ 1,160
Arsenic, white.....	Tons	2,459	447,848
Barytes.....	Tons	751	22,983
Chromite.....	Tons	11,016	251,379
Feldspar.....	Tons	37,873	280,895
Fluorspar.....	Tons	11,235	240,446
Graphite.....	Tons	2,190	165,617
Gypsum.....	Tons	429,144	1,893,991
Magnesite.....	Tons	18,378	512,756
Magnesium Sulphate.....	Tons	1,947	39,886
Manganese.....	Tons	649	11,029
Mica.....	Tons	2,203	376,022
Natural Gas.....	M. cu. ft.	16,845,518	4,232,642
Oxides.....	Tons	19,128	157,909
Phosphate.....	Tons		
Pyrates.....	Tons	174,744	719,110
Quartz.....	Tons	128,295	467,821
Sodium Sulphate.....	Tons	811	19,496
Talc.....	Tons	21,671	166,934
Tripolite.....	Tons	260	8,600

*Supplied by the Department of Mines.

Imports and exports of these non-metallics have been compiled from the reports on the trade of Canada, for the period, January 1 to June 30, 1920 and 1921. These data are given below:

Barytes

IMPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	1920.		1921.	
	Tons.	\$	Tons.	\$
Barytes.....	1,822	43,783	539	14,825

Feldspar

IMPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	1920.		1921.	
	Tons.	\$	Tons.	\$
Feldspar.....	711	14,929	490	11,150

EXPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	Tons.	\$	Tons.	\$
Feldspar.....	14,150	74,161	16,216	102,160

Fluorspar

IMPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	1920.		1921.	
	Cwt.	\$	Cwt.	\$
Fluorspar.....	47,484	46,326	64,931	34,709

EXPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	Tons.	\$	Tons.	\$
Fluorspar.....	1,767	23,415	3,684	34,643

Graphite

IMPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	1920.		1921.	
		\$		\$
Crucibles, plumbago.....		55,116		11,129
Plumbago, not ground or otherwise manufactured.....		2,078		3,092
Plumbago, ground and manufactures of n.o.p.....		56,866		22,566
Total Graphite and its Products.....		114,060		36,787

EXPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	Cwt.	\$	Cwt.	\$
Graphite or Plumbago, crude or refined.....	19,293	67,433	11,695	39,274

Gypsum

IMPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	1920.		1921.	
	Tons.	\$	Tons.	\$
Gypsum, crude, (Sulphate of lime).....	293	6,554	2,836	27,913
Plaster of Paris or gypsum ground not calcined.....	Cwt. 613	1,082	Cwt. 374	1,080
Plaster of Paris, calcined and prepared wall plaster..	10,931	9,182	24,144	18,991

EXPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	Tons.	\$	Tons.	\$
Gypsum or plaster, crude.....	57,980	104,159	50,695	86,240
Lime.....	Cwt. 204,343	163,005	Cwt. 139,591	135,881
Plaster of Paris ground, and prepared wall plaster...	78,804	66,839	48,067	39,472

Magnesite

IMPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	1920.		1921.	
	Cwt.	\$	Cwt.	\$
Magnesite.....	7,810	9,434	1,551	4,139

EXPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	Ton.	\$	Ton.	\$
Magnesite, crude.....	45	449		
Magnesite, calcined, dead burned, etc.....	Cwt. 115,516	211,951	Cwt. 20,487	51,297

Magnesium Sulphate

IMPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	1920.		1921.	
		\$		\$
Magnesium sulphate, or Epsom salts.....		41,989		11,150

EXPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	Cwt.	\$	Cwt.	\$
Magnesium sulphate.....	10,253	2,585	544	971

Manganese

IMPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	1920.		1921.	
	Lb.	\$	Lb.	\$
Manganese, oxide of.....	1,325,567	39,405	778,791	32,451

EXPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	Ton.	\$	Ton.	\$
Manganese Ore.....	3	248		

Mica

EXPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	Cwt.	\$	Cwt.	\$
Mica, rough cobbled and thumb trimmed.....	566	33,496	122	5,143
Mica, scrap and waste.....	25,566	16,265	6,327	3,991
Mica splittings.....	5,614	373,820	1,707	128,363
Mica plate and manufactures of (micanite).....		2,498		2,309
Total Mica and its Products.....		426,079		139,806

Iron Oxides

EXPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	1920.		1921.	
	Cwt.	\$	Cwt.	\$
Mineral pigments, <i>Iron oxides</i> , ochres, etc.....	11,157	22,616	13,813	32,399

Pyrites

EXPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	1920.		1921.	
	Ton.	\$	Ton.	\$
Pyrites.....	30	63		

Phosphates

IMPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	1920.		1921.	
	Cwt.	\$	Cwt.	\$
Phosphate rock (fertilizer).....	115,698	42,566	1,001	621

EXPORTS FOR 6 MONTHS ENDING JUNE 30TH.

	Ton.	\$	Ton.	\$
Phosphate rock.....	76	645		

Corundum

EXPORTS FOR 6 MONTHS ENDING JUNE 30TH.

—	1920.		1921.	
	Tons.	\$	Tons.	\$
Corundum	373	40,497	248	30,628

Quartz

IMPORTS FOR 6 MONTHS ENDING JUNE 30TH.

—	1920.		1921.	
	Cwt.	\$	Cwt.	\$
Silex or crystallized quartz, ground or unground	11,422	12,678	11,920	15,337

Sulphate of Soda

IMPORTS FOR 6 MONTHS ENDING JUNE 30TH.

—	1920.		1921.	
	Lb.	\$	Lb.	\$
Soda, sulphate of, crude, known as salt cake	32,897,778	259,946	32,346,302	381,513

Talc

EXPORTS FOR 6 MONTHS ENDING JUNE 30TH.

—	1920.		1921.	
	Ton.	\$	Ton.	\$
Talc, crude	430	2,081	71	437
Talc, refined	Cwt. 153,365	127,502	Cwt. 50,351	46,135

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