CANADA

DEPARTMENT OF MINES

H. MARTIN BURRELL, MINISTER; R. G. McCONNELL, DEPUTY MINISTER.

MINES BRANCH

EUGENE HAANEL, PH.D., DIRECTOR.

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ANNUAL REPORT ON THE INDUSTRIAL OUTPUT

MINERAL PRODUCTION OF CANADA

During the calendar Year

1918

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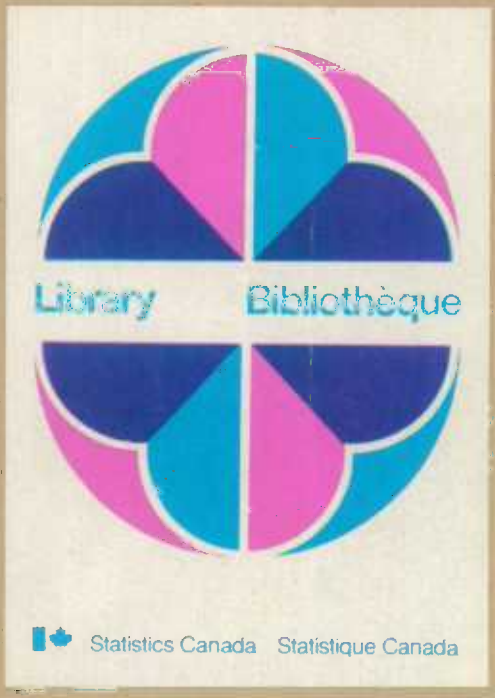
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No. 520.

LETTER OF TRANSMITTAL.

Dr. EUGENE HAANEL,
Director of Mines Branch,
Department of Mines,
Ottawa.

SIR,—I beg to hand you, herewith, the Annual Report on the Mineral Production of Canada, giving revised statistical information descriptive of the mining and metallurgical production in Canada during the calendar year 1918.

A preliminary report on the mineral production during 1918 was sent to press February 27, 1919, and issued within the following week.

During the five months immediately following the 10th March, 1919, the greater part of the time of the undersigned was taken up with the duties of the Acting Directorship of the Mines Branch. On this account, and in order to facilitate the more prompt publication of the final, complete mineral production record, this report is submitted in greatly abbreviated form.

Separate reports dealing more completely with the production of coal and coke, iron and steel, and possibly other metals and ores will be prepared but will not be included as usual in the annual volume.

That section of this report dealing with metals and metalliferous ores, except iron and steel, has been prepared by Mr. A. Buisson; and the entire section dealing with non-metalliferous products, including structural materials, has been prepared by Mr. John Casey.

The co-operation of Canadian mine and smelter operators who have, almost without exception, cheerfully furnished the department with statistics and information regarding their operations is gratefully acknowledged. Thanks are due also to railway and other transportation companies and to smelter operators outside of Canada for data furnished.

I have the honour to be, Sir,

Your obedient servant,

(Signed) JOHN McLEISH.

DIVISION OF MINERAL RESOURCES AND STATISTICS,

July 28, 1919.

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EXPLANATORY NOTES.

The term "ton" used throughout this report signifies a ton of 2,000 pounds; while the year referred to means calendar year, unless otherwise stated. The Government fiscal year formerly ended on the 30th June; but now terminates on the 31st March. This change took place in 1907, hence the fiscal period ending March 31, 1907, covers only nine months.

Statistics of exports and imports given throughout this report are compiled from the reports of the Trade of Canada, collected by the Customs Department and published by the Department of Trade and Commerce.

The term "production" used throughout this report may in general be interpreted as meaning the quantity sold or shipped. Mineral products mined or manufactured, but not sold or shipped at the end of the year, are not included as "production." An exception to this usage will be found in reference to pig-iron, in which case the statistics of production represent the quantities made.

The value of the metallic minerals produced, whether refined in Canada or not, is calculated on the basis of the average price of the metal in some recognized market. New York prices have usually been taken as the standard, except in the case of lead, for which the Montreal price is now used. The value of non-metallic products is given as at the mine or point of shipment.

THE

MINERAL PRODUCTION OF CANADA

During the Calendar Year

1918.

A preliminary report on the mineral production of Canada in 1918 was published on February 27, 1919, the statistical record being at that time partially estimated and therefore subject to revision.

According to the revised statement now presented the total value[1] in 1918 was $211,301,897. This is a million dollars in excess of the total value estimated in the preliminary report.

Compared with the total value of the production in 1917 which was $189,646,821 that of 1918 shows an increase of 11·4 per cent and in point of value represents the largest on record.

The detailed comparative statement here presented shows the production of each important product during the past two years, the proportion which each contributes to the total production, and the increase or decrease as the case may be of the production in 1918 as compared with that of 1917.

The total value of the metallic production in 1918 was $114,549,152 as against a value of $106,455,147 in 1917, and $106,319,365 in 1916, showing a net increase of $8,094,005 or 7·6 per cent in 1918 over the previous year.

The total value of the production of non-metallic products in 1918 was $96,752,745 as against $83,191,674 in 1917 and $70,882,169 in 1916. The value of non-metallic products in 1918 was greater than that of any previous year. Much of this increase is to be credited to higher prices realized for most of these products though on the other hand important increases have been made in the quantities of certain war minerals produced including asbestos, chromite, and pyrites.

The total value of the production in 1886 was $10,221,255, or about $2.23 per capita. In ten years the value had increased to $22,474,256, or $4.38 per capita, more than twice the total in 1886, and nearly twice the production per capita. The next ten years witnessed an increase to $79,286,697 in 1906, or $12.81 per capita, about 3½ times the production in 1896. The total in 1918 was about 2½ times as large as that of 1906.

The record of annual mineral production in Canada since 1886 and the total annual production of metallic and non-metallic products since 1907 are shown in the following tables:—

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[1] In presenting a total valuation of the mineral production as is here given, it should be explained that the production of the metals, copper, gold, lead, nickel, silver, and zinc, is given as far as possible on the basis of the quantities of metals recovered in smelters, and the total quantities in each case are valued at the average market price of the refined metal in a recognized market. There is thus included in some cases the values that have accrued in the smelting or refining of metals outside of Canada.

Annual Mineral Production in Canada since 1886.

Year.	Value of production.	Value per capita.	Year.	Value of production.	Value per capita.
	$	$		$	$
1886	10,221,255	2·23	1903	61,740,513	10·83
1887	10,321,331	2·23	1904	60,082,771	10·27
1888	12,518,894	2·67	1905	69,078,999	11·49
1889	14,013,113	2·96	1906	79,286,697	12·81
1890	16,763,353	3·50	1907	86,865,202	13·75
1891	18,976,616	3·92	1908	85,557,101	13·16
1892	16,623,415	3·39	1909	91,831,441	13·70
1893	20,035,082	4·04	1910	106,823,623	14·93
1894	19,931,158	3·98	1911	103,220,994	14·42
1895	20,505,917	4·05	1912	135,048,296	18·27
1896	22,474,256	4·38	1913	145,634,812	18·77
1897	28,485,023	5·49	1914	128,863,075	15·96
1898	38,412,431	7·32	1915	137,109,171	17·29
1899	49,234,005	9·27	1916	177,201,534	21·77
1900	64,420,877	12·04	1917	189,646,821	22·68
1901	65,797,911	12·16	1918	211,301,897	24·59
1902	63,231,836	11·36			

Annual Values of Metallic and Non-Metallic Production.

Year.	Metallic.	Non-Metallic.		Total.
		Fuels and other non-metallics.	Structural or clay and stone quarry products.	
	$	$	$	$
1907	42,426,607	31,275,546	12,863,049	(a)86,865,202
1908	41,774,362	32,142,784	11,339,955	(a)85,557,101
1909	44,156,841	31,141,251	16,533,349	91,831,441
1910	49,438,873	37,757,158	19,627,592	106,823,623
1911	46,105,423	34,405,960	22,709,611	103,220,994
1912	61,172,753	45,080,674	28,794,869	135,048,296
1913	66,361,351	48,463,709	30,809,752	145,634,812
1914	59,386,619	43,467,229	26,009,227	128,863,075
1915	75,814,841	43,373,571	17,920,759	137,109,171
1916	106,319,365	53,414,983	17,467,186	177,201,534
1917	106,456,147	63,354,363	19,837,311	189,646,821
1918	114,549,152	77,621,946	19,130,799	211,301,897

(a) Total includes $300,000 allowed for products not reported.

The production of pig-iron given in the general table includes only that proportion of the output of Canadian blast furnaces credited to Canadian ores. There is an important production of pig-iron from imported ores (shown in the footnotes to the general table and in the chapter on iron and steel) and the total value thereof in 1918 was exceeded only by the production of coal and nickel. There is also a large production of aluminium from imported ores for which no value is included, in the general table of production.

Comparative Statement of Mineral Production for Years 1917 and 1918.

Product.	1917.			1918.			Increase (+) or Decrease (−).		Increase (+) or Decrease (−).	
	Quantity.	Value (*a*).	Per Cent of Total.	Quantity.	Value (*a*).	Per Cent of Total.	Quantity.	%	Value.	%
Metallic.		$			$				$	
Antimony ore ..... *Tons.	361	22,000	.....	.....	.....	.....	− 361	100·0	− 22,000	100·0
Cobalt metallic and contained in oxide .. Lbs.	1,079,572	1,727,315	0·91	1,347,544	3,368,860	1·59	+ 267,972	24·8	+ 1,641,545	95·0
Copper (*b*) ..... "	109,227,332	29,687,989	15·65	118,769,434	29,250,536	13·84	+ 9,542,102	8·7	− 437,453	1·5
Gold ..... Fine Ozs.	738,831	15,272,992	8·05	699,681	14,463,689	6·85	− 39,150	5·3	− 809,303	5·3
Iron, pig, from Canadian ore (*c*) ... Tons.	46,022	768,783	0·41	47,444	1,204,703	0·57	+ 1,422	3·1	+ 435,920	56·7
Iron ore sold for export (*k*) ..... "	169,252	590,696	0·31	118,472	498,999	0·24	− 50,780	30·0	− 91,697	15·5
Lead (*d*) ..... Lbs.	32,576,281	3,628,020	1·91	51,398,002	4,754,315	2·25	+ 18,821,721	57·8	+ 1,126,295	31.0
Molybdenite ..... "	288,705	288,705	0·15	378,029	434,733	0·21	+ 89,324	30·9	+ 146,028	50·6
Nickel (*e*) ..... "	82,330,280	33,732,112	17·79	92,507,293	37,002,917	17·51	+ 10,177,013	12·4	+ 3,270,805	9·7
Platinum ..... Fine Ozs.	57	3,822	.....	39	2,560	.....	− 18	31·6	− 1,263	33·0
Silver (*f*) ..... Crude "	22,221,274	18,091,895	9·54	21,383,979	20,693,704	9·79	− 837,295	3·8	+ 2,601,809	14·4
Tungsten concentrates ..... Lbs.	.....	.....	.....	27,088	11,700	.....	+ 27,088	.....	+ 11,700	.....
Zinc ..... "	29,668,764	2,640,817	1·39	35,083,175	2,862,436	1·35	+ 5,414,411	18·2	+ 221,619	8.4
*Total	.....	106,455,147	56·13	.....	114,549,152	54·21	.....	.....	+ 8,094,005	7·6
Non-metallic.										
Actinolite ..... Tons.	120	1,320	.....	228	2,508	.....	+ 108	90·0	+ 1,188	90·0
Arsenic, white and in ore ..... "	2,936	669,431	0·35	3,560	563,639	0·27	+ 624	21·3	− 105,792	15·8
Asbestos ..... "	135,502	7,183,099	3·79	141,462	8,936,804	4·23	+ 5,960	4·4	+ 1,753,705	24·4
Asbestic ..... "	18,279	47,284	.....	16,797	33,993	.....	− 1,482	8·1	− 13,291	28·1
Chromite ..... "	36,725	499,682	0·26	21,994	867,122	0·41	− 14,731	40·1	+ 367,440	73·5
Coal ..... "	14,046,759	43,199,831	22·78	14,977,926	55,192,896	26·12	+ 931,167	6·6	+ 11,993,065	27·8
Corundum ..... "	188	32,153	.....	137	26,112	.....	− 51	27·1	− 6,041	18·8
Feldspar ..... "	19,462	89,826	.....	18,782	112,728	.....	− 680	3·5	+ 22,902	25·4
Fluorspar ..... "	4,249	68,756	.....	7,362	156,029	.....	+ 3,113	73·3	+ 87,273	126·9
Graphite ..... "	3,714	402,892	0·21	3,114	248,870	0·12	− 600	16·2	− 154,022	38·2
Graphite, artificial ..... "	548	.....	.....	904	.....	.....	+ 356	64·9	.....	.....
Grindstones ..... "	2,523	45,754	.....	3,072	83,005	.....	+ 549	21·8	+ 37,251	81·4
Gypsum ..... "	336,332	881,984	0·47	152,287	823,006	0·39	− 184,050	54·7	− 58,978	6·7
Magnesite ..... "	58,090	728,275	0·38	39,365	1,016,765	0·48	− 18,725	32·5	+ 288,490	39·6
Magnesium sulphate ..... "	929	4,645	.....	1,949	14,565	.....	+ 1,020	109·7	+ 9,920	213·6
Manganese ..... "	158	14,836	.....	440	6,230	.....	+ 282	178·4	− 8,606	58·0
Mica ..... "	1,166	358,851	0·19	747	271,550	0·13	− 419	35·9	− 87,301	24·3

Comparative Statement of Mineral Production for Years 1917 and 1918—*Concluded.*

Product.	1917.			1918.			Increase (+) or Decrease (−).		Increase (+) or Decrease (−).	
	Quantity.	Value (*a*).	Per Cent of Total.	Quantity.	Value (*a*).	Per Cent of Total.	Quantity.	%	Value.	%
		$			$				$	
Mineral pigments—										
Barytes ... Tons.	3,490	54,027	.....	640	10,165	.....	− 2,850	81·7	− 43,862	81·1
Oxides ... "	9,409	87,605	.....	17,317	112,440	.....	+ 7,908	84·0	+ 24,835	28·3
Mineral water ...	.....	145,814	.....	.....	154,468	.....	.....	.....	+ 8,654	5·9
Natural gas (*g*) ... M. cu. ft.	27,408,940	5,045,298	2·66	20,140,309	4,350,940	2·06	− 7,268,631	26·5	− 694,358	13·8
Petroleum ... Brls.	213,832	542,239	0·28	304,741	885,143	0·42	+ 90,909	42·5	+ 342,904	63·2
Phosphate ... Tons.	149	1,486	.....	140	1,200	.....	− 9	6·0	− 286	19·2
Pyrites ... "	416,649	1,610,762	0·85	411,616	1,705,219	0·81	− 5,033	1·2	+ 94,457	5·9
Quartz ... "	216,288	496,182	0·26	268,155	629,813	0·30	+ 51,867	23·9	+ 133,631	26·9
Salt ... "	138,909	1,047,792	0·55	131,727	1,285,039	0·61	− 7,182	5·2	+ 237,247	22·6
Talc ... "	15,803	76,539	.....	18,169	119,197	.....	+ 2,366	14·9	+ 42,658	55·7
Tripolite ... "	600	18,000	.....	500	12,500	.....	− 100	16·7	− 5,500	30·6
Total ...	.....	63,354,363	33·41	.....	77,621,946	36·74	.....	.....	+ 14,267,583	22·5
Structural Materials and Clay Products.										
Cement, portland ... Brls.	4,768,488	7,724,246	4·08	3,591,481	7,076,503	3·35	− 1,177,007	24·7	− 647,743	8·4
Clay products—										
Brick, common ... No.	210,630,576	1,999,465	1·06	164,970,087	1,879,811	0·89	− 45,660,489	21·7	− 119,654	6·0
Brick, pressed ... "	46,408,946	653,153	0·34	40,146,536	639,083	0·30	− 6,262,410	13·5	− 14,070	2·2
Brick, moulded and ornamental ... "	.....	32,854	.....	357,793	28,296	.....	.....	.....	− 4,558	13·9
Fireclay, and fireclay products ...	.....	326,511	0·17	.....	404,824	0·19	.....	.....	+ 78,313	23·9
Fireproofing ... Tons.	.....	299,645	0·16	28,087	226,798	.....	.....	.....	− 72,847	24·3
Hollow building blocks ... No.	.....	95,088	.....	1,402,158	40,876	.....	.....	.....	− 54,212	57·0
Kaolin ... Tons.	535	9,594	.....	863	19,299	.....	+ 330	61·9	+ 9,705	101·2
Pottery ...	.....	122,878	.....	.....	130,242	.....	.....	.....	+ 7,364	6·0
Sewerpipe ... Tons.	.....	783,762	0·41	36,574	699,774	0·33	.....	.....	− 83,988	10·7
Terra-cotta ... No.	.....	21,380	.....	174,752	15,146	.....	.....	.....	− 6,234	29·2
Tile, drain ... "	.....	434,708	0·23	19,762,101	499,340	0·24	.....	.....	+ 64,632	14·9
Lime ... Bus.	6,567,170	1,558,487	0·82	6,363,951	1,876,025	0·89	− 203,219	3·1	+ 317,538	20·4
Sand-lime brick ... No.	18,001,990	201,355	0·11	14,589,324	186,066	.....	− 3,412,666	19·0	− 15,289	7·5
Sand and gravel ...	9,182,417	2,326,249	1·23	11,262,282	2,367,018	1·12	+ 2,079,865	22·7	+ 40,769	1·8
Slate ... Squares	1,422	7,789	.....	933	5,124	.....	− 489	34·4	− 2,665	34·2

Stone—											
Granite		439,412	0·23		599,871	0·28			–	160,459	27·6
Limestone		2,288,659	1·20		2,342,403	1·11			+	53,744	2·3
Marble		55,820	0·03		550				–	55,270	98·9
Sandstone		261,256	0·14		102,750				–	158,506	60·7
Total		19,837,311	10·46		19,130,799	9·05			–	706,512	3·6
Grand total		189,646,821	100·00		211,301,897	100·00			+	21,655,076	11·4

*Short tons throughout. (*a*) The metals, copper, lead, nickel, silver and zinc as also cobalt oxides are for statistical and comparative purposes valued at the final average value of the refined metal. Pig-iron is valued at the furnace or spot, and non-metallic products at the mine or point of shipment. (*b*) Copper content of smelter products and estimated recoveries from ores exported, at 27·180 cents per pound in 1917, and 24·628 cents per pound in 1918. (*c*) The total production of blast furnace pig-iron in Canada in 1917 was 1,156,789 tons valued at $24,290,101, of which, it is estimated, 1,110,767 tons valued at $23,521,318 should be credited to imported ores; in 1918 the total production was 1,163,520 tons valued at $31,776,257 of which 1,116,076 tons valued at $30,571,554 are credited to imported ores. (*d*) Refined lead and lead contained in base bullion exported at 11·137 cents per pound in 1917, and 9·250 cents in 1918, the average prices in Montreal. (*e*) Nickel content of matte produced and nickel recovered from silver-cobalt-nickel ores valued at 40 cents in 1917 and 1918. The value of the nickel contained in matte, as returned by the operators, was from 10 to 15·8 cents per pound for both years. (*f*) Silver recovered in bullion and recoverable from ores and smelter products exported at 81·417 cents per ounce in 1917, and at 96·772 cents in 1918. (*g*) Gross returns of sale of gas as furnished by well operators. (*k*) In 1917 and 1918, figures as reported by the producers, which differ from those of the Trade reports.

EXPORTS AND IMPORTS.

A very large portion of the mineral production of Canada is exported for consumption or refining outside of Canada. On the other hand considerable quantities of mine products, chiefly those which have been refined or subjected to partial treatment, or in the form of manufactured goods ready for consumption, are imported.

The total value of the exports of products of the mine including direct mine products and manufactures thereof in 1918 was $174,867,322 compared with $171,925,863 in 1917. This value includes for 1918 mine products to the value of $75,708,425 and manufactures valued at $99,158,897, as against mine products valued at $77,389,963 and manufactures valued at $94,535,900 in 1917.

Practically the whole of the Canadian production of copper, nickel, and silver is exported, also a very large proportion of the production of gold, asbestos, and mica. There are, as well, considerable exports of coal. These products alone contribute over 88 per cent of the value of the mine products exported. Manufactured products exported consist chiefly of iron and steel goods, agricultural implements, aluminium, copper, calcium carbide, acetate of lime, fertilizers, and coke.

The United States is the chief destination of Canada's mine exports, over 72 per cent having been exported to that country during the fiscal year 1917-18, and about 20 per cent to the United Kingdom.

A great variety of mineral products, chiefly in the manufactured or semi-manufactured condition, are annually imported into Canada. These imports increased in value with great rapidity during the ten years preceding 1913. During the next two years, however, there was a falling off, but in 1916 the imports again increased to a value almost equal to that of 1913. The total value of these imports during the calendar year 1918 amounted to $348,188,517, as compared with a value of $354,313,551 in 1917; $256,346,726 in 1916; $146,465,510 in 1915; $181,675,667 in 1914; and $259,299,745 in 1913.

It is perhaps significant that of the total value of these imports in 1918 about one-half consisted of iron and steel goods and about 32 per cent of coal, coke, and petroleum.

Exports of Products of the Mine and Manufactures of Mine Products, Calendar Years 1917 and 1918.

Products.	1917.		1918.	
	Quantity.	Value.	Quantity.	Value.
		$		$
Arsenic ..... Cwt.	45,724	507,898	53,448	393,883
Asbestos ..... Tons.	93,932	4,903,326	119,454	7,786,710
Asbestos sand and waste ..... "	52,088	430,956	22,144	228,059
Coal ..... "	1,733,156	7,387,192	1,817,195	9,405,423
Cobalt, metallic ..... Lbs.	.....		292,015	748,705
" oxide, and salts ..... "	.....	1,542,945	588,229	853,737
" alloys ..... "	.....		73,580	298,496
Chromite (Chromic ore) ..... Tons.	19,229	342,528	15,831	353,616
Corundum ..... "	142	22,578	143	18,231
Feldspar ..... "	.....			101,187
Magnesite ..... "	.....	410,007	.....	816,553
Talc ..... "	.....			208,301
Gold-bearing quartz, dust, nuggets, etc.	.....	15,929,051	.....	10,040,813
Gypsum or plaster, crude ..... Tons.	224,423	245,182	67,824	80,843
Metals, viz.:—				
Copper, fine, in ore, matte, regulus, etc. ..... Cwt.	865,569	14,183,264	733,964	9,221,681
Lead, metallic, in ore, etc. ..... "	134,104	925,056	226,841	1,321,890
Molybdenite ..... "	(a) 647	81,173	3,516	402,435
Nickel, fine ..... "	812,724	8,708,650	17,108	707,206
" in ore, matte or speiss ..... "			857,677	10,556,040
Platinum, in concentrates or other forms ..... Ozs.	136	11,309	12	798
Silver, metallic, in ore, concentrates, etc. ..... "	21,718,784	17,621,398	1,225,007	3,735,830
Silver bullion ..... "			15,132,069	14,647,072
Mica ..... Lbs.	1,271,460	451,345	865,894	410,000
Mineral pigments, iron oxides, ochres. Cwt.	29,022	30,052	15,389	18,377
Mineral water, natural, not in bottles. Gals.	75	20	55	41
Mineral wax ..... Cwt.	72,337	401,331	36,644	347,823
Oil:—				
Mineral, coal and kerosene, crude. Gals.	2,130	183	270,302	28,415
Mineral, coal and kerosene, refined. "	28,212	6,558	1,946,967	206,675
Gasoline and naphtha ..... "	24,304	7,419	91,229	28,778
Ores:—				
Antimony ..... Tons.	774	50,476	26	1,430
Iron ..... "	164,004	660,673	130,250	650,502
Manganese ..... "	185	16,031	784	29,208
Zinc ..... "	(a) 5,972	320,296	10,545	476,791
Other ..... "	60,863	683,380	26,828	105,628
Phosphates ..... "	14	200	.....	.....
Plumbago, crude ore and concentrates. Cwt.	2,232	7,455	13,278	32,710
Pyrites ..... Tons	279,646	974,200	240,453	949,067
Salt ..... Cwt.	(b) 172,850	94,364	17,856	16,743
Sand and gravel ..... Tons.	1,075,374	290,964	902,750	229,957
Stone, ornamental, granite, marble, etc., unwrought ..... "	330	359	1,042	5,059
Stone, building, freestone, limestone, etc., unwrought ..... "	139,153	122,430	62,683	107,690
Stone, crushed ..... "	2,308	2,277	1,526	1,983
Stone, for manufacture of grindstones, rough ..... "	310	2,062	265	276
Other articles of the mine	.....	15,375	.....	133,763
Total mine products	.....	77,389,963	.....	75,708,425
MANUFACTURES.				
Abrasives, artificial	.....	(a) 1,249,513	.....	2,028,839
Aeroplanes, and parts of	.....	1,139,441	.....	5,679,674
Agricultural implements and machines, viz:				
Mowing machines ..... No.	12,149	486,593	8,694	566,878
Cultivators ..... "	6,336	170,611	3,383	147,724
Reapers ..... "	2,771	188,897	457	39,573
Drills ..... "	6,240	314,435	8,997	791,590
Harvesters and binders ..... "	9,502	1,158,757	5,549	989,031
Ploughs ..... "	25,354	1,150,386	.....	1,536,550
Harrows ..... "	4,093	93,609	5,104	141,871
Hay rakes ..... "	4,704	116,395	1,126	43,315
Seeders ..... "	26	2,621	37	3,432
Threshing machines ..... "	1,172	274,764	478	219,174
All others	.....	297,640	.....	371,667
Parts	.....	1,025,275	.....	833,965

(a) Nine months ending December, 1917. (b) Includes non-domestic in part.

Exports of Products of the Mine and Manufactures of Mine Products, Calendar Years 1917 and 1918—*Concluded.*

Products.	1917.		1918.	
	Quantity.	Value.	Quantity.	Value.
MANUFACTURES—*Continued.*		$		$
Asbestos, manufactures of		55,666		40,763
Bricks M.	4,464	40,039	3,277	34,593
Cement		16,857		13,752
Clay, manufactures of		83,600		129,691
Coke Tons.	23,595	137,318	29,612	223,629
Cream separators		150,923		115,120
Drugs, chemicals and medicines, viz :—				
Acetate of lime Cwt.	67,607	246,042	42,859	216,613
Acid sulphuric "	189,551	197,888	111,992	165,579
Ammonium sulphate "	(*a*) 160,947	693,377	173,926	1,027,558
Calcium carbide "	1,629,827	4,027,894	1,172,547	4,369,512
Cyanamid "	(*a*) 749,955	1,837,959	921,274	2,346,918
Earthenware and manufactures of		14,504		10,633
Fertilizers		1,253,667		190,697
Gasoline engines and parts of No.	800	152,275	1,395	271,173
Grindstones, manufactured		29,242		46,872
Guns, rifles, firearms		2,846,075		1,118,562
Gypsum or plaster, ground		146,384		101,618
Iron and steel and manufactures of, viz :—				
Stoves of all kinds		50,451		84,640
Gas buoys and parts of		85		
Castings, n.o.p		583,297		516,742
Ferro-silicon and ferro compounds Tons.	33,212	2,616,924	23,781	2,671,434
Pig-iron "	12,081	423,814	2,130	169,495
Linotype machines and parts of		6,977		5,937
Machinery, n.o.p., and parts of		2,499,581		5,349,457
Sewing machines, and parts of No.		157,809		50,054
Washing machines and wringers		6,400		14,447
Typewriters No.	1,883	97,904	3,461	192,401
Scrap iron or steel Cwt.	3,531,826	2,300,022	1,030,890	853,097
Bars and rods Tons.	(*a*) 41,321	3,633,787	105,285	10,312,657
Billets, blooms, ingots "	(*a*) 41,558	1,831,917	61,782	2,645,943
Rails "	26,402	1,605,742	12,952	575,062
Hardware, viz :—				
Wire and wire nails Cwt.	2,109,637	9,823,700		6,294,195
Tools, hand or machine		940,347		1,962,883
Hardware, n.o.p		917,177		1,995,603
All other iron or steel, n.o.p		7,000,678		8,907,060
Lime Cwt.		74,522	149,657	70,930
Metals :—				
Aluminium in bars, blocks, etc. Cwt.	223,246	7,620,953	216,165	7,223,570
Aluminium, manufactures of		17,165		197,670
Brass, old and scrap Cwt.	595,000	9,615,627	91,849	1,454,451
" rods, sheets, tubing "			26,368	703,227
Copper in pigs, bars, sheets, etc. "	175,706	4,776,025	467,807	11,378,440
Copper, old and scrap "	157,939	4,296,989	8,953	171,988
Lead in pigs, etc "	10,045	62,455	74,617	668,807
Metallic shingles and laths and corrugated roofing		41,084		13,823
Plated ware, n.o.p		23,164		21,735
Platinum, old and scrap Ozs.	(*a*) 195	18,290	185	20,094
Metals, n.o.p		5,611,556		3,920,919
Mineral and aerated waters in bottles		10,745		20,173
Oil, n.o.p Gals.	4,264,160	1,041,467	1,405,984	308,776
Plumbago, manufactures of		384,505		205,903
Stone, of all kinds, dressed		1,816		4,598
Tar		43,547		67,646
Tin, manufactures of		88,844		195,812
Vehicles :—				
Automobiles No.	9,492	4,561,875	10,361	5,076,076
" parts of		2,035,769		919,738
Bicycles No.	454	61,984	93	4,951
" parts of		52,260		91,807
Total Manufactures		94,535,900		99,158,897
Grand Total		171,925,863		174,867,322

(*a*) 9 mos.

Summary of Exports.

—	1915. Value.	1916. Value.	1917. Value.	1918. Value.
	$	$	$	$
Mine products	61,814,582	80,755,461	77,389,963	75,708,425
Manufactures	62,343,179	90,423,122	94,535,900	99,158,897
	124,157,761	171,178,583	174,867,322	171,925,863

EXPORTS.

Showing Destination of Mine Products during the Fiscal Years 1915-16, 1916-17, and 1917-18.

Destination.	1915–16. Value.	1916–17. Value.	1917–18. Value.
British Empire.	$	$	$
United Kingdom	12,425,248	15,545,227	14,513,456
Australia	122,409	53,297	96,479
Bermuda	5	210	191
British South Africa	43,397	27,151	12,036
" Guiana	28,812	109,590	144,950
" India	.....	119,559	306,663
" E. Indies, other	.....	37,567	.....
" W. Indies	9,170	60	32,392
" Strait Settlements	.....	.....	20
Gibraltar	3,301	55,828	.....
Hong Kong	498,991	263,812	606,377
Newfoundland	806,726	919,300	1,122,222
New Zealand	695	12,639	1,141
Total British Empire	13,943,754	17,144,240	16,835,927
Other Countries.			
Alaska	295,169	347,124	388,732
Argentina	102	132	.....
Brazil	.....	135	26
Chili	.....	6,991	2,826
China	368,199	135,483	1,262,910
Cuba	7,304	5,194	206
Denmark	.....	7,646	5,319
Danish West Indies	.....	.....	90
Egypt	.....	3,312	.....
France	186,868	555,589	291,681
French W. Indies	.....	900	.....
Greece	914	4,644	.....
Greenland, Iceland, etc	4,957	.....	5,980
Hawaii	1,804	.....	246,877
Holland	5,130	17,923	152,590
Italy	154,783	212,938	288,008
Japan	61,016	146,440	592,097
Mexico	9,393	.....	.....
Miquelon and St. Pierre	40,919	22,107	57,989
Norway	.....	.....	8,133
Peru	237	.....	.....
Porto Rico	2,016	.....	.....
Russia	62,687	24,885	.....
San Domingo	.....	6,456	13,175
Spain	9,900	.....	78,025
Sweden	9,001	.....	6,755
United States	51,425,708	66,974,768	53,523,156
Total other countries	52,646,107	68,472,667	56,924,575
Grand total	66,589,861	85,616,907	73,760,502

IMPORTS.

Imports of Products of the Mine and Manufactures of Mine Products—Calendar Years 1916, 1917, and 1918.

Products.	1916. Value.	1917. Value.	1918. Value.
	$	$	$
Alumina	1,114,061	1,866,240	2,071,060
Alum, alum cake and chloralum	471,836	423,903	382,132
Aluminium and manufactures	671,098	560,481	383,985
Ammonia, nitrate of	202,153	283,853	19,019
Ammonia, sulphate of	9,672	26,062	1,273
Antimony regulus	208,450	61,732	92,678
Antimony salts	13,891	6,295	18,986
Arsenic, oxide and sulphide of	18,925	54,136	33,573
Asbestos	334,670	537,431	604,703
Asphaltum	563,446	454,403	428,173
Bells and gongs	72,420	84,021	77,729
Bismuth	8,608	12,922	13,496
Blanc fixé and satin white	86,306	90,482	92,241
Blast furnace slag	4,602	7,106	18,506
Borax	265,933	381,294	199,210
Brick and tile	390,467	442,455	303,596
Brick, fire, of a kind not made in Canada, and n.o.p.	1,657,792	3,156,591	3,712,677
Bromine and bromides	413	530	1,032
Burrstones	648	910	1,571
Cement, portland, and manufactures	43,747	28,356	28,360
Chalk, Cornwall stone, feldspar, fluorspar, magnesite, mica, schist.	170,498	264,220	256,858
Clays: china, fire, pipe, and all other	325,494	416,209	554,353
Coal: anthracite, bituminous, slack, and run-of-mine	38,289,666	70,562,357	71,650,584
Coke	2,229,078	6,517,260	8,975,445
Coke, ground for electric batteries	8,119	15,239	22,849
Copper and manufactures of	7,566,080	10,015,561	6,372,412
Cryolite	78,916	101,141	167,586
Crucibles, clay or plumbago	520,341	798,044	113,856
Chloride of lime	158,546	100,834	162,748
Cyanides of potassium, sodium, cyanogen, or cpd. of bromine	507,021	505,294	459,136
Diamonds, unset, and bort	1,332,957	1,368,887	1,367,801
Earthenware	2,180,414	2,595,582	2,163,455
Earths, crude	4,074	3,917	2,514
Electric carbons	58,676	65,225	57,151
Emery and manufactures	367,719	632,836	659,912
Fertilizers, compound or manufactured	639,884	1,045,140	1,054,962
Flint, quartz, silex, etc	90,280	77,104	121,879
Foundry facings	27,638	47,416	45,798
Fullers' earth	13,072	17,004	16,969
Fossils	2,699	6,943	11,324
Gannister	2,833	23,954	12,465
Gold and silver and manufactures of	20,016,288	2,921,018	824,418
Graphite and manufactures of	103,150	171,209	226,777
Grindstones	122,291	185,607	297,287
Gypsum and plaster of Paris	43,291	35,460	22,065
Hydro-fluo-silicic acid	28,611	97	80
Iron and steel—Total, 1916: $129,040,248 1917: 187,191,534 1918: 169,538,669			
Pig-iron and kentledge	1,145,150	2,764,165	2,102,435
Ferro products and chrome steel	1,893,879	2,045,595	4,335,109
Ingots, blooms, billets, puddled bars, etc	895,446	1,401,782	262,210
Scrap iron and scrap steel	179,751	454,079	775,526
Plates and sheets	12,806,896	17,582,700	14,114,139
Tin plates and sheets	5,221,163	9,985,631	11,403,887
Bars, rods, hoops, bands, etc	13,362,807	22,567,187	17,849,982
Structural iron and steel	8,042,127	15,282,012	11,004,159
Rails and connexions	470,023	944,595	561,970
Pipes and fittings	165,576	143,124	128,257
Nails and spikes	283,007	892,021	404,913
Wire	4,305,674	4,409,376	3,721,514
Forging castings and manufactures	3,343,559	5,976,313	3,829,760
Other iron and steel products	76,975,990	102,742,954	99,044,808
Iron ore	4,419,013	5,124,889	5,895,974

IMPORTS.

Imports of Products of the Mine and Manufactures of Mine Products—Calendar Years 1916, 1917, and 1918—*Continued.*

Products.	1916. Value.	1917. Value.	1918. Value.
	$	$	$
Iron sand	15,641	36,737	67,528
Kainite	5,016	38,828	4,931
Lead and manufactures; litharge	2,077,896	1,732,428	1,350,689
Lime	96,332	78,251	55,745
Lithographic stone	2,768	3,921	2,757
Manganese, oxide of	63,786	92,616	93,477
Magnesia	20,651	16,186	13,200
Mercury or quicksilver	74,461	76,322	68,903
Metallic alloys :—			
Babbitt metal	20,524	36,444	27,062
Brass and manufactures of	4,676,374	5,328,659	4,647,872
Britannia metal and manufactures	25,192	20,513	25,898
German silver, nickel, and nickel silver	414,419	519,064	443,103
Type metal	2,126	1,193	85
Mineral and bituminous substances	344,743	647,444	914,442
Mineral water, including aerated water	130,933	108,444	105,967
Nickle anodes	6,019	8,348	3,734
Ochres, etc	409,258	417,502	475,853
Ores of metals, n.o.p	2,844,277	3,221,267	1,276,092
Paraffin wax	70,308	140,722	209,916
Paraffin candles	30,539	75,257	64,033
Petroleum and products of	14,604,476	22,741,709	30,475,621
Phosphates (fertilizer)	16,182	62,543	90,363
Platinum and manufactures of	88,543	114,279	31,140
Potash and manufactures of	150,735	135,836	118,900
Precious stones	207,621	192,748	186,365
Pumice	34,554	34,162	36,938
Salt	694,835	1,088,205	1,267,169
Saltpetre	101,103	163,556	204,121
Sand and gravel	183,894	312,403	435,992
Slate and manufactures of	96,776	106,893	133,054
Sand paper	247,317	331,776	317,048
Soda products : barilla, bichromate, caustic, sal and salt cake	2,079,859	3,096,178	3,656,459
Stone and manufactures of (including marble)	587,304	764,658	732,162
Soda, nitrate of	2,973,473	1,935,698	4,077,903
Sulphate of iron (copperas)	11,549	9,952	7,783
Sulphur and phosphorus	1,229,356	1,549,828	2,093,936
Sulphuric acid	115,173	15,680	208,288
Tar, coal and pine	184,286	208,065	256,372
Tin and manufactures of (including tinware)	2,999,675	5,656,665	4,204,532
Whiting and prepared chalk	181,349	261,812	270,197
Zinc and manufactures of	3,690,577	3,641,272	2,804,027
	256,346,726	354,313,551	348,188,517

Summary of Imports.

	1915.		1916.		1917.		1918.	
	Quantity.	Value.	Quantity	Value.	Quantity.	Value.	Quantity.	Value.
Brass and mfgs		$ 3,117,942		$ 4,676,374		$ 5,328,659		$ 4,647,872
Coal Tons.	12,465,902	28,345,605	17,580,603	38,289,666	20,857,460	70,562,357	21,678,587	71,650,584
Coke "	637,857	1,608,464	757,116	2,229,078	970,106	6,517,260	1,165,590	8,975,445
Copper and mfgs.		3,957,770		7,566,080		10,015,561		6,372,412
Iron ore Tons.	1,504,113	2,351,755	2,339,677	4,419,013	2,251,397	5,124,889	2,200,838	5,895,974
Iron and steel mfgs		74,398,983		129,040,248		187,191,534		169,538,669
Lead and mfgs.		2,482,916		2,077,896		1,732,428		1,350,689
Petroleum and mfgs. Gals.	236,313,765	7,979,264	292,426,121	14,604,476	379,148,006	22,741,709	420,728,933	30,475,621
Structural materials		3,912,946		5,562,220		7,901,398		8,117,394
Tin and mfgs		1,634,796		2,999,675		5,656,665		4,204,532
Zinc and mfgs.		2,775,358		3,690,577		3,641,272		2,804,027
All other		14,009,711		41,191,423		27,899,819		34,155,298
Total		146,465,510		256,346,726		354,313,551		348,188,517

PRODUCTION BY PROVINCES.

A summary of the mineral production by provinces in 1917 and 1918 is shown in the accompanying tables. The first shows the total production in the several provinces and the percentages of each for the past three years.

In comparing the relative production of the various provinces it should be remembered that Nova Scotia is not credited with the large production of pig-iron and steel at Sydney and Sydney Mines, which is made almost entirely from imported iron ores and is not naturally credited as Canadian mine product. Similarly a large proportion of the pig-iron production in Ontario is excluded from the total value, because it is derived from imported ores. The Province of Quebec, also, is not credited with the production of aluminium at Shawinigan Falls, which is made from imported bauxite.

Mineral Production by Provinces, 1916, 1917, and 1918.

Province.	1916.		1917.		1918.	
	Value of production.	Per cent of total.	Value of production.	Per cent of total.	Value of production.	Per cent of total.
	$		$		$	
*Nova Scotia	20,042,262	11·31	21,104,542	11·13	22,317,108	10·56
New Brunswick	1,118,187	0·63	1,435,024	0·76	2,144,017	1·01
Quebec	14,406,598	8·13	17,400,077	9·18	19,605,347	9·28
Ontario	80,461,323	45·41	89,066,600	46·96	94,694,093	44·82
Manitoba	1,823,576	1·03	2,628,264	1·39	3,220,424	1·53
Saskatchewan	590,473	0·33	860,651	0·45	1,019,981	0·48
Alberta	13,297,543	7·50	16,527,535	8·71	23,109,987	10·94
British Columbia	39,969,962	22·56	36,141,926	19·06	42,835,509	20·27
Yukon	5,491,610	3·10	4,482,202	2·36	2,355,631	1·11
Dominion	177,201,534	100·00	189,646,821	100·00	211,301,897	100·00

* Includes a small production of lime from Prince Edward Island.

Mineral Production of Nova Scotia. 1917 and 1918.

Product.		1917.		1918.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Barytes	Tons	3,490	54,027	580	9,145
Coal	"	6,327,091	19,410,737	5,818,562	21,095,470
Grindstones	"	375	9,875	256	8,000
Gold	Ozs.	2,210	45,685	1,176	24,310
Gypsum	Tons	215,472	301,261	49,365	115,976
Manganese	"	158	14,836	.....	.....
Molybdenite	Lbs.	94	94	180	207
Tripolite	Tons	600	18,000	500	12,500
Tungsten concentrates	Lbs.	.....	.....	1,063	372
Clay products	.....	.....	331,542	.....	303,515
Lime	Bus.	986,106	197,344	748,314	149,663
Stone	.....	.....	569,521	.....	478,721
Other products	.....	.....	151,620	.....	119,229
Total	.....	.....	21,104,542	.....	22,317,108

The total production of blast furnace pig-iron in Nova Scotia in 1917 was 472,147 tons valued at $10,-87,234, and in 1918, 415,870 tons valued at $10,451,400.

Mineral Production of New Brunswick, 1917 and 1918.

Product.	1917.		1918.	
	Quantity.	Value.	Quantity.	Value.
		$		$
Copper ... Lbs.	33,920	9,219	...	...
Coal ... Tons	189,095	708,010	268,212	1,331,710
Grindstones ... "	2,148	35,879	2,816	75,005
Gypsum ... "	38,556	191,631	27,225	214,114
Natural gas ... M. cu. ft.	796,775	103,735	792,396	107,842
Petroleum ... Bls.	2,341	5,460	3,009	7,402
Silver ... Ozs.	400	326	...	...
Tungsten concentrates ... Lbs.	...	...	22,000	8,693
Clay products ...	...	51,304	...	39,055
Lime ... Bus.	532,251	171,248	482,548	221,935
Stone ...	...	111,150	...	99,044
Other products ...	...	47,062	...	39,217
Total ...	...	1,435,024	...	2,144,017

Mineral Production of Quebec, 1917 and 1918.

Product.	1917.		1918.	
	Quantity.	Value.	Quantity.	Value.
		$		$
Copper ... Lbs.	5,015,560	1,363,229	5,869,649	1,445,577
Gold ... Ozs.	1,511	31,235	1,939	40,083
Iron ore, sold for export ... Tons.	16,488	48,599	6,330	28,211
Lead ... Lbs.	1,378,001	153,468	2,110,059	195,180
Molybdenite ... "	216,693	216,693	333,318	383,315
Silver ... Ozs.	136,194	110,885	178,675	172,907
Zinc ... Lbs.	1,786,740	159,038	2,802,928	228,691
Asbestos and asbestic ... Tons.	153,771	7,228,233	158,259	8,970,797
Chromite ... "	36,725	499,682	21,324	835,727
Feldspar ... "	1,188	8,204	191	4,279
Graphite (a) ... "	541	106,305	180	40,018
Magnesite ... "	58,090	728,275	29,365	1,016,765
Mica ... "	...	286,730	481	229,119
Mineral water ...	...	9,201	...	7,609
Iron oxides ... Tons.	9,409	87,605	17,317	112,440
Phosphate ... "	123	1,230	140	1,200
Pyrites ... "	122,882	501,351	124,871	507,802
Quartz ... "	550	1,788	1,730	5,383
Cement ... Bls.	2,079,625	3,274,989	1,564,360	3,003,571
Clay products ...	...	973,716	...	798,058
Kaolin ... Tons.	533	9,594	863	19,299
Lime ... Bus.	1,470,486	335,012	1,527,784	418,888
Slate ... Squares.	1,422	7,789	933	5,124
Stone ...	...	991,593	...	952,402
Other products ...	...	265,633	...	182,902
Total ...	...	17,400,007	...	19,605,347

There was also in this Province an important production of aluminium from imported ores.

(a) Includes small production from Baffin Land.

Mineral Production of Ontario, 1917 and 1918.

Product.		1917.		1918.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Asbestos	Tons	10	2,150	.....	.....
Cobalt, metallic and in oxide, etc.	Lbs.	1,079,572	1,727,315	1,347,544	3,368,860
Copper	"	42,867,774	11,651,461	47,074,475	11,593,502
Gold	Ozs.	423,261	8,749,581	411,976	8,516,299
Iron ore, sold for export	Tons	152,764	542,097	109,942	464,188
Iron, pig, from Canadian ore (*a*)	"	46,022	768,783	47,444	1,204,703
Lead	Lbs.	1,586,711	176,712	1,684,366	155,804
Molybdenite	"	68,213	68,213	42,931	49,371
Nickel	"	84,330,280	33,732,112	92,507,295	37,002,917
Silver	Ozs.	19,301,835	15,714,975	17,198,737	16,643,562
Actinolite	Tons	120	1,320	228	2,508
Arsenious oxide	"	2,656	658,231	2,482	520,525
Barytes	"	.....	.....	60	1,020
Corundum	"	188	32,153	137	26,112
Feldspar	"	18,274	81,622	18,591	108,449
Fluorspar	"	4,249	68,756	7,187	150,779
Graphite	"	3,173	296,587	2,934	208,852
Gypsum	"	48,947	130,138	38,214	151,564
Mica	"	.....	72,121	266	42,431
Mineral water	.....	.....	135,231	.....	146,400
Natural gas	M. cu. ft.	19,868,036	3,641,587	13,029,524	2,884,460
Petroleum	Bls.	202,991	473,477	288,692	777,737
Phosphate	Tons	26	256	.....	.....
Pyrites	"	288,058	1,080,866	268,507	1,133,963
Quartz	"	177,983	362,251	216,539	474,772
Salt	"	138,909	1,047,792	131,727	1,285,039
Talc	"	15,778	76,139	18,169	119,197
Cement	Bls.	1,676,904	2,267,610	1,220,003	1,976,815
Clay products	.....	.....	2,575,304	.....	2,434,215
Lime	Bus.	2,846,850	668,368	2,660,791	762,976
Sand-lime brick	No.	10,667,600	100,885	8,081,301	91,902
Stone	.....	.....	992,455	.....	1,079,745
Other products	.....	.....	1,170,052	.....	1,316,426
Total	.....	.....	89,066,600	.....	94,694,093

(*a*) The total production of blast-furnace pig-iron in Ontario in 1917 was 684,642 tons, valued at $13,902,867; in 1918, 747,650 tons, valued at $21,324,857.

Mineral Production of Manitoba, 1917 and 1918.

Product.		1917.		1918.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Copper	Lbs.	1,116,000	303,329	2,339,751	576,234
Gold	Ozs.	440	9,095	6,755	139,638
Silver	"	7,201	5,863	13,316	12,886
Tungsten concentrates	Lbs.	.....	.....	177	42
Calcined gypsum	Tons	33,347	258,934	37,483	341,352
Clay products	.....	.....	114,651	.....	116,417
Lime	Bus.	393,982	92,932	462,544	134,725
Cement	Bls.	544,949	1,175,669	500,302	1,283,948
Sand-lime brick	No.	5,070,500	76,742	5,395,423	82,438
Stone	.....	.....	301,968	.....	238,251
Other products	.....	.....	289,081	.....	294,493
Total	.....	.....	2,628,264	.....	3,220,424

Mineral Production of Saskatchewan, 1917 and 1918.

Product.	1917.		1918.	
	Quantity.	Value.	Quantity.	Value.
		$		$
Coal ..... Tons	355,445	662,451	346,847	722,148
Clay products	.....	78,251	.....	133,935
Sand-lime brick ..... No.	674,500	7,674	512,600	5,126
Other products	.....	112,275	.....	158,572
Total	.....	860,651	.....	1,019,781

Mineral Production of Alberta, 1917 and 1918.

Product.	1917.		1918.	
	Quantity.	Value.	Quantity.	Value.
		$		$
Gold, alluvial ..... Ozs.	.....	.....	27	558
Coal ..... Tons.	4,736,368	14,153,685	5,972,816	20,537,287
Natural gas ..... M. cu. ft.	6,744,130	1,299,976	6,318,389	1,358,638
Petroleum ..... Bls.	8,500	63,302	13,040	100,004
Cement ..... "	259,423	567,969	200,401	528,672
Clay products	.....	309,991	.....	381,074
Lime ..... Bus.	104,540	35,516	80,408	44,141
Sand-lime brick ..... No.	1,547,590	15,703	600,000	6,600
Stone	.....	7,482	.....	569
Other products (a)	.....	73,911	.....	152,444
Total	.....	16,527,535	.....	23,109,987

(a) Includes in 1917 a small value in copper, zinc and silver, in addition to sand and gravel.

Mineral Production of British Columbia, 1917 and 1918.

Product.		1917.		1918.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Copper (*a*)	Lbs.	57,730,959	15,691,275	62,865,681	15,482,560
Gold	Ozs.	133,742	2,764,693	175,334	3,624,476
Iron ore sold for export	Tons.	.....	.....	2,200	6,600
Lead	Lbs.	29,483,725	3,283,602	47,594,328	4,402,475
Molybdenite	"	3,705	3,705	1,600	1,840
Platinum	Ozs.	57	3,823	39	2,566
Silver	"	2,655,994	2,162,430	3,921,336	3,794,755
Zinc	Lbs.	27,861,441	2,479,947	32,280,247	2,633,745
Arsenic	Tons.	280	11,200	1,078	43,114
Chromite	"	.....	.....	670	31,395
Coal	"	2,433,888	8,235,716	2,568,589	11,494,681
Fluorspar	"	.....	.....	175	5,250
Gypsum	"	10	20	.....	.....
Manganese	"	.....	.....	440	6,230
Magnesium sulphate	"	929	4,645	1,949	14,565
Mineral water	.....	.....	1,382	.....	1,455
Pyrites	Tons.	5,709	28,545	18,238	63,454
Quartz	"	37,755	132,143	49,886	149,658
Talc	"	25	400	.....	.....
Cement	Bls.	207,587	438,069	106,415	283,497
Clay products	.....	.....	334,685	.....	357,921
Lime	Bus.	232,955	58,067	401,562	143,697
Stone	.....	.....	265,978	.....	187,842
Other products	.....	.....	241,661	.....	103,739
Total	.....	.....	36,141,926	.....	42,835,509

(*a*) Smelter recoveries of copper.

Mineral Production of Yukon, 1917 and 1918.

Product.		1917.		1918.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Copper	Lbs.	2,460,079	668,650	619,878	152,663
Gold	Ozs.	177,667	3,672,703	102,474	2,118,325
Lead	Lbs.	127,844	14,238	9,249	856
Siver	Ozs.	119,605	97,379	71,915	69,594
Tungsten concentrates	Lbs.	.....	.....	3,848	2,593
Coal	Tons.	4,872	29,232	2,900	11,600
Total	.....	.....	4,482,202	.....	2,355,631

Mineral Production by Provinces, 1899-1918.

Calendar Year.	Nova Scotia.*	New Brunswick.	Quebec.	Ontario.	Manitoba.	Alberta.	Saskatchewan.	Yukon.	British Columbia.	Total.
1899	$ 6,817,274	$ 420,227	$ 2,585,635	$ 9,819,557		$ 17,108,707			$ 12,482,605	$ 49,234,005
1900	9,298,479	439,060	3,292,383	11,258,099		23,452,330			16,680,526	64,420,877
1901	7,770,159	467,985	3,759,984	13,970,010		19,297,940			20,531,833	65,797,911
1902	10,686,549	607,129	3,743,636	14,619,991		16,127,400			17,448,031	63,231,836
1903	11,431,914	580,495	3,585,938	14,160,033		14,082,986			17,899,147	61,740,513
1904	12,212,746	559,913	3,688,482	12,582,843		12,713,613			19,325,174	60,082,771
1905	11,507,047	559,035	4,405,975	18,833,292		11,387,642			22,386,008	69,078,999
1906	12,894,303	646,328	5,242,058	25,111,682		10,092,726			25,299,600	79,286,697
1907	14,532,040	664,467	6,205,553	30,381,638	$ 898,775	$ 4,657,524	$ 533,251	$ 3,335,898	25,656,056	86,865,202
1908	14,487,108	579,816	6,372,949	30,623,812	584,374	5,122,505	413,212	3,669,290	23,704,635	85,557,101
1909	12,504,810	657,035	7,086,265	37,374,577	1,193,377	6,047,447	456,246	4,032,678	22,479,006	91,831,441
1910	14,195,730	581,942	8,270,136	43,538,078	1,500,359	8,996,210	498,122	4,764,474	24,478,572	106,823,623
1911	15,409,397	612,830	9,304,717	42,796,162	1,791,772	6,662,673	636,706	4,707,432	21,299,305	103,220,994
1912	18,922,236	771,004	11,656,998	51,985,876	2,463,074	12,073,589	1,165,642	5,933,242	30,076,635	135,048,290
1913	19,376,183	1,102,613	13,475,534	59,167,749	2,214,496	15,054,046	881,142	6,276,737	28,086,312	145,634,812
1914	17,584,639	1,014,570	11,836,929	53,034,677	2,413,489	12,684,234	712,313	5,418,185	24,164,039	128,863,075
1915	18,088,342	903,467	11,619,275	61,071,287	1,318,387	9,909,347	451,933	5,057,768	28,689,425	137,109,171
1916	20,042,262	1,118,187	14,406,598	80,461,323	1,823,576	13,297,543	590,473	5,491,610	39,969,962	177,201,534
1917	21,104,542	1,435,024	17,400,077	89,066,600	2,628,264	16,527,535	860,651	4,482,202	36,141,926	189,646,821
1918	22,317,108	2,144,017	19,605,347	94,694,093	3,220,424	23,109,987	1,019,781	2,355,631	42,835,509	211,301,897

* Includes a small production from Prince Edward Island.

MINE PRODUCTION.

The statistics of mineral production presented in the preceding tables are based as already explained in so far as metalliferous ores are concerned on the actual or probable recovery of refined metals from the ores treated. An endeavour has been made to compile another series of records eliminating as far as possible the metallurgical operations and to include only the actual quantities of ores, or concentrates shipped from mines and the net value of same. It has not been found feasible, however, to eliminate entirely the metallurgical operations in certain cases such as the recovery of bullion in placer operations, the recovery of gold bullion from milling ores and of silver bullion by those plants carrying on milling operations as well as mining, there being no commercial basis on which a separation of values could be made.

A record of mine production compiled on this basis is shown in the following tables and includes a record of the tonnage and value of ores, or minerals mined, treated and shipped, the quantities of metals contained in ores shipped and records of labour employed and wages paid. It should be noted that these records cover only active shipping mines and do not include any record of the labour employed in the smelting and refining of ores, nor in blast furnace operations, with the exceptions noted. Previous to 1917 no record was obtained of the labour employed in connexion with the production of petroleum, and similar returns in respect to placer mining were not sufficiently complete to be included in the tables. The values of the ores given are in general those furnished by the operators. In certain cases, however, where such values have not been furnished, estimates have been made.

The tables showing the quantities of metals contained in the ores shipped give the total quantities of metals contained without any deductions or allowances being made for smelter, or treatment losses.

Mine Production, 1914.

	No. of mines or works	Men employed.		Wages paid.	Ores or minerals mined.	Metals, ores, concentrates or minerals shipped.	Net value of shipments.
		Underground.	Surface.				
METALLIFEROUS ORES.	No.	No.		$	Tons.	Tons.	$
Iron ores	5	598		364,489	345,410	244,854	542,041
Milling gold ore—							
Bullion shipped	44	1,070	1,206	2,603,414	754,732	13	6,101,463
Concentrates						6,974	860,379
Silver-cobalt ores—							
Mine bullion shipped	29	1,412	1,883	3,207,116	733,174	354	5,665,006
Ore and concentrates						16,917	7,827,140
Nickel-copper ores	9	736	1,286	1,693,997	1,000,364	999,908	5,020,003
Copper ores	4	113	180	177,721	119,292	117,762	502,637
Silver-lead-zinc ore—							
Lead ore and concentrate	76	394	817	1,110,876	186,646	70,207	2,652,802
Zinc " " "						10,893	262,563
Gold-copper-silver ores	20	823	1,746	2,512,241	1,857,788	1,647,973	9,580,537
Placer mining—							
Yukon	..	..	..	..	..	10	5,182,616
British Columbia	..	..	..	..	..	1	565,000
Alberta	..	..	..	..	..	..	992
Total metalliferous	187	11,994		11,669,854	4,997,406	3,115,855	44,763,179
Total non-metalliferous	451	33,732		22,058,526	17,078,300	14,708,307	43,467,229
Total structural materials	1,023	21,129		9,881,316	..	..	26,009,227
	1,661	66,855		43,609,696	..	..	114,239,635

Content of Shipments.

	Gold.	Silver.	Nickel.	Copper.	Lead.	Zinc.
	Ozs.	Ozs.	Lbs.	Lbs.	Lbs.	Lbs.
Milling gold ore—						
Bullion	289,860	85,110	..	..	..	..
Concentrates	38,717	64,218	..	90	15,141	..
Silver-cobalt ores—						
Mine bullion shipped	..	10,335,527	..	..	..	..
Ore and concentrates	..	15,523,608	..	..	..	..
Nickel copper ores	..	..	60,800,799	36,300,532	..	..
Copper ores	1,059	51,440	..	6,450,899	..	..
Silver-lead-zinc ores—						
Lead ore and concentrate	334	2,501,820	..	..	50,527,130	..
Zinc " " "	..	376,420	..	..	..	9,101,460
Gold-copper-silver ores	182,784	761,890	..	53,771,126	..	..
Placer mining—						
Yukon	247,753	55,744	..	..	..	..
British Columbia	27,332	..	..	..	..	..
Alberta	48	..	..	..	..	..
Total	787,887	29,755,777	60,800,799	96,522,647	50,542,271	9,101,460

Mine Production, 1915.

—	No. of mines or works.	Men employed.		Wages paid.	Ores or minerals mined.	Metals, ores, concentrates or minerals shipped.	Net value of shipments.
		Underground	Surface.				
METALLIFEROUS ORES.	No.	No.		$	Tons.	Tons.	$
Antimony ore	7	157		55,038	15,318	1,491	83,971
Molybdenite	4	52		16,990	.....	37	28,450
Iron ores	5	399		230,346	251,742	398,112	774,427
Milling gold ore—							
Bullion shipped	50	1,324	1,555	2,893,187	1,180,477	18	8,953,130
Concentrates						8,335	711,947
Silver-cobalt ores—							
Mine bullion shipped	25	1,008	1,531	2,363,414	588,404	232	3,410,936
Ore and concentrates						61,362	8,326,776
Nickel-copper ores	9	857	1,745	2,202,536	1,364,048	1,372,724	16,552,673
Copper ores	6	173	205	215,065	141,758	142,121	1,026,562
Silver-lead and zinc ores	66	328	784	960,894	215,694	73,752	2,958,394
Zinc						14,896	540,022
Gold-copper-silver ores	33	886	1,694	2,868,449	2,380,709	2,186,646	10,947,059
Placer mining—							
Yukon	.....	.....	.....	.....	.....	9	4,776,145
British Columbia	.....	.....	.....	.....	.....	.....	770,000
Alberta	.....	.....	.....	.....	.....	.....	4,026
Total metalliferous	205	12,698		11,805,919	6,138,150	4,259,734	53,864,518
Total non-metalliferous	472	30,392		20,257,126	16,594,889	14,481,882	43,373,571
Total structural materials	943	13,786		5,657,717	.....	.....	17,920,759
	1,618	56,876		37,720,762	.....	.....	115,158,848

Content of Shipments.

—	Gold.	Silver.	Nickel.	Copper.	Lead.	Zinc.	Antimony
	Ozs.	Ozs.	Tons.	Tons.	Tons.	Tons.	Tons.
Antimony ore	.....	.....	.....	.....	.....	.....	540
Milling gold ore—							
Bullion	430,981	87,116	.....	.....	.....	.....	.....
Concentrates	35,779	37,507	.....	.....	.....	.....	.....
Silver-cobalt ores—							
Mine bullion shipped	.....	6,752,183	.....	.....	.....	.....	.....
Ore and concentrates	.....	17,603,943	.....	.....	.....	.....	.....
Nickel-copper ores	.....	.....	43,891	23,318	.....	.....	.....
Copper ore	1,151	64,965	.....	3,538	.....	.....	.....
Silver-lead-zinc ores—							
Lead ore and concentrate	459	2,637,444	.....	.....	24,354	.....	.....
Zinc " " "	.....	316,731	.....	.....	.....	6,116	.....
Gold-copper-silver ores	202,127	849,784	.....	34,758	.....	.....	.....
Placer mining—							
Yukon	229,803	25,689	.....	.....	.....	.....	.....
British Columbia	37,249	.....	.....	.....	.....	.....	.....
Alberta	195	.....	.....	.....	.....	.....	.....
Total	937,744	28,375,362	43,891	61,614	24,354	6,116	54

Mine Production, 1916.

—	No. of mines or works.	Men employed. Underground.	Men employed. Surface.	Wages paid.	Ores or minerals mined.	Metals, ores, concentrates or minerals shipped.	Net value of shipments.
METALLIFEROUS ORES.	No.	No.		$	Tons.	Tons.	$
Antimony ore	5	116		59,957	14,947	(a) 938	136,360
Molybdenite	9	262		122,072	13,522	(b) 78	156,461
Iron ores	4	530		376,716	331,822	275,176	715,107
Milling gold ore—							
Bullion shipped	49	1,304	1,709	3,540,899	1,502,336	21	10,418,052
Concentrates						9,340	522,409
Silver-cobalt ores—							
Mine bullion shipped						171	3,444,736
Ore and concentrates	32	1,034	1,561	2,450,614	547,882	77,453	9,736,490
Nickel-copper ores	6	875	1,837	2,824,818	1,566,333	1,566,333	11,766,201
Copper ores	12	232	261	293,115	170,666	155,999	1,444,676
Silver-lead and zinc ores.	84	573	1,070	1,803,633	395,802	84,516	4,568,500
Zinc						82,077	1,086,249
Gold-copper-silver ores	59	1,259	1,975	4,395,924	2,907,344	2,431,930	18,544,772
Placer mining—							
Yukon						9	4,413,958
British Columbia							580,500
Alberta							1,695
Total metalliferous	260	14,508		15,867,748	7,450,654	4,684,041	67,536,166
Total non-metalliferous	532	30,541		24,987,562	18,170,207	15,699,830	53,414,983
Total structural materials	816	12,465		6,237,168			17,467,186
Total	1,608	57,604		47,092,478			138,418,331

(a) Includes refined antimony.
(b) MoS_2 contents of concentrates produced.

Content of Shipments.

—	Gold.	Silver.	Nickel.	Copper.	Lead.	Zinc.	Antimony
	Ozs.	Ozs.	Tons.	Tons.	Tons.	Tons.	Tons.
Antimony ore							429
Milling gold ore—							
Bullion	519,202	102,349					
Concentrates	30,138	54,136					
Iver-cobalt ores—							
Mine bullion shipped		4,982,702					
Ore and concentrates		15,690,716					
Nickel-copper ores			51,127	25,266			
Copper ores	713	65,438		4,638			
ver-lead-zinc ores	784	2,582,952			27,062		
Zinc products		363,262				24,249	
Gold-copper-silver ores	163,466	905,685		42,126			
P acer mining—							
Yukon	211,010	47,703					
British Columbia	28,082						
Alberta	82						
Total	954,477	24,794,943	51,127	72,030	27,062	24,249	429

Mine Production, 1917.

—	No. of mines or works.	Men employed.		Wages paid.	Ores or minerals mined.	Metals, ores, concentrates or minerals shipped.	Net value of shipments.
		Underground.	Surface.				
METALLIFEROUS ORES.	No.	No.	No.	$	Tons.	Tons.	$
Antimony ore	1	46		35,739	8,182	361	22,000
Molybdenite	23	501		260,692	26,871	1,554	320,006
Iron ores	9	528		509,163	305,330	215,302	758,621
Milling gold ores—							
Bullion shipped	45	1,388	1,633	3,687,392	1,303,410	18	9,312,424
Concentrates						8,874	365,375
Silver-cobalt ores—							
Mine bullion shipped						318	7,628,740
Ore and concentrates	32	1,079	1,369	2,667,607	527,850	72,719	10,123,838
Nickel-copper ores	6	907	1,737	2,981,896	1,518,783	1,509,841	11,323,808
Silver-lead-zinc ores—							
Lead ore and concentrate	87	716	1,198	2,295,090	445,663	46,799	3,866,862
Zinc " "						116,489	1,323,985
Gold-copper-silver ores	83	1,730	2,253	4,667,578	2,554,738	1,878,911	16,048,186
Placer mining—							
Yukon	69	890		1,337,063		8	3,310,268
British Columbia	34	275		208,589			496,000
Total metalliferous	389	16,250		18,650,809	6,690,827	3,851,194	64,900,112
Total non-metalliferous	763	32,088		31,398,570	18,438,815	15,468,048	63,354,363
Total structural materials	739	10,814		6,609,872			19,837,311
	1,891	59,152		56,659,251	25,129,642	19,319,242	148,091,787

Content of Shipments.

—	Gold.	Silver.	Nickel.	Copper.	Lead.	Zinc.	Antimony.	Molybdenite.
	Ozs.	Ozs.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Antimony ore							144	
Molybdenum ore								165
Milling gold ore—								
Bullion	447,373	77,250						
Concentrates	21,905	99,119						
Silver-cobalt ores—								
Mine bullion shipped		9,248,717						
Ore and concentrates		12,042,990						
Nickel-copper ores			52,587	24,521				
Gold-copper-silver ores	77,599	782,521		40,479				
Silver-lead-zinc ores—								
Lead ore and concentrate	1,033	1,670,064			19,348			
Zinc " "		465,153				32,328		
Placer mining—								
Yukon	176,548	39,723						
British Columbia	23,994							
Alberta								
Total	748,452	24,425,537	52,587	65,000	19,348	32,328	144	165

Mine Production, 1918.

—	No. of mines or works.	Men employed.		Wages paid.	Ores or minerals mined.	Metals, ores, concentrates or minerals shipped.	Net value of shipments.
		Underground.	Surface.				
METALLIFEROUS ORES.	No.	No.		$	Tons.	Tons.	$
Molybdenum ore	18	196	110	274,945	34,030	461	428,907
Iron ore	11	624		693,383	254,424	211,608	885,893
Gold ore—							
Bullion shipped	45	1,238	1,541	3,249,578	974,977	18	9,173,037
Concentrates						15,112	411,090
Silver-cobalt ores—							
Mine bullion shipped	30	1,044	1,143	2,918,474	521,472	228	6,821,528
Ore and concentrates						73,646	9,763,737
Nickel-copper ores	6	975	1,449	3,186,909	1,641,617	1,641,617	12,312,128
Copper-gold-silver ores	46	1,125	1,733	4,296,649	2,665,548	1,856,899	11,658,397
Silver-lead-zinc ore—						75,256	4,705,573
Lead ore and concentrate	83	647	1,044	1,980,351	428,066		
Zinc " "						121,200	1,228,195
Placer mining—							
Yukon	65	478		878,858		4·5	1,907,702
British Columbia	22	128		134,092		0·5	320,000
Alberta							558
Total metalliferous	326	13,475		17,613,239	6,520,134	3,995,050	59,616,745
" non-metalliferous	787	32,848		39,322,157	19,107,261	16,237,486	77,621,946
" structural	643	9,504		6,989,496			19,130,799
Grand total	1,756	55,827		63,924,892	25,627,395	20,232,536	156,369,490

Content of Shipments.

—	Gold.	Silver.	Nickel.	Copper.	Lead.	Zinc.	Molybdenite.
	Ozs.	Ozs.	Tons.	Tons.	Tons.	Tons.	Tons.
Molybdenum ore							139
Gold ore—							
Bullion	441,120	75,176					
Concentrates	17,108	118,785					
Silver-cobalt ores—							
Mine bullion shipped		6,675,863					
Ore and concentrates		9,599,621					
Nickel-copper ores			56,980	27,688			
Copper-gold-silver ores	128,235	811,912		23,376			
Silver-lead-zinc ores—							
Lead ore and concentrate	1,479	2,314,542			23,422		
Zinc " "	97	431,888				31,513	
Placer mining—							
Yukon	101,744	22,892					
British Columbia	15,480						
Alberta	27						
Total	705,290	20,050,679	56,980	51,064	23,422	31,513	139

Labour and Wages Statistics Covering Non-Metalliferous Mines during 1916, 1917, and 1918.

—	1916.			1917.			1918.		
	Number Active Mines or Works.	Number Employed.	Wages Paid.	Number Active Mines or Works.	Number Employed.	Wages Paid.	Number Active Mines or Works.	Number Employed.	Wages Paid.
NON-METALLIC.			$			$			$
Asbestos and asbestic	13	2,821	1,659,913	15	3,114	2,312,110	13	3,074	2,871,643
Chromite	12	229	109,146	9	253	211,105	13	233	223,375
Coal	277	23,611	20,884,236	329	24,596	25,963,520	381	25,419	32,899,501
Feldspar	7	119	42,980	8	101	55,742	12	143	108,592
Fluorspar	3	36	8,449	7	59	28,810	9	125	89,858
Graphite	6	344	191,876	5	282	191,307	5	413	121,885
Grindstones, pulpstones and scythestones	5	128	24,330	5	92	25,052	6	116	45,853
Gypsum	15	919	467,262	12	774	445,128	8	435	275,312
Magnesite	3	183	144,987	2	296	194,864	4	305	326,417
Mica and phosphate	33	241	86,101	28	283	119,440	16	165	84,521
Mineral pigments: barytes, and oxides	4	125	42,169	7	109	56,185	6	95	51,735
Mineral water	20	60	30,307	22	53	22,246	18	50	17,271
Natural gas	94	750	532,913	105	597	520,290	101	711	641,542
Petroleum	(a)	...	...	168	270	167,205	153	264	195,141
Pyrites (b)	11	375	310,656	11	454	451,940	15	617	688,720
Quartz	8	167	164,763	12	289	287,817	11	236	319,840
Salt	9	262	219,595	10	309	249,073	9	302	286,784
All others†	12	171	67,879	8	157	96,736	7	145	74,170
Total non-metallic	532	30,541	24,987,562	763	32,088	31,398,570	787	32,848	39,322,157
STRUCTURAL.									
Cement	15	1,695	1,307,224	9	1,396	1,424,215	10	1,249	1,474,547
Clay products	290	4,164	1,740,900	276	3,915	2,174,167	230	3,423	2,131,614
Lime	76	758	381,365	67	770	554,617	65	741	664,367
Sand-lime brick	15	139	50,079	13	150	65,175	10	146	69,514
Sand and gravel	221	1,667	631,195	208	1,562	770,167	186	1,558	991,169
Slate	1	22	11,085	1	19	10,933	1	19	11,298
Stone	198	4,020	2,115,320	165	3,002	1,610,598	141	2,368	1,646,987
Total structural	816	12,465	6,237,168	739	10,814	6,609,872	643	9,504	6,989,496
Total non-metalliferous	1,348	43,006	31,224,730	1,502	42,902	38,008,442	1,429	42,352	46,311,653

† Includes in 1916—actinolite, corundum, manganese, tripolite and talc.
" 1917—corundum, manganese, magnesium sulphate, tripolite and talc.
" 1918—actinolite, corundum, magnesium sulphate, manganese, talc and tripolite.
(a) Not collected. (b) Partial.

METALLIC PRODUCTS.

ALUMINIUM.

No commercial ores of aluminium have as yet been found in Canada. Aluminium is, however, made in extensive works at Shawinigan Falls, Quebec, from imported ores by the Northern Aluminium Company.

The imports of alumina, probably including bauxite, were in 1918, 93,211 tons valued at $2,071,060, as against 87,154 tons valued at $1,866,240 in 1917.

The imports of aluminium in ingots, bars, tubes, etc., were in 1918, 143·5 tons valued at $109,411 besides manufactures of aluminium valued at $274,574, as against 351·5 tons valued at $319,680 besides manufactures of aluminium valued at $240,801 in 1917.

The exports of aluminium in ingots, bars, tubes, etc., in 1918, amounted to 10,808 tons valued at $7,223,570 together with manufactures of aluminium valued at $197,070, as against 11,162 tons valued at $7,620,953, and manufactures valued at $17,165 in 1917.

The price of aluminium was fixed by the United States War Industries Board at 32 cents per pound for the first half of 1918 and at 33 cents for the balance of the year.

ANTIMONY.

Shipments of antimony ore and concentrates and of refined antimony were made intermittently during the last ten years.

There was no shipment of antimony in any form during 1918, while in 1917 the shipments of ore and concentrates were reported as 361 tons valued at $22,000, as against 885 tons valued at $94,537 in 1916.

There was no production of refined antimony reported in 1918, nor in 1917, whereas in 1916 the production was 107,185 pounds valued at $41,823.

The imports of antimony, as regulus, salts, etc., were in 1918, 341·9 tons valued at $111,664, as against 172·2 tons valued at $68,027 in 1917.

The exports of antimony ore in 1918 amounted to 26 tons valued at $1,430, as against 774 tons valued at $50,476 in 1917.

The New York price of antimony during 1918 was fairly steady throughout the year, and averaged 12·581 cents per pound.

Summary of Antimony Statistics.

	1915.	1916.	1917.	1918.
Number of men employed	157	116	46	.....
Wages paid	$55,038	$59,957	$35,739	.....
Refined antimony produced.....Lbs.	59,440	107,185	.....	.....
" " " .....Value.	$11,888	$41,823	.....	.....
Antimony ore shipped.....Tons.	1,341	885	361	.....
" " " .....Value.	$81,283	$94,537	$22,000	.....
Antimony ore exported.....Tons.	1,149	794	774	26
" " " .....Value.	$82,990	$48,158	$50,476	$1,430
Imports of antimony.....Tons.	1,015·1	419·3	172·2	341·9
" " " .....Value.	$355,238	$222,341	$68,027	$111,664

COBALT.

The Cobalt district of Ontario has been for several years the principal source of the world's supply of cobalt. The recovery of cobalt in Canada is in the form of metallic cobalt, cobalt oxide, cobalt salts, unseparated oxides and stellite, which are produced from the treatment of the cobalt ores and residues in eastern Ontario smelters.

The total production of cobalt contained in smelter products recovered and in cobalt residues exported amounted in 1918 to 1,347,544 pounds, valued at $3,368,860, as against 1,079,572 pounds valued at $1,727,315 in 1917.

The 1918 production included 438,229 pounds of metallic cobalt valued by the operators at $1,074,556; 1,147,535 pounds of cobalt oxide valued at $1,813,947, together with other cobalt compounds amounting to 185,416 pounds valued at $905,149, or a total valuation of $3,793,652.

The 1917 production included 393,773 pounds of metallic cobalt, valued by the operators at $616,633; 802,448 pounds of cobalt oxide valued at $1,104,500, together with other compounds amounting to 214,785 pounds valued at $740,032, making a total valuation of $2,461,165.

The total cobalt ores and residues treated in 1918 were 8,354 tons with a cobalt content of 972,679 pounds, as against 7,770 tons with a cobalt content of 866,327 pounds in 1917.

In 1917 the price as quoted in New York was around $1.70 per pound, whereas no quotations are available for 1918.

Summary of Cobalt Statistics.

		1915.	1916.	1917.	1918.
Cobalt ores and residues treated	Tons.	7,526	8,127	7,770	8,354
Cobalt content of ores and residues treated	Lbs.	828,703	1,254,953	866,327	972,679
Cobalt recovery from smelter products	"	504,212	840,536	1,079,572	1,347,544
" " "	Value.	$536,268	$924,590	$1,727,315	$3,368,860
Metallic cobalt produced	Lbs.	211,610	215,215	393,773	438,229
" " "	Value.	$197,994	$200,888	$616,633	$1,074,556
Cobalt oxide produced	Lbs.	423,717	670,760	802,448	1,147,535
" "	Value.	$338,273	$542,341	$1,104,500	$1,813,947
Other cobalt compounds	Lbs.	(a)	128,008	214,785	185,416
" " "	Value.		$267,819	$740,032	$905,149

(a) A small quantity of cobalt sulphate was produced in 1915, and included with cobalt oxides.

COPPER.

The total production of copper in 1918 amounted to 59,384·7 tons valued at $29,250,536 as against 54,613·7 tons valued at $29,687,989 in 1917.

The 1918 production included 22·1 tons recovered in copper sulphate; 3,808·7 tons of refined copper; 18,848·3 tons contained in blister copper; 23,482·3 tons contained in nickel-copper matte exported for refining, and 13,223·2 tons, the estimated recovery from ores and concentrates exported for smelting and refining.

The production in 1917 included 15·2 tons recovered in copper sulphate; 21,982·4 tons contained in blister copper partly exported for refining and partly refined at Trail; 21,196·3 tons contained in nickel-copper matte exported for refining, and 11,419·8 tons recovered from ores and concentrates exported.

Refined copper was produced for the first time in Canada in 1916 and amounted to 483 tons, while in 1917 it was 3,901 tons and in 1918, 3,809 tons.

British Columbia contributed 52·9 per cent of the total production for Canada in 1918, while Ontario produced 39·6 per cent, Quebec 5·0 per cent, Manitoba 2·0 per cent, and the Yukon 0·5 per cent.

The imports of copper include crude and manufactured copper and copper sulphate and amounted to 12,538 tons valued at $6,119,782, besides manufactures valued at $253,579, as against 16,549 tons valued at $9,699,371, and manufactures valued at $316,190 in 1917.

The imports of brass in 1918 were 1,994 tons valued at $993,574 containing about 1,391 tons of copper, with also manufactures of brass valued at $3,654,298.

The 1917 imports of brass were 1,981 tons valued at $1,277,249 containing 1,387 tons of copper, besides manufactures of brass valued at $4,051,410.

The exports of copper include copper in ore, matte, etc., black or coarse and in pigs, and "old and scrap" and amounted in 1918 to 60,536 tons valued at $20,772,109, as against 59,961 tons valued at $23,256,278 in 1917.

The price of copper, which had been fixed by the United States War Industries Board in September, 1917, at 23½ cents per pound remained at this price until July, 1918, when it was raised to 26 cents.

Summary of Copper Statistics.

	1915.	1916.	1917.	1918.
Ores and concentrates shipped (*a*) ..... Tons	2,328,767	2,587,929	1,878,911	1,856,899
" " " (*a*) ..... Value	$11,974,621	$19,989,448	$16,048,186	$11,658,397
Copper production ..... Tons	50,393	58,575	54,614	59,385
" " ..... Value	$17,410,635	$31,867,150	$29,687,989	$29,250,536
Production by provinces :—				
Quebec ..... Lbs.	4,197,482	5,703,347	5,015,560	5,869,649
Ontario ..... "	39,361,464	44,997,035	42,867,774	47,074,475
Manitoba ..... "	.....	.....	(*c*) 1,152,960	2,339,751
British Columbia ..... "	56,692,988	63,642,550	57,730,959	62,865,681
Yukon ..... "	533,216	2,807,096	2,460,079	619,878
Imports of copper ..... Tons	11,050	13,699	16,549	12,538
" " (*b*) ..... Value	$3,957,770	$7,566,080	$10,015,561	$6,373,361
Exports of copper ..... Tons	53,446	66,610	59,961	60,536
" " ..... Value	$13,076,909	$22,642,699	$23,256,278	$20,772,109

(*a*) Does not include the nickel-copper ores. See nickel.

(*b*) Includes manufactures of copper for which no quantities are given ; in 1915, $264,670 ; in 1916, $234,421 ; in 1917, $316,190, and in 1918, $253,579.

(*c*) Includes in 1917 small quantities from New Brunswick and Alberta.

GOLD.

The production of gold in 1918 amounted to 699,681 fine ounces valued at $14,463,689 and included: alluvial gold, 16·7 per cent of the total; gold from free milling quartz, 63·1 per cent; gold recovered in Canadian smelters, 12·1 per cent, and the estimated recoveries from ores exported, 8·1 per cent.

The production in 1917 was 738,831 fine ounces, valued at $15,272,992, and included: alluvial gold, 27·1 per cent of the total; gold from free milling quartz, 60·6 per cent; gold recovered in Canadian smelters, 8·3 per cent, and the estimated recoveries from ores exported, 4·0 per cent.

There are two refineries producing fine gold in Canada, that of the Royal Mint, at Ottawa, and that of the Consolidated Mining and Smelting Company of Canada at Trail, B.C.

The production of gold by provinces is as follows: Nova Scotia, 0·2 per cent of the total; Quebec, 0·3 per cent; Ontario, 58·8 per cent; Manitoba, 0·9 per cent; British Columbia, 25·2 per cent, and the Yukon, 14·6 per cent.

The imports of gold in the form of bullion, coins, fringe, and manufactures of gold and silver, were valued in 1918, at $1,831,795, as against $14,601,931 in 1917.

The exports of gold in the form of dust, nuggets, etc., in 1918 were valued at $10,040,813, as against $15,929,051 in 1917.

Summary of Gold Statistics.

		1915.	1916.	1917.	1918.
Gold ores and concentrates shipped	Tons.	8,335	9,340	8,874	15,112
" " " "	Value.	$711,947	$522,409	$365,375	$411,090
Gold bullion shipped	Tons.	18	21	18	18
" "	Value.	$8,953,130	$10,418,052	$9,312,424	$9,173,037
Gold production (a)	Fine ounces.	918,056	930,492	738,831	699,681
" "	Value.	$18,977,901	$19,234,976	$15,272,992	$14,463,689
Production by provinces:—					
Nova Scotia	Ozs.	6,636	4,562	2,210	1,196
Quebec	"	1,099	1,034	1,511	1,939
Ontario	"	406,577	492,481	423,261	411,976
Manitoba	"	.....	.....	440	6,755
Alberta	"	195	82	.....	27
British Columbia	"	273,376	219,633	133,742	175,334
Yukon	"	230,173	212,700	177,667	102,474
Imports of gold	Value.	$21,302,021	$20,938,634	$14,601,931	$1,831,795
Exports of gold	"	$16,528,143	$18,382,903	$15,929,051	$10,040,813

(a) Includes gold from copper ores and lead-zinc ores.

IRON AND STEEL.

Iron Ore.—The total shipments of iron ores from Canadian mines show a further falling off in 1918, being only 211,608 short tons, valued at $885,893, or an average of $4.18 per ton, as compared with shipments in 1917 of 215,302 tons, valued at $758,621, or an average of $3.52 per ton. The 1918 shipments included 130 tons from Nova Scotia, 8,159 tons from Quebec, 201,119 tons from mines in Ontario, and 2,200 tons mined in British Columbia. The ores comprised 171,312 tons of hematite and roasted hematite and siderite, 33,066 tons of magnetite, 6,330 tons of ilmenite and titaniferous ore, and 900 tons (dry) of bog ore.

The principal operations were as usual in Ontario at Helen and Magpie mines of the Algoma Steel Corporation, Ltd., all the ores mined being first roasted in the rotary kilns at Magpie before shipment. The magnetite properties at Sellwood were operated throughout the year by Moose Mountain, Limited, with an important production of briquettes from the milling and briquetting plant. The ore milled averaged about 33·8 per cent in iron, while the briquettes produced contained about 61·1 per cent iron. Shipments of 741 tons were made from three small properties in eastern Ontario.

In Quebec shipments of ilmenite were made from Ivry-on-the-Lake, in Terrebonne county, and of titaniferous ore from St. Urbain, on the north shore of the St. Lawrence. Some magnetite was also shipped from ore dumps at the old Forsyth mine in Hull township.

In British Columbia some magnetite was shipped from Texada island and a small tonnage of bog ore from near Alta Lake, on the Pacific Great Eastern railway.

In the Great Lakes region ore prices during the first half of 1918 were: Old Range Bessemer, $5.95 per gross ton; Messabi Bessemer, $5.75; Old Range Non-Bessemer, $5.20; and Messabi Non-Bessemer, $5.05. During the last half of the year these prices were increased by 45 cents per ton.

Mine operators reported 118,472 tons of ore exported to the United States and 93,136 tons shipped to Canadian furnaces. The Customs Department records show exports of iron ores, 130,250 tons, valued at $650,502, and imports amounting to 2,200,838 tons, valued at $5,895,974.

The quantity of iron ore charged to blast furnaces in 1918 was 2,243,740 tons, of which 96,745 tons were of domestic origin and 2,146,995 tons imported. The imported ore included: 754,622 tons of Newfoundland ore and 1,392,373 tons of "Lake ore."

Shipments of iron ore from Wabana mines, Newfoundland, in 1918, by the two Canadian companies operating there were 848,574 short tons, as against 883,346 short tons in 1917, all of which went to Sydney and North Sydney, in Cape Breton.

Pig-iron.—The total production of pig-iron in Canada in 1918 excluding the production of ferro-alloys was 1,195,551 short tons (1,067,456 gross tons) having a value of $33,495,171 as compared with a total production in 1917 of 1,170,480 short tons (1,045,071 gross tons) valued at $25,025,960. Of the total production 1,163,520 short tons were made in blast furnaces and 32,031 tons were manufactured in electric furnaces from scrap steel, chiefly shell turnings. In 1917 the blast furnace production was 1,156,789 tons and the electric furnace production from scrap steel was 13,691 tons. Although the total production of pig-iron was greater than in any previous year the blast furnace production was less in 1918 than the output of 1916. The recovery of high grade low phosphorus pig-iron in electric furnaces from steel turnings was in 1918 nearly two and a half times the production in 1917, the first year that these operations were undertaken.

The production of blast furnace pig-iron in Nova Scotia in 1918 was 415,870 tons, as against 472,147 tons in 1917, and with the exception of the year 1914 was the

smallest production in this Province since 1911. In Ontario the production of blast furnace pig-iron was 747,650 tons as against 684,642 tons in 1917, and was the largest production made in this Province.

Pig-iron was made from scrap in electric furnaces in three provinces: 7,449 tons in Quebec and 24,582 tons in Ontario and British Columbia, the production in the latter Province being a little over 2,000 tons.

By grades the 1918 production included: Basic, 966,409 tons; Bessemer, 15,415 tons; foundry and malleable, etc., 181,696 tons; low phosphorus iron (electric furnace), 32,031 tons. The 1917 production included: Basic, 961,656 tons; Bessemer, 14,092 tons; foundry and malleable, 181,041 tons; low phosphorus iron (electric furnace), 13,691 tons.

The old furnace plant at Midland was reconstructed and placed in operation during the year. The blast furnace plants operated included those of the Dominion Iron and Steel Company at Sydney, N.S., the Nova Scotia Steel and Coal Company at North Sydney, the Standard Iron Company at Deseronto, Ont., the Steel Company of Canada at Hamilton, Ont., the Canadian Furnace Company at Port Colborne, Ont., the Algoma Steel Corporation, Ltd., at Sault Ste. Marie, Ont., and the Midland Iron and Steel Company at Midland.

Electric furnaces were operated for the production of pig-iron from scrap at Hull and Shawinigan Falls, Que., at Orillia, Collingwood, St. Catherines, Toronto, Belleville and Bowmanville, Ont., and Port Moody, B.C.

The production of ferro-alloys in Canada in 1918, chiefly ferro-silicon but including also spiegeleisen, ferro-molybdenum and ferro-phosphorus, all with the exception of the spiegeleisen being made in electric furnaces reached a total of 44,704 tons valued at $4,731,521. In 1917 the production was 43,465 tons valued at $3,549,814.

The exports of pig-iron during 1918 was 2,130 tons valued at $169,495, or an average of $79.57 per ton, and of ferro-alloys 23,781 tons valued at $2,671,434 or an average of $112.33 per ton.

The imports during 1918 included 67,397 tons of pig-iron valued at $2,102,435, or an average of $31.19 per ton, and 35,284 tons of ferro-alloys valued at $4,283,133 or an average of $121.29 per ton, making a total import of pig-iron and ferro-alloys of 102,681 tons valued at $6,385,568. The United States trade records show exports to Canada during 1918 of pig-iron and ferro-alloys amounting to 122,325 gross tons (137,004 short tons) valued at $5,661,228, a figure considerably higher than the Canadian record.

Steel.—The production of steel ingots and direct steel castings in 1918, was 1,873,708 short tons (1,672,946 gross tons), of which 1,800,171 tons were ingots and 73,537 tons direct steel castings.

The total production in 1917 was 1,745,734 short tons (1,558,691 gross tons) of which 1,691,291 tons were ingots and 54,443 tons were castings.

The production of steel in electric furnaces in 1918 was 119,130 tons as against 50,467 tons in 1917; 19,639 tons in 1916; 5,625 tons in 1915, and 61 tons in 1914.

The total production of pig-iron, ferro-alloys and steel in electric furnaces in 1918 was 191,869.

Materials used in the production of steel in 1918 included 897,537 tons of pig-iron, 1,068,434 tons of scrap iron and steel, 44,697 tons of ferro-alloys, 59 tons of manganese ore, 48,599 tons of iron ore, 243,383 tons of limestone and dolomite, and 17,307 tons of fluorspar.

The exports of steel during 1918 as per Customs Department records included: billets, blooms and ingots 61,782 tons, valued at $2,645,943, or an average of $42.83 per ton; bars and rods 105,285 tons valued at $10,312,657, or an average of $97.95 per ton; steel rails 12,952 tons valued at $575,062 or an average of $44.40 per ton; wire and wire nails valued at $6,294,195; scrap iron and steel 51,544 tons valued at $853,097, or an average of $16.55 per ton, together with a large quantity of manufactured iron and steel goods.

The recorded imports of iron and steel ingots and billets during the year were 3,409 tons valued at $262,210. This item evidently does not include steel billets imported for the use of the Imperial Government. The United States trade record shows exports to Canada during the same period of 247,332 gross tons (277,012 short tons), of billets, ingots and blooms of steel valued at $19,787,779 an average of $80 per gross ton.

Summary of Iron and Steel Statistics, 1915-1918.

		1915.	1916	1917.	1918.
Iron ore shipped from mines	Short tons.	398,112	275,176	215,302	211,608
Canadian iron ore charged to blast furnaces	"	293,305	221,773	92,065	96,745
Imported iron ore charged to blast furnaces	"	1,463,488	1,964,598	2,084,231	2,146,995
Iron ore charged to steel furnaces	"	74,872	55,059	39,793	48,599
Pig-iron made in blast furnaces	"	913,775	1,169,257	1,156,789	1,163,520
Pig-iron made in electric furnaces	"	...	...	13,691	32,031
Pig-iron and ferro-alloys exported	"	26,545	46,106	45,293	25,911
Pig-iron imported	"	47,842	58,130	83,400	67,397
Ferro-alloys made	"	10,791	28,628	43,465	44,704
Ferro-alloys imported	"	13,758	14,777	12,829	35,284
Pig-iron and ferro-alloy consumption	"	959,254	1,255,218	1,264,870	1,316,025
Pig-iron used in steel furnaces	"	747,834	949,444	1,112,082	897,337
Steel ingots and castings made	"	1,020,336	1,428,249	1,745,734	1,873,708
Steel rails made	"	232,411	90,123	46,645	162,747
Canadian coke used in iron blast furnaces	"	578,743	742,715	634,962	561,135
Imported coke used in iron blast furnaces	"	486,022	645,488	723,657	861,522
Iron and steel imported	"	771,097	864,916	929,776	786,692
Number of men employed in blast furnaces	No.	1,004	...	...	1,391
Wages paid in blast furnaces	$	675,453	...	...	1,941,500
Value of pig-iron produced	$	11,374,199	16,750,898	25,025,960	33,495,171
Value of iron and steel goods exported	$	48,268,148	63,873,681	46,791,681	54,764,742
Value of iron and steel goods imported	$	74,308,983	129,090,168	187,191,534	169,538,669

LEAD.

The production of lead in 1918 amounted to 25,699 tons valued at $4,754,315 as compared with a production of 16,288 tons valued at $3,628,020 in 1917, and is mainly derived from the lead-zinc mines of British Columbia.

The total shipments of lead ore and concentrates as reported by the operators were in 1918, 75,256 tons valued at $4,705,573 and containing 46,843,602 pounds of lead, as against 46,799 tons valued at $3,866,862 and containing 38,696,116 pounds of lead in 1917.

The total refined lead produced in Canada, including that produced from foreign ores and the pig lead produced in Ontario smelters amounted in 1918 to 31,571,112 pounds as against 32,115,114 pounds in 1917.

The imports of lead in 1918 were 7,756 tons valued at $1,225,139 besides manufactures of lead valued at $125,550, as against 8,432 tons valued at $1,542,337, with also manufactures of lead valued at $190,091.

The exports of lead in ores, concentrates, etc., and as pig, amounted in 1918 to 15,073 tons valued at $1,990,697, as against 7,207·5 tons valued at $987,509 in 1917.

The average price of lead at Montreal, the main Canadian market in 1918, was 9·250 cents per pound, as against 11·137 cents in 1917.

Summary of Lead Statistics.

—	1915.	1916.	1917.	1918.
Number of men employed	1,112	1,643	1,914	1,691
Wages paid	$960,894	$1,803,633	$2,295,090	$1,980,351
Ores and concentrates shipped (*a*) Tons.	73,752	84,516	46,799	75,256
" " " Value.	$2,958,394	$4,568,500	$3,866,862	$4,705,573
Lead production Tons.	23,158	20,749	16,288	25,699
" " Value.	$2,593,721	$3,532,692	$3,628,020	$4,754,315
Imports of lead Tons.	24,369	13,580	8,432	7,756
" " (*b*) Value.	$2,482,916	$2,077,896	$1,732,428	$1,350,689
Exports of lead, in ores, concentrates and as pig. Tons.	1,956	4,580	7,208	15,073
" " " " " Value.	$119,340	$565,890	$987,509	$1,990,697

(*a*) Does not include zinc ore shipments—See "Zinc."
(*b*) Includes manufactures of lead for which no quantities are given: in 1915, $102,439; in 1916, $155,278; in 1917, $190,091; and in 1918, $125,550.

MERCURY.

There has been no production of mercury since 1897.

The imports of mercury in 1918 were 56,936 pounds valued at $68,903, as against 71,608 pounds valued at $76,322 in 1917.

The average price of mercury in New York, in 1918, was $123.47 per flask of 75 pounds, as against $106.30 in 1917.

MOLYBDENUM.

The total production in 1918, representing the quantity of molybdenite (MoS_2) contents of the concentrates produced for which payment was made amounted to 378,029 pounds valued at $434,733, as against 288,705 pounds valued at $288,705 in 1917.

The total shipments of ores and concentrates were in 1918, 461·3 tons valued by the producers at $428,807, as against 1,544·3 tons valued at $320,006 in 1917.

All the ore produced was concentrated in Canadian mills which treated 33,935 tons in 1918, as against 22,605 tons in 1917.

NICKEL.

The nickel production of Canada includes: the nickel in the matte produced from the treatment of the Ontario nickel-copper ores and exported for refining; the refined nickel produced from Canadian matte at Port Colborne, Ont.; the refined nickel derived from the treatment of the silver-cobalt-nickel ores of Cobalt district, with also the estimated contents of the nickel oxides and nickel salts produced from these same ores. The production in 1918 amounted to 46,253·6 tons valued at $37,002,917 as compared with 42,165·1 tons valued at $33,732,112 in 1917.

The refined nickel produced in 1918 amounted to 1,204·5 tons, as against 132·9 tons in 1917. The large increase is due to the production of the new refinery at Port Colborne.

The imports of nickel in ingots, bars, sheets, etc., were in 1918, 319·1 tons valued at $238,895, besides manufactures of nickel valued at $204,208, as against 426·9 tons valued at $369,346 and manufactures valued at $149,718 in 1917.

The exports of nickel in ore and matte and of nickel fine amounted to 43,739·2 tons valued at $11,263,246, as against 40,636·2 tons valued at $8,708,650 in 1917.

The price of nickel in 1918 was around 40 cents for the greatest part of the year.

Summary of Nickel Statistics.

	1915.	1916.	1917.	1918.
Number of men employed in nickel-copper mines	2,602	2,712	2,644	2,424
Wages paid in nickel-copper mines	$2,202,536	$2,824,818	$2,981,896	$3,186,909
Nickel-copper ore shipped ..... Tons.	1,372,724	1,566,333	1,509,841	1,641,617
" " " ..... Value.	$10,552,675	$11,766,201	$11,323,808	$12,312,128
Nickel-copper ore smelted ..... Tons	1,272,283	1,521,689	1,453,661	1,559,892
Bessemer matte produced ..... "	67,703	80,011	78,857	87,184
Nickel contents of matte ..... "	34,039	41,298	41,887	48,886
Copper contents of matte ..... "	19,608	22,430	21,196	23,482
Refined nickel produced from nick.-copp. matte "	.....	.....	.....	1,082
Refined nickel produced from cobalt-nickel ores "	28	40	133	122
Total nickel production from all sources ..... "	34,154	41,479	42,165	46,254
" " " " ..... Value.	$20,492,597	$29,035,497	$33,732,112	$37,002,917
Imports of nickel ..... Tons.	305	446	427	319
Imports of nickel (*a*) ..... Value.	$274,706	$414,410	$519,064	$443,103
Exports of nickel in ore and matte, and nickel fine ..... Tons.	33,205	40,221	40,636	43,739
" " " " " Value.	$7,394,446	$8,662,179	$8,708,650	$11,263,246

(*a*) Includes manufactures of nickel for which no quantities are given: in 1915, $77,538; in 1916, $89,083; in 1917, $149,718, and in 1918, $204,208.

PLATINUM.

The recorded production of platinum from alluvial sands was in 1918, 39 crude ounces, valued at $2,560 as against 57 crude ounces valued at $3,823 in 1917.

A considerable amount of platinum and of other metals of the so-called precious metals group, are being recovered from the nickel-copper matte in the refineries in the United States and England. These recoveries may however include metals derived from sources other than the Canadian ores.

The imports of platinum in 1918 were valued at $31,140, as against $114,279 in 1917.

The exports of platinum in concentrates and as "old and scrap" in 1918 amounted to 197 ounces, valued at $20,892, as against 331 ounces valued at $29,599 in 1917.

The New York price of platinum in 1918 averaged $105.95, as against $102.82 in 1917.

Summary of Platinum Statistics.

	1915.	1916.	1917.	1918.
Platinum production from alluvial sands ..... Ozs.	23	15	57	39
Platinum production from alluvial sands ..... Value.	$ 1,063	$ 600	$ 3,823	$ 2,560
Platinum recovery at International Nickel Co's. Works, New Jersey, U.S.A. ..... Ozs.	452	1,017	971	650
Imports of platinum as crucibles, wire, bars, etc. ..... Value.	$ 84,087	$ 88,543	$ 114,279	$ 31,140
Exports of platinum in concentrates and "old and scrap" ..... Ozs.	236	532	331	197
Exports of platinum ..... Value.	$ 11,052	$ 41,945	$ 29,599	$ 20,892

SILVER.

The silver production of Canada in 1918 amounted to 21,383,979 fine ounces valued at $20,693,704, as against 22,221,274 fine ounces valued at $18,091,895 in 1917, and included refined silver or silver contained in silver and gold bullion; silver contained in blister copper and copper matte; and the silver estimated as recoverable from ores exported.

In 1918 Ontario produced 80·4 per cent of the total production; British Columbia 18·3 per cent, and the balance of 1·3 per cent was derived from Quebec, Manitoba, and the Yukon.

The imports of silver in 1918 were: silver bullion valued at $368,889, as against $959,153 in 1917; and silver sterling and in coin valued at $68,381, as against $104,265 in 1917.

The exports of silver in 1918 were 19,357,076 fine ounces valued at $18,382,902, as against 21,718,784 ounces valued at $17,621,398 in 1917, and included silver as bullion and contained in ores, etc.

The average price of silver in 1918 was 96·772 cents per ounce, as against 81·417 cents in 1917.

Summary of Silver Statistics.

		1915.	1916.	1917.	1918.
Number of men employed in Cobalt district		2,539	2,595	2,448	2,187
Wages paid	Value.	$2,363,414	$2,450,614	$2,667,607	$2,918,474
Ores and concentrates shipped from Cobalt district	Tons.	61,362	77,453	72,719	73,646
Ores and concentrates shipped from Cobalt district	Value.	$8,326,776	$9,736,490	$10,123,838	$9,763,737
Total silver production of Canada (a) Fine	Ozs.	26,625,960	25,459,741	22,221,274	21,383,979
Total silver production of Canada	Value.	$13,228,842	$16,717,121	$18,091,895	$20,693,704
Production by provinces:—					
Quebec	Ozs.	63,450	98,610	136,194	178,675
Ontario	"	22,748,609	21,608,158	19,301,835	17,198,737
Manitoba	"	.....	.....	7,201	13,316
British Columbia	"	3,565,852	3,392,872	2,655,994	3,921,336
Yukon	"	248,049	360,101	119,605	71,915
Alberta and New Brunswick	"	.....	.....	445	.....
Imports of silver, as bullion, sterling and coins	Value.	$448,031	$998,966	$1,063,418	$437,270
Exports of silver, as bullion and in ores, etc	Ozs.	27,672,481	25,279,359	21,718,784	19,357,076
Exports of silver, as bullion and in ores, etc	Value.	$13,812,038	$15,637,885	$17,621,398	$18,382,902

(a) Includes silver from silver ores of Cobalt, with also that derived from the treatment of the lead-zinc, gold, and copper ores.

TIN.

Tin ores have not yet been found in sufficient quantities in Canada to be of economic importance.

The imports of tin in 1918 were valued at $4,204,532, as against $5,656,665 in 1917, and included tin in blocks, pigs, etc., tin foil, bichloride of tin, tin ware and tin crystals.

There are also large imports of tin plates and sheets, the quantity in 1918 being 145,687,800 pounds valued at $11,403,887 as against 133,351,700 pounds valued at $9,985,631 in 1917.

TUNGSTEN.

The production of tungsten in 1918 amounted to 13½ tons valued at $11,700 with a metallic content of 19,915 pounds of WO_3. In 1917 only small test shipments were made, amounting in all to 580 pounds running 69·41 per cent WO_3 and netting $234.

Most of the 1918 production was from the property of Acadia Tungsten Mines, Ltd., operating at Burnt Hill, N.B.

The only important production previous to 1918 was that of 1912, being 14 tons of concentrates produced by the Scheelite Mines, Ltd., of Moose River, N.S.

ZINC.

The zinc production in Canada which includes the actual recoveries of refined zinc at Trail, B.C., in addition to the estimated recoveries from ores and concentrates shipped to American smelters, amounted to 17,541·6 tons, valued at $2,862,436, as against 14,834·4 tons valued at $2,640,817 in 1917.

The total shipments of zinc ores and concentrates from the mines were in 1918 121,200 tons, valued at $1,228,195 and containing 63,026,464 pounds, (31,513·2 tons), of zinc, as against 116,489 tons valued at $1,323,985 and containing 64,655,713 pounds (32,328 tons) in 1917.

The refined zinc which is produced at Trail, B.C., amounted in 1918 to 12,574 tons, as against 9,985 tons in 1917, and 2,974 tons in 1916, the first year production was reported.

The imports of zinc in 1918 amounted to 15,654·6 tons valued at $2,718,850 with also manufactures valued at $85,177, as against 18,566·2 tons valued at $3,562,228 besides manufactures of zinc valued at $79,044 in 1917.

The imports of brass which alloy contains about 30 per cent zinc, were valued at $993,574 besides manufactures of brass valued at $3,654,298, as against imports of brass valued at $1,277,249 and manufactures of brass valued at $4,051,410 in 1917.

The exports of zinc ores in 1918 were reported as 10,545 tons valued at $476,791 while in 1917 the exports are given separately only for 9 months and amounted to 5,972 tons valued at $320,296.

The average price of spelter in New York in 1918 was 8·159 cents per pound as against 8·901 cents in 1917.

Summary of Zinc Statistics.

	1915.	1916.	1917.	1918.
Ores and concentrates shipped.....Tons	14,895	82,077	116,489	121,200
" " " .....Value	$540,022	$1,086,249	$1,323,985	$1,228,195
Zinc production.....Tons	4,886	11,682	14,834	17,542
" " .....Value	$1,292,789	$2,991,623	$2,640,817	$2,862,436
Refined zinc produced.....Tons	... ...	2,974	9,985	12,574
Imports of zinc ..... "	14,085	15,000	18,566	15,655
" " (a).....Value	$2,775,358	$3,690,577	$3,641,272	$2,804,027
Imports of brass..... "	$ 714,410	$ 923,523	$1,277,249	$ 993,574
Imports of brass manufactures..... "	$2,463,532	$3,752,851	$4,051,410	$3,654,298
Exports of zinc ore.....Tons	(b)	(b)	(c) 5,972	10,545
" " .....Value	(b)	(b)	$320,296	$476,791

(a) Includes manufactures of zinc valued at $21,711 in 1915; at $48,101 in 1916; at $79,044 in 1917; and at $85,177 in 1918.

(b) Not given separately previous to April, 1918.

(c) For nine months only.

NON-METALLIC PRODUCTS.

ABRASIVE MATERIALS.

Corundum.—The total sales of grain corundum produced from Canadian corundum ores in 1918, were 273,140 pounds valued at $26,112 or an average of 9·9 cents per pound.

The grain corundum recovered in 1918 was obtained from 3,184 tons of rock milled, representing a recovery of 4·3 per cent. In the earlier days of the industry from 6 to 10 per cent of the rock milled was recovered in the form of grain corundum. During recent years a much lower grade of rock has been milled.

Corundum is found in an area embracing several townships in Renfrew and Hastings counties in the Province of Ontario. The industry made its appearance there in 1900, the production reaching a maximum in 1906. From 1907 to 1913 the yearly production was smaller, but fairly uniform, while operations were indefinitely abandoned on August 3, 1918.

Production.

(In Short Tons.)

Calendar Year.	Corundum-bearing rock treated.	Grain corundum graded.	% Recovery.	Grain Corundum.				Average price, *cents per pound.*
				Sold in Canada.	Exported.	Total.	Total value.	
1915	1,724	116	6·7	21	240	262	$33,138	6·33
1916	1,864	67	3·6	8	59	67	10,307	7·65
1917	4,659	188	4·0	16	172	188	32,153	8·55
1918	3,184	137	4·3	0	137	137	26,112	9·9

Grindstones, Pulpstones, etc.—The total production of grindstones, pulpstones, and scythestones in 1918 was 3,072 tons valued at $83,005, as against a production in 1917 of 2,523 tons valued at $45,754.

The production of abrasives has been a long-established industry in Nova Scotia and New Brunswick and in so far as output is concerned has remained practically stationary for many years.

The grindstones are shipped chiefly in a finished condition and are marketed in Canada, Newfoundland, and United States, the prices ranging in 1918 from $25 to $60 per ton.

A number of pulpstones are usually made each year. Scythestones both finished and in the rough are also shipped as well as occasionally small quantities of grit for marble polishing.

The value of exports of grindstones finished and in the rough during 1918 according to the Trade records is $47,148 including finished stone valued at $46,872, and rough stone 265 tons valued at $276. The greater proportion of the Canadian production of grindstones is exported.

To meet Canadian requirements, in Ontario and Quebec chiefly, there were imported during 1918, grindstones to the value of $297,287; burrstones 733, valued at $1,571; emery, $89,020; manufactures of emery, $570,892; pumice stone, $36,938; sand paper, $317,048; iron sand for glass or polishing, or for sawing stone, $67,528; artificial abrasives, valued at $134,328, or a total value of $1,514,612.

	1915.		1916.		1917.		1918.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		$		$		$		$
Production:								
Nova Scotia. ... Tons.	285	5,300	273	5,800	375	9,875	256	8,000
New Brunswick.. "	2,295	30,468	3,205	46,982	2,148	35,879	2,816	75,005
	2,580	35,768	3,478	52,782	2,523	45,754	3,072	83,005
Exports of grindstones (a).	.....	36,234	.....	44,942	.....	31,304	.....	47,148
Imports—Abrasives								
Grindstones....	.....	69,391	.....	122,291	.....	185,607	.....	297,287
(b) Burrstones .....No	177	314	406	648	519	910	733	1,571
(c) Emery.....	.....	67,067	.....	50,666	.....	79,176	.....	89,020
(d) Mfgs. emery.....	.....	139,665	.....	317,053	.....	553,660	.....	570,892
(e) Pumice stone ...	.....	18,814	.....	34,554	.....	34,162	.....	36,938
(f) Iron sand	.....	3,263	.....	15,641	.....	36,737	.....	67,528
(g) Sand paper.....	.....	133,677	.....	247,317	.....	331,776	.....	317,048
Artificial abrasives.	.....	28,921	.....	79,315	.....	112,614	.....	134,328
	.....	471,112	.....	867,485	.....	1,334,642	.....	1,514,612

(a) Including stone for the manufacture of grindstones. (b) Burrstones in blocks, rough or unmanufactured, not bound up or prepared by binding into millstone. (c) Emery in bulk, crushed or ground, duty free. (d) Emery and carborundum wheels and manufactures of emery or carborundum. (e) Pumice and pumice stone, ground or unground. Duty free. (f) Iron sand or globules for polishing glass or granite, or for sawing stone. Duty free. (g) Sandpaper, glass, flint, and emery paper or emery cloth.

Tripolite.—The shipments of tripolite in 1918 were reported as 500 tons, valued at $12,500, as compared with shipments in 1917 of 600 tons, valued at $18,000.

The shipments from year to year have varied considerably and in some seasons the producing companies shipped from stock only.

From 1902 to the present Nova Scotia has been the only province from which shipments of tripolite have been made. At the present time the principal operator is the Oxford Tripolite Company, operating in Colchester county. The crude product is dried and treated in a small mill.

A brief review of the uses of tripolite, together with a list of the principal known Canadian occurrences, was published in the Annual Report on Mineral Production for 1914.

	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		$		$		$		$
Production	317	12,119	620	12,139	600	18,000	500	12,500

ACTINOLITE.

Mining operations were carried on during the last quarter of 1918; shipments were reported as 228 tons, valued at $2,508—the value of the material after having been milled and prepared for market.

Production of actinolite in Canada has been confined to Elzevir and Kaladar townships, in Hastings and Addington counties, Province of Ontario, the centre for the industry being the village of Actinolite. The earliest operations date back to about 1883. For a time deposits were worked only at intervals long apart when sufficient rock was broken to meet the demand for several subsequent years.

Actinolite is used as an ingredient for a coal-tar roofing compound, the grinding of the crude material being done in such a way as not to destroy the fibre.

The only shipper in recent years is the Actinolite Mining Company, of Bloomfield, New Jersey, U.S.A., which owns deposits described as also a grinding mill at Actinolite.

	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		$		$		$		$
Production	220	2,420	250	2,750	120	1,320	228	2,508

ARSENIC.

The demand for arsenic has been particularly strong. The Canadian production includes arsenious oxide refined and crude produced in the smelting of the arsenical silver-cobalt-nickel ores of the Cobalt district, in addition to which arsenic has been recovered at Tacoma, Wash., from the arsenical gold concentrates shipped from the Hedley gold mine at Hedley, B.C.

The total production in 1918 was 2,482 tons of arsenious oxide and approximately 1,078 tons of arsenic in concentrates, having a total valuation of $563,639. The production in 1917 was 2,656 tons of arsenious oxide and 280 tons of arsenic in concentrates, having a total value of $669,431.

The exports of white arsenic in 1918 were 2,672 tons, valued at $393,883. The imports of white arsenic were 995 pounds, valued at $222; imports of sulphide of arsenic, 301,985 pounds, valued at $33,351; and imports of arseniate, bi-arseniate, and stannate of soda, 121 pounds, valued at $34.

	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
Production :		$		$		$		$
From arsenical concentrates					280	11,200	1,078	43,114
White arsenic	2,396	147,830	2,186	262,340	2,656	658,231	2,482	520,525
	2,396	147,830	2,186	262,340	2,936	669,431	3,560	563,639
Exports : White arsenic	2,318	174,190	1,975	197,458	4,286	567,898	2,672	393,883
Imports:	Pounds.		Pounds.		Pounds.		Pounds.	
White arsenic	14,222	657	41,090	7,086	247,610	32,083	995	222
Sulphide of arsenic	171,993	5,415	239,991	11,839	252,848	22,053	301,985	33,351
Arseniate of soda	9,090	503	15,779	1,228	4,469	588	121	34

ASBESTOS.

The production of asbestos has increased very greatly during the past four years, and average prices in 1918 were about three to four times those of 1914. As usual the production has all been derived from Black Lake, Thetford, Robertsonville, Colcraine, East Broughton and Danville in the Eastern Townships, Province of Quebec.

There was a falling off in 1918 of 1,955 tons in the output and 1,691·4 tons in the sales of *crude* asbestos, but an increase in average price from $510.47 per ton in 1917 to $671.28 in 1918. The shipments of *mill* stock were increased in 1918 by 7,651 tons and the average price was increased from $34.08 in 1917 to $46.88 in 1918.

The total value of the shipments of asbestos and asbestic in 1918 was $8,970,797, as against $7,230,383 in 1917.

The average number of men employed in mining was 1,674, and in milling 1,400 or a total of 3,074, and the total wages paid were $2,871,643. The tonnage of rock mined and quarried was 2,462,381 and the tonnage milled 2,185,572.

Exports of asbestos during 1918 were 119,454 tons valued at $7,786,710, or an average of $65.19 per ton and of asbestic sand and waste, 22,144 tons valued at $228,059, or an average of $12.99 per ton. There was also an export of manufactures of asbestos valued at $40,763. In 1918 there were 10,346 tons valued at $894,367 exported to Great Britain, 99,182 tons valued at $6,114,510 to United States, 3,821 tons valued at $352,594 to Italy, 1,500 tons valued at $119,874 to France, and 4,605 tons valued at $305,365 to other countries.

The imports of asbestos and manufactures of asbestos in 1918 were valued at $604,703.

Output, Sales, and Stocks of Asbestos.

	Output.	Sales.			Stocks on hand December 31.		
	Tons.	Tons.	Value.	Per ton.	Tons.	Value.	Per ton.
1918.			$	$		$	$
Crude	4,313	3,692	2,478,363	671·28	1,686	1,109,402	658·00
Mill stock	139,143	137,770	6,458,441	46·88	12,560	941,612	74·97
	143,456	141,462	8,936,804	63·17	14,246	2,051,014	143·97
Asbestic		16,797	33,993	2·02			
1917.							
Crude	6,268	5,383·4	2,748,071	510·47	1,322·6	738,195	558·14
Mill stock	135,475	130,119·0	4,435,028	34·08	11,917·0	477,289	40·05
	141,743	135,502·4	7,183,099	53·01	13,239·6	1,215,484	91·81
Asbestic		18,279·0	47,284	2·59			

	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		$		$		$		$
Rock mined	2,136,863		2,291,132		2,635,010		2,462,381	
" milled	1,795,472		1,822,461		2,260,191		2,185,572	
Output—								
Milled	102,572		112,832		135,475		139,143	
Crude	3,987		5,415		6,268		4,313	
	106,559		118,247		141,743		143,456	
Mill recovery %	5·7		6·2		6·0		6·4	
Production—								
Asbestos	111,142	3,553,166	133,439	5,199,797	135,502	7,183,099	141,462	8,936,804
Asbestic	25,700	21,819	20,710	29,072	18,279	47,284	16,797	33,993
	136,842	3,574,985	154,149	5,228,869	153,781	7,230,383	158,259	8,970,797
Exports—								
Asbestos	84,584	2,734,695	96,775	3,872,463	93,932	4,903,326	119,454	7,786,710
Sand & waste	25,103	157,410	33,564	241,272	52,088	430,956	22,144	228,059
Manufactures		125,003		4,741		55,666		40,763
		3,017,108		4,118,476		5,389,948		8,055,532
Imports—		168,894		334,670		537,431		604,703

BARYTES.

Shipments of ground barytes in 1918 were 640 tons, valued at $10,165 as compared with 3,490 tons valued at $54,027 in 1917.

During recent years the only barytes deposit worked in Canada has been that at Lake Ainslie, Inverness County, N.S. In the Province of Ontario, however, a deposit located in Langmuir township, south of Porcupine, has been under development during the past few years by the Premier Langmuir Mines, Ltd., and shipments therefrom were made during 1918.

Imports of barytes are not separately shown in the Trade classification. There have been imports of barium peroxide for the manufacture of hydrogen peroxide amounting in 1918 to 53 tons valued at $27,893 as compared with 73 tons valued at $17,393 in 1917. There is also a small import of artificial sulphate of barium known as blanc fixé, the imports, however, being included with satin white. These imports in 1918 were 3,528 tons, valued at $92,241.

Blanc fixé (barium sulphate) is artificially prepared by treating a solution of barium salt, generally the chloride with sulphuric acid, or aluminium sulphate. It is used for coating papers.

Satin white is an artificially prepared mineral for coating paper, consisting of precipitated calcium sulphate and alumina, prepared by grinding together the necessary proportions of alum and slaked lime with sufficient water.

	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		$		$		$		$
Production—								
Nova Scotia	550	6,875	1,368	19,393	3,490	54,027	580	9,145
Ontario	.....	.....	.....	.....	.....	.....	60	1,020
Imports—								
Barium peroxide	18	5,250	57	26,172	73	17,393	53	27,893
Blanc fixé and satin white	2,746	59,471	3,747	86,306	3,600	90,482	3,528	92,241

CHROMITE.

The production of chromite from the Eastern Townships, Province of Quebec, was supplemented in 1918 by small shipments from Cascade, a few miles southwest of Rossland, B.C. The total shipments of ores and concentrates from Canadian sources in 1918 were 21,994 short tons, valued at $867,122, or an average of $39.40 per ton, the total content of Cr_2O_3, being 8,526 tons.

In 1917 the total shipments of ore and concentrates were 23,711 tons valued at $581,796 or an average of $24.54 per ton, with total Cr_2O_3 content of 8,472 tons. Thus the 1918 production while slightly less in tonnage of ore and concentrates shipped, really exceeded that of 1917 in chrome content and in total value.

The 1918 shipments included: Crude ore, 15,605 short tons, valued at $456,408 or an average of $28.45 per ton and with an average Cr_2O_3 content of 39·15 per cent; concentrates, 6,389 short tons, valued at $410,714, or an average of $64.28 per ton, and with an average Cr_2O_3 content of 49·01 per cent. The crude ore shipped included 1,850 tons sold for consumption in Canada, and 13,755 tons sold for export. The concentrates with the exception of about 2 tons were sold for export.

The 1917 shipments included 20,153 tons of ore and 3,558 tons of concentrates.

The production of chromite was undoubtedly stimulated by the control exercised by the War Trade Board and the appointment of Dr. Robert Harvie, of the Geological Survey, as resident agent of the Board at Black Lake. With the cessation of hostilities, however, the market collapsed, and during the last two months of the year practically all shipments were in fulfilment of contracts.

The outstanding features of the industry during the year were the increased production of concentrates which contributed 29 per cent of the shipments as against 15 per cent in 1917; the exceptionally high price which the product commanded—the average value of the crude ore shipped in 1918 being greater than the average value of all shipments in 1917; the development of ore reserves which appear to assure continued production provided economic conditions are favourable; and the entry of British Columbia as a producer of chrome ore.

The exports of chromite in 1918 as per Trade reports were 15,831 tons valued at $353,616, or an average of $22.32 per ton as compared with exports in 1917 of 19,229 tons valued at $342,528, or an average of $17.81 per ton.

Ferro-chrome has been imported into Canada but there is no separate record of the quantities thereof. The imports of bichromate of soda in 1918 were 1,046,490 pounds valued at $208,669; and imports of bicromate of potash 20,844 pounds valued at $10,686.

	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
Production (shipments):—		$		$		$		$
Crude ore	12,341	179,543	14,249	266,217	20,153	441,540	15,605	456,408
Concentrates	.....	.....	1,000	44,685	3,558	140,256	6,389	410,714
	12,341	179,543	a15,249	310,902	a23,711	581,796	21,994	867,122
Production:—								
Quebec	12,341	179,543	27,517	311,460	36,725	499,682	21,324	835,727
Br. Columbia	.....	.....	.....	.....	.....	.....	670	31,395
Exports	7,290	81,838	12,633	152,534	19,229	342,528	15,831	353,616
Imports:—								
Bichromate of soda	234	34,692	711	362,571	667	248,621	523	208,669
" potash	77·0	17,413	15·5	13,381	10·1	6,697	10·4	10,686

a Shipments as reported directly by operators in 1916 were 27,517 tons valued at $311,460; and in 1917, 36,725 tons valued at $499,682.

COAL AND COKE.

Coal.—The total production of marketable coal during 1918 (comprising sales, colliery consumption, and coal used in making coke, or used otherwise by colliery operators) was 14,977,926 short tons valued at $55,192,896 or an average of $3.68 per ton, and was, with the exception of the year 1913, the largest production obtained in any one year from Canadian coal mines.

The production in 1917 was 14,046,759 tons valued at $43,199,831 compared with which the 1918 production shows an increase of 931,167 tons, or 6·63 per cent, and $11,993,065, or 27·8 per cent in value.

The total output of coal including waste and unmarketable slack in 1918 was 15,460,385 tons as against 14,435,361 tons in 1917.

The 1918 production included 115,405 tons of anthracite, all from one mine in Alberta; 11,636,190 tons of bituminous coal, and 3,226,331 tons of lignite.

The increase in production of coal in 1918 has been obtained chiefly in the Province of Alberta although there were also substantial increases in British Columbia and in New Brunswick. The Nova Scotia production fell off 508,529 tons, or 8·0 per cent as compared with 1917. New Brunswick increased by 79,117 tons, or 41·8 per cent; Saskatchewan fell off 8,598 tons or 2·4 per cent; Alberta increased 1,236,448 tons, or 26·1 per cent and reached its highest production on record. British Columbia increased by 134,701 tons, or 5·5 per cent, but was less than the highest production in 1910 by 762,156 tons.

Output[1] and Production[2] of Coal by Provinces, 1918.

Province.	Average No. of men employed.	Wages Paid.	Production of Coal.				Output.
			Short tons.	Per cent of total.	Value.	Average per ton.	Short tons.
		$		%	$	$	
Nova Scotia	10,361	13,069,322	5,818,562	38·85	21,095,470	3·63	5,836,370
New Brunswick	576	631,323	268,212	1·79	1,331,710	4·97	266,585
Saskatchewan	460	425,392	346,847	2·31	722,148	2·08	348,988
Alberta	9,032	11,382,406	5,972,816	39·88	20,537,287	3·44	6,126,443
British Columbia	4,982	7,384,358	2,568,589	17·15	11,494,681	4·47	2,879,099
Yukon Territory	8	8,700	2,900	0·02	11,600	4·00	2,900
Total	25,419	32,899,501	14,977,926	100·00	55,192,896	3·68	15,460,385

[1]Output includes waste and unmarketable slack. [2]Production includes sales, colliery consumption, and coal used by operators in making coke, or for other uses.

Monthly Production of Coal in Canada by Provinces, 1918 (in short tons).

Month.	Nova Scotia.	New Brunswick	Saskatchewan.	Alberta.			British Columbia	Total.
	(b)	(b)	(c)	(a)	(b)	(c)	(b)	
January	506,961	24,004	37,890	11,358	240,187	358,894	242,767	1,422,061
February	435,926	22,155	41,183	11,722	224,431	232,595	216,657	1,184,658
March	441,771	25,388	18,119	12,533	244,819	169,899	227,472	1,140,001
April	463,065	22,952	16,331	12,773	270,943	103,115	223,359	1,112,539
May	473,501	23,624	21,947	10,927	260,778	147,106	227,361	1,165,247
June	480,857	23,783	24,480	8,732	260,689	233,891	229,288	1,260,720
July	489,395	18,886	29,266	9,932	269,346	271,504	227,467	1,315,796
August	516,218	28,611	24,433	9,036	270,137	279,231	231,260	1,361,736
September	494,113	24,277	25,899	8,611	264,216	264,766	147,689	1,229,571
October	586,904	18,064	31,705	8,211	263,845	283,446	211,548	1,403,724
November	478,584	17,806	38,514	4,947	189,134	250,291	176,616	1,155,892
December	451,264	18,661	38,080	6,653	219,412	284,746	207,165	1,225,981
Total	5,818,562	268,212	346,847	115,405	2,977,927	2,879,484	2,568,589	*14,977,926

*Includes 2,900 tons produced in the Yukon district. (a) anthracite; (b) bituminous; (c) lignite.

	1915.		1916.		1917.		1918.	
	Short Tons.	Value.	Short Tons.	Value.	Short Tons.	Value.	Short Tons.	Value.
		$		$		$		$
Output	13,480,196		14,815,703		14,435,361		15,460,385	
Production: *by provinces*—								
Nova Scotia	7,463,370	16,659,308	6,912,140	18,514,662	6,327,091	19,410,737	5,818,562	21,095,470
N. Brunswick	127,391	309,612	143,540	386,016	189,095	708,010	268,212	1,331,710
Saskatchewan	210,107	365,246	281,300	441,836	355,445	662,451	346,847	722,148
Alberta	3,360,818	8,283,079	4,559,054	11,386,577	4,736,368	14,153,685	5,972,816	20,537,287
B. Columbia	2,065,613	6,455,041	2,584,961	8,075,190	2,433,888	8,235,716	2,568,589	11,494,681
Yukon	9,724	38,896	3,300	13,200	4,872	29,232	2,900	11,600
	13,267,023	32,111,182	14,483,395	38,817,481	14,046,759	43,199,831	14,977,926	55,192,896
Production: *by kinds*—								
Anthracite	11,483,791	27,887,776	12,212,071	33,121,789	108,225	35,359,920	115,405	44,967,894
Bituminous					11,154,251		11,636,190	
Lignite	1,783,232	4,223,406	2,271,324	5,695,692	2,784,283	7,839,911	3,226,331	10,225,002
Imports—								
Bituminous (1)	6,106,794	7,564,369	9,504,552	12,368,679	12,407,486	33,712,894	13,656,360	37,291,057
Bituminous (2)	2,286,916	2,027,256	3,505,236	3,704,624	3,129,776	8,739,877	3,237,067	8,351,639
Anthracite	4,672,192	18,753,980	4,570,815	22,216,363	5,320,198	28,109,586	4,785,160	26,007,888
	12,465,902	28,345,605	17,580,603	38,289,666	20,857,460	70,562,357	21,678,587	71,650,584
Exports—								
The produce of Canada	1,766,543	5,406,058	2,135,359	7,099,387	1,733,156	7,387,192	1,817,195	9,405,423
All other	59,690	86,059	62,783	150,799	47,328	173,176	67,486	205,389
Consumption	23,906,692	54,964,670	29,865,856	69,856,961	33,123,735	106,201,820	34,771,832	117,232,668

(1) Round and run-of-mine. (2) Slack such as will not pass through ¾" screen.

Coke. The accompanying statistics cover only the production of coke in by-product and Beehive coke oven plants and do not include retort coke recovered by gas companies.

Both domestic and imported coal are used in the manufacture of coke in Canadian coke oven plants.

The total output during 1918 was 1,258,284 short tons made from 1,983,242 tons of coal of which 1,348,232 tons were of domestic origin and 635,010 tons imported. The output thus averaged 0·634 tons of coke per ton of coal charged. The total coke used, or sold by producers during the year was 1,250,744 tons valued at $11,035,195 or an average of $8.82 per ton.

By provinces the output was: Nova Scotia 581,870 tons, a decrease of 63,199 tons; Ontario 431,970 tons, an increase of 56,956 tons; Alberta 32,801 tons, an increase of 1,605 tons; and British Columbia 211,643 tons, an increase of 31,057 tons.

The ovens operated during the year were those at Sydney, and Sydney Mines, N.S.; Sault Ste. Marie, and Hamilton, Ont.; Coleman, Alta.; and Fernie, Michel, and Union Bay, B.C.

At the close of the year 1,640 ovens were in operation; 1,041 were idle and 115 were in course of construction. These last included 60 Koppers ovens at Sydney, 25 Williputte ovens at Sault Ste. Marie and 30 Lomax regenerative ovens at Anyox, B.C.

The exports of coke in 1918 were 29,612 tons, valued at $223,629 or an average of $7.55 per ton, as against exports in 1917 of 23,595 tons valued at $137,318 or an average of $5.82 per ton. The imports of coke in 1918 were 1,165,590 tons valued at $8,975,445 or an average of $7.70 per ton, as against imports in 1917 of 970,106 tons valued at $6,517,260 or an average of $6.72 per ton.

The estimated consumption of oven coke in 1918 was 2,386,722 tons as compared with 2,192,373 tons in 1917.

Of the total output of coke 879,063 tons, or 70 per cent was made in by-product recovery ovens and the recovery of by-products included: ammonium sulphate 10,825 tons, and tar 8,009,327 gallons, as against 9,941 tons of ammonium sulphate and 8,277,078 gallons of tar in 1917.

		1915.		1916.		1917.		1918.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			$		$		$		$
Coal charged:									
Domestic	Tons.	1,425,172		1,501,835		1,379,038		1,348,232	
Imported	"	431,221		633,076		549,885		635,010	
Total	"	1,856,393		2,134,911		1,928,923		1,983,242	
Output: coke	Tons.	1,200,766		1,448,782		1,231,865		1,258,284	
Recovery	%	64·7		67·9		63·9		63·4	
Production:									
Nova Scotia	Tons.	585,873	1,905,766	654,433	2,617,732	643,757	3,218,785	580,433	5,966,609
Ontario	"	285,251	1,141,004	472,507	2,008,155	389,048	2,155,326	425,087	3,300,127
Alberta	"	23,826	95,304	41,950	167,800	31,649	181,982	32,564	213,884
Br. Columbia	"	275,523	1,116,506	300,851	1,255,725	181,468	1,106,488	212,570	1,554,575
Total	"	1,170,473	4,258,580	1,469,741	6,049,412	1,245,862	6,662,581	1,250,744	11,035,195
Exports	"	35,869	160,053	48,539	221,334	23,595	137,318	29,612	223,629
Imports	"	637,857	1,608,464	757,116	2,229,078	970,106	6,517,260	1,165,590	8,975,445
Consumption	"	1,772,461	5,706,991	2,178,318	8,057,156	2,192,373	13,042,523	2,386,722	19,787,011
By-products—									
Ammonium Sulphate—									
Production	"	10,448		11,040		9,941		10,825	
Imports	"	251·6	14,637	119·5	9,672	283·5	26,062	4·2	1,273
Exports (a)	"					8,047	693,377	8,696	1,027,558
Tar—									
Production	Gals.	7,365,931		9,012,202		8,277,078		8,009,327	
Exports	"		37,331		50,352		43,547		67,646
Gas	M. ft.	4,089,602		5,058,636		3,963,826		4,699,009	
Ovens in operation Dec. 31	No.	1,742		1,907		1,657		1,640	

(a) Not separately shown previous to April, 1917.

FELDSPAR.

The shipments of feldspar in 1918 were 18,782 tons valued at $112,728 or an average of $6 per ton, as compared with shipments in 1917 of 19,462 tons valued at $89,826, or an average of $4.62 per ton.

The greater part of the feldspar shipped from Canadian mines is marketed with the pottery manufacturers in the United States. The production comes chiefly from the counties of Frontenac and Lanark in Ontario and the counties of Ottawa and Labelle in Quebec.

The exports of feldspar during the year were valued at $101,187.

	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
Production :		$		$		$		$
Quebec	572	2,005	4,610	18,075	1,188	8,204	191	4,279
Ontario	13,987	55,796	14,878	53,332	18,274	81,622	18,591	108,449
	14,559	57,801	19,488	71,407	19,462	89,826	18,782	112.728
Exports (*a*)	.....	.....	.....	.....	.....	69,195	.....	101,187

(*a*) Not separately stated prior to April, 1917.

FLUORSPAR.

The production of fluorspar again shows a substantial increase. The principal production from Madoc, Ontario, was supplemented by shipments from a recently opened deposit in Yale district, of British Columbia.

The total shipments during 1918 were 7,362 tons valued at $156,029 as compared with 4,249 tons valued at $68,756 in 1917.

Eight properties were operated in the Madoc district and the average value of the shipments was $20.97 as compared with $16.08 in 1917. Prices varied with the grade of the product from $15 to $30 per ton. In addition to the Madoc shipments, a small tonnage is reported to have been mined in the township of Cardiff.

The Consolidated Mining and Smelting Company is operating the "Rock Candy" fluorspar deposit on Kennedy creek, Kettle river, near Grand Forks, B.C. The Company reports very favourable indications for a large tonnage in excess of their own requirements, for export.

Canadian steel companies use from 10,000 tons to 15,000 tons per annum.

	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
Production :		$		$		$		$
Ontario	nil.	nil.	1,284	10,238	4,249	68,756	7,187	150,779
British Columbia	.....	.....	.....	.....	.....	.....	175	5,250
	nil.	nil.	1,284	10,238	4,249	68,756	7,362	156,029
Imports :								
Hydro-fluo-silicic acid	558·9	36,085	448·2	28,611	0·2	97	0·5	80

GRAPHITE.

Notwithstanding the importance of this product as a "war mineral" and the strong demand therefor, the production of graphite in 1918 was considerably less than in 1917. The total shipments were 3,114 tons, valued at $248,870, as against 3,714 tons, valued at $402,892 in the previous year.

By provinces the 1918 shipments included 2,934 tons, valued at $208,852, from Ontario, and 180 tons, valued at $40,018, from Quebec (including a small shipment from Baffin Land).

In 1917 Ontario contributed 3,173 tons, valued at $296,587, and Quebec and Baffin Land 541 tons, valued at $106,305.

The quantity of ore milled during the year was 11,358 tons, from which was produced 3,225 tons of milled, or refined graphite.

The total quantity of ore milled during the year 1917 was 19,614 tons, from which were produced 4,003 tons of refined, or milled graphite. From three mills operating on disseminated flake ores, the average recovery of refined graphite was 5·5 per cent in 1918 and 8·6 per cent in 1917 of the rock milled. The Black Donald (Calabogie, Ont.) ore consists largely of amorphous graphite, from which a large mill recovery is made.

Graphite operators reported that of the total shipments, 2,856 tons, valued at $214,345, were sold for export. Trade records show exports of plumbago, crude ore and concentrate, 664 tons, valued at $32,710, and manufactures of plumbago (probably refined) valued at $205,993, a total export of $238,703.

By grades the shipments included 366 tons of No. 1 flake, valued at $97,518, or an average of $266.44 per ton; 73 tons of No. 2 flake, valued at $13,780, or an average of $188.77 per ton; and 2,675 tons of No. 3 and dust, valued at $137,572, or an average of $51.43 per ton.

	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		$		$		$		$
Ore milled	6,680		23,199		19,614		11,358	
Output, milled graphite	1,901		4,133		4,003		3,225	
Production:—								
No. 1 Flake					540	158,656	366	97,518
No. 2 "					650	99,621	73	13,780
No. 3 " and dust					2,524	144,615	2,675	137,572
	2,635	124,223	3,955	325,362	3,714	402,892	3,114	248,870
Exports:—								
Crude ore and concentrates	263	12,009	311	13,114	112	7,455	664	32,710
Manufactures		84,316		304,919		384,505		205,993
Imports:—								
Plumbago, not ground		3,436		3,231		47,218		93,956
Ground and manufactures		41,681		99,919		123,991		132,821
Crucibles: clay, or plumbago		106,761		520,341		798,044		113,856
		151,878		623,491		969,253		340,633

Artificial Graphite.—Artificial graphite is manufactured in electric furnaces at Niagara Falls, Ontario, by the International Acheson Graphite Company. The annual production has been as follows:—

Calendar Year.	Pounds	Calendar Year.	Pounds.	Calendar Year.	Pounds.
1906	445,047	1911	2,172,098	1915	497,271
1907	407,779	1912	2,302,625	1916	525,048
1908	428,540	1913	2,184,472	1917	1,096,172
1909	513,436	1914	1,234,239	1918	1,808,698
1910	2,442,166				

GYPSUM.

Because of the general cessation of building activities during the war the production of gypsum has fallen in 1918 to less than one-fourth the tonnage mined in 1913. The difficulties in securing boat transportation for shipments from the Maritime Provinces was a contributory cause of decreased output. The total quantity of gypsum rock quarried in 1918 was 155,298 tons, of which 88,748 tons were calcined. The shipments of all grades totalled 152,287 tons valued at $823,006 and included: lump gypsum 43,728 tons valued at $47,727; crushed, 25,074 tons valued at $55,079; fine ground, 4,558 tons valued at $12,621, and calcined, 78,927 tons valued at $707,579. By provinces the shipments were: Nova Scotia, 49,365 tons valued at $115,976; New Brunswick, 27,225 tons valued at $214,114; Ontario, 38,214 tons valued at $151,564; Manitoba, 37,483 tons valued at $341,352.

The average number of men employed in 1918 was 435 and wages paid, $275,312, as compared with 774 men employed and $445,128 paid in wages in 1917.

Exports of crude gypsum were 67,824 tons valued at $80,843, and of gypsum ground valued at $101,618.

The imports of gypsum of all grades during 1918 were valued at $22,065 and included: crude gypsum, 112 tons valued at $2,015; ground gypsum, 79 tons valued at $1,836, and plaster of Paris, 1,095 tons valued at $18,214.

	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		$		$		$		$
Ore, mined	505,989	.....	424,431	.....	365,659	.....	155,298	.....
Ore, calcined	84,763	.....	94,414	.....	97,667	.....	88,748	.....
Production—								
Lump	346,947	375,815	249,893	263,050	223,760	246,774	43,728	47,727
Crushed	48,735	67,007	15,680	28,111	32,305	51,869	25,074	55,079
Fine ground	6,455	22,767	6,096	19,673	4,843	19,222	4,558	12,621
Calcined	72,678	389,340	71,246	427,759	75,424	564,119	78,927	707,579
	474,815	854,929	342,915	738,593	336,332	881,984	152,287	823,006
Production by Provinces—								
Nova Scotia	298,864	339,857	238,212	278,160	215,472	301,261	49,365	115,976
New Brunswick	74,501	184,929	39,546	153,064	38,556	191,631	27,225	214,114
Ontario	81,172	190,422	36,668	116,086	48,947	130,138	38,214	151,564
Manitoba	20,278	139,721	28,489	191,283	33,347	258,934	37,483	341,352
British Columbia	.....	.....	.....	.....	10	20	.....	.....
Exports—								
Crude	292,234	336,380	221,156	252,476	224,423	245,182	67,824	80,843
Ground	.....	80,933	.....	154,630	.....	146,384	.....	101,618
	.....	417,313	.....	407,106	.....	391,566	.....	182,461
Imports—								
Crude	1,799	7,734	3,022	14,358	64	999	112	2,015
Ground	134	2,253	282	3,404	282	5,355	79	1,836
Plaster of Paris	2,442	15,832	3,786	25,529	3,101	29,106	1,095	18,214
	4,375	25,819	7,090	43,291	3,447	35,460	1,286	22,065

MAGNESITE.

The production of magnesite—obtained from the deposits in Argenteuil county, Quebec—is marketed as crude ore, calcined and dead burnt clinker (the latter being sintered in rotary kilns after mixture with about 5 per cent of iron ore in the form of magnetite). The total shipments in 1918 were 39,365 tons, valued at $1,016,765, as compared with shipments in 1917 of 58,090 tons, valued at $728,275.

The smaller tonnage shipped in 1918 is due to the greater proportion of calcined and dead burnt clinker produced and sold. There were marketed about 16,697 tons of crude ore valued at $158,380, averaging about $9.50 per ton. Calcined material sold at $25 per ton and dead burnt clinker between $35 and $40.

In 1918 about 57,799 tons of magnesite rock were quarried and about 49,303 tons were calcined in lime kilns, or sintered in rotary cement kilns. The sintering was done at the plants of the Canada Cement Company at Hull and Montreal.

Exports of magnesite in 1918 were valued at $816,553.

	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		$		$		$		$
Ore mined	18,161		57,300		64,767		57,799	
" calcined	(c)		4,666		11,101		49,303	
Production—								
Crude ore			53,080	491,947	52,711	528,260	16,697	158,380
Calcined and dead burnt	14,779	126,584	2,333	71,882	5,379	200,015	22,668	858,385
	14,779	126,584	(b) 55,413	563,829	58,090	728,275	39,365	1,016,765
Exports (a)						72,228		816,553
Imports, magnesia	91	9,695	195	20,651	58	16,186	47	13,200

(a) Not separately shown prior to April, 1917.
(b) Includes shipments of 635 tons valued at $9,525 from Atlin, B.C.
(c) Not reported.

Metallic Magnesium.—The manufacture in Canada of metallic magnesium has been undertaken by the Shawinigan Electro Metals Company, Ltd., at Shawinigan Falls, Que. The metal is made from magnesium chloride salts which have been imported.

Magnesium Sulphate.—Sulphate of magnesium, epsomite, or crude Epsom salt has been found in several localities in southern British Columbia.

Commercial shipments have been made during the past few years from a deposit near Kruger mountain, Osoyoos division, B.C., where the mineral is found in a flat depression known as Spotted Lake, which is a partially dried-up lake containing alternate circles of water and dry places. The Stewart Calvert Company, Inc., of Oroville, Washington, has been operating this deposit. The crude magnesium sulphate salt is hauled to the company's works at Oroville, where the crude salt is refined and prepared for the market. Shipments in 1916 were reported as 250 tons, and in 1915 about 300 tons.

In addition to the Spotted Lake deposit the same company also made shipments during 1918 from a deposit near Clinton, in Lillooet, B.C.

The greater part of the refined salt is used for industrial purposes, the tanning industry probably taking the largest proportion, though considerable amounts are also used in the textile industries and in the manufacture of dyes. About 20 per cent of the total shipments go to the drug trade.

Several lakes containing these salts have been observed on the Basque ranch, near Ashcroft, and investigations of their probable commercial value are being made.

	1917.		1918.	
	Tons.	Value.	Tons.	Value
		$		$
Quantity extracted	2,600	.....	4,500	.....
Quantity shipped	929	4,645	1,949	14,565

MANGANESE.

The production of manganese ore in Canada has been small and irregular. During 1918 operations were discontinued at New Ross, in Nova Scotia, but shipments were made during the year from Kaslo, B.C., amounting to 440 tons (dry), valued at $6,230.

The manganese ores which have been mined in Canada are pyrolusite, manganite, psilomelane, and bog manganese. These were mostly ores with a high manganese content, and fairly free from deleterious constituents. The largest part of the production was consequently put to those uses, where a high grade raw material is desired, e.g., as an oxidizing agent in the manufacture of chlorine, bromine, manganates, and permanganates; as decolorizer of glass, porcelain, and enamels; as a colouring material in dyeing and pottery and paint manufacture; as a drier in paints and varnishes, and in the manufacture of dry and Leclanche cells, etc.

No separate record of imports of manganese ore is kept in the Trade classification but statistics of oxide of manganese are given. In 1918 these imports were 1,068 tons, valued at $93,477. Imports of ferro-silicon, spiegeleisen and ferro-manganese in 1918 were 35,284 tons, valued at $4,283,133. The exports in 1918 were 784 tons, valued at $29,208.

	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
Production:		$		$		$		$
Nova Scotia	51	5,760	646	70,371	158	14,836	.....	.....
New Brunswick	150	3,600	311	19,173	.....	.....	.....	.....
British Columbia	.....	....	.....	....	.....	.....	440	6,230
	201	9,360	957	89,544	158	14,836	440	6,230
Imports:								
Manganese oxide	1,238	46,678	1,170	63,786	1,769	92,616	1,068	93,477
Ferro-silicon, spiegeleisen and ferro-manganese	13,758	807,312	14,777	1,879,538	12,828	2,029,990	35,284	4,283,133
Exports:								
Manganese ore	255	6,855	957	89,544	185	16,031	784	29,208
Ferro-silicon and compounds	9,238	537,081	22,802	1,352,013	33,212	2,616,924	23,781	2,671,434

MICA.

The total shipments of mica by mine operators in 1918 were 747 tons, valued at $271,550, or an average of $363.52 per ton. By provinces the production was: from Quebec, 481 tons, valued at $229,119, or an average of $476.39 per ton; Ontario, 266 tons, valued at $42,431, or an average of $159.52 per ton.

The statistics as to value of production should be considered with due regard to the conditions under which the industry is conducted. The condition in which mica is shipped from the mines varies greatly: one operator may ship his output cleaned and trimmed, while the output of another is in a rough cobbed state, with consequent noteworthy difference in prices realized. And further, companies operating trimming shops as well as mines may place only a nominal value on shipments from mines to trimming shops.

Canada's production of mica has come exclusively from two fields: one in the Province of Quebec, a short distance north of the city of Ottawa, and the other embracing parts of the counties of Lanark, Leeds, and Frontenac, in the Province of Ontario. The city of Ottawa (and the adjacent city of Hull), lying between these two fields, is the centre to which almost all the production of the various mines and numerous small prospects is shipped for trimming, grading, and marketing. In preparation for the market a considerable proportion of the tonnage received is cobbed out and the mica split, trimmed, and otherwise manufactured, with the result that the exports, though of smaller tonnage than the shipments from the mines, usually exceed them in total value.

According to Trade records the exports of mica in 1918 were 433 tons, valued at $410,000.

	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
Production:		$		$		$		$
Quebec	217	50,390	844	192,343	774	286,730	481	229,119
Ontario	200	41,515	364	62,896	392	72,121	266	42,431
	417	91,905	1,208	255,239	1,166	358,851	747	271,550
Exports	440	236,124	654	379,720	636	451,345	433	410,000

MINERAL PIGMENTS (IRON OXIDES).

For many years there has been an annual production in the Province of Quebec of iron oxide from deposits situated between Champlain and Three Rivers, a short distance from the St. Lawrence river.

These oxides are marketed after calcining, as paint materials and are also sold crude for use in the purification of illuminating gas. The mineral paint is calcined, washed, and fine ground before shipment.

There was a small production included in the total for 1917, of zinc oxide for use as a pigment, the production being obtained at the oxide plant of the Canadian Zinc Products Co., Ltd., at Notre-Dame-des-Anges. There was no production during 1918.

The total production of iron oxide was 17,317 tons valued at $112,440.

The exports of mineral pigments, iron oxides, ochres, etc., in 1918 are reported as 769 tons valued at $18,377.

Imports of mineral pigments are included under two classifications (1) ochres and ochrey earths, siennas and umbers, duty 20 per cent, and (2) oxides, roughstuffs, fillers, fireproofs and colours, dry, n.e.s., duty 25 per cent. During 1918 imports under the first classification were 1,560 tons valued at $66,011 and under the second classification 2,460 tons valued at $409,841, or a total import of 4,020 tons valued at $475,852.

—	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		$		$		$		$
Production	6,248	48,353	8,811	58,711	9,409	87,605	17,317	112,440
Imports:—								
Ochrey earths	1,240	23,763	2,082	51,771	1,956	59,864	1,560	66,011
Oxides	2,452	260,986	2,917	357,487	2,538	357,638	2,460	409,841
Exports: (a)	1,196	17,263	1,696	25,312	1,451	30,052	769	18,377

(a) Mineral pigments, iron oxides and ochres.

MINERAL WATER.

The statistics of production given herewith represent, as usual, as closely as can be ascertained, the value of mineral water shipped from mineral springs in bottles, barrels, or other containers, and do not include any estimate of the value of mineral water used at springs for drinking or bathing purposes; nor are the natural pure spring waters included, of which a considerable quantity is sold in bottled form.

The value of the production in 1918 was $154,468 as compared with $145,814 in 1917; of the 1918 production, Quebec is credited with $7,609, Ontario $145,400, British Columbia $1,455, and Saskatchewan $4.

The imports of mineral and aerated waters during the calendar year 1918 were valued at $105,967, being 1,900 gallons of natural mineral water valued at $634; and aerated water valued at $105,333. The exports of mineral water during the same year were valued at $20,214, of which 55 gallons valued at $41 was for natural mineral water and $20,173 for bottled aerated water.

—	1915.		1916.		1917.		1918.	
		Value.		Value.		Value.		Value.
		$		$		$		$
Production		115,274		127,806		145,814		154,468
Imports		126,569		130,933		108,444		105,967
Exports		3,578		1,598		10,765		20,214

NATURAL GAS.

The total production of natural gas in Canada in 1918 was 20,140,309 thousand cubic feet valued at $4,350,940, of which Ontario contributed 13,029,524 thousand cubic feet valued at $2,884,460; Alberta 6,318,389 thousand cubic feet valued at $1,358,638, and New Brunswick 792,396 thousand cubic feet valued at $107,842. The large falling off in the Ontario production was due to legislation prohibiting the use of natural gas for industrial purposes and thus conserving for domestic supply only.

The value of the gas, as reported by producers, varies from 5 cents to 30 cents per thousand feet, but these prices do not represent what the consumer has to pay. In some cases the producer also owns the distribution pipe line and receives the full price paid by the consumer. In other cases the producer may sell to a pipe line company who either sells directly to consumers, or may in turn resell to other pipe line companies for retail distribution; in such cases as these the producer receives only a fraction of the amount paid by the consumer, but he is saved the expense of distribution. The statistics given herewith represent, as far as possible, the value received by the producer, or owner, of the gas wells, whether such producer be the owner of the distribution line or not.

Natural Gas Production, 1915-16-17.

	1915.		1916.		1917.	
	M. cu. ft.	Value.	M. cu. ft.	Value.	M. cu. ft.	Value.
		$		$		$
Production:	430,692	60,383	610,118	79,628	796,775	103,735
New Brunswick	15,211,523	2,622,838	17,953,109	2,765,105	19,868,035	3,641,587
Ontario	4,481,947	1,022,814	6,904,231	1,113,296	6,744,130	1,299,976
Alberta						
	20,124,162	3,706,035	25,467,458	3,958,029	27,408,940	5,045,298

Natural Gas Production, 1918.

Province.	No. of operators.	No. Men.	Wages.	Wells, 1918.						Production.		
				(a)	(b)	(c)	(d)	(e)	(f)	M. cu. ft.	Value.	Average.
			$								$	$
Quebec	....	....	....	6	....	....	....	6	....	....	....	....
New Brunswick	1	21	27,683	23	....	4	....	22	1	792,396	107,842	0·136
Ontario	83	510	449,545	1882	62	24	118	1891	9	13,029,524	2,884,460	0·221
Saskatchewan	....	....	....	....	....	1	....	....	1	....	....	....
Alberta	17	180	164,314	69	5	....	....	74	5	6,318,389	1,358,638	0·215
Total	101	711	641,542	1980	67	29	118	1993	16	20,140,309	4,350,940	0·216

(a) Total number of productive wells at beginning of year.
(b) Number of productive wells drilled during year.
(c) " dry wells drilled during year.
(d) " wells abandoned during year.
(e) " productive wells at end of year.
(f) " wells on which drilling was in progress at end of year.

PEAT.

No shipments of peat have been reported since 1916. During the latter year about 300 tons, valued at $1,500, were shipped from a bog in Middlesex county, Ontario. In 1915 shipments were made from the Alfred bog, Prescott county, amounting to 300 tons, valued at $1,050.

	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		$		$		$		$
Production	300	1,050	300	1,500				

PETROLEUM.

The past two years have witnessed slight increases in petroleum production, due to the development of the new Mosa field in the county of Middlesex, in Ontario, so that the production in 1918 was not only 90,909 barrels, or 42 per cent in excess of that of 1917, but was the largest production that has been reached since 1910. A bounty of 1½ cents per gallon is paid on the marketed production of crude oil from Canadian oil fields, the administration of the "Petroleum Bounty Act" being under the Department of Trade and Commerce. According to the bounty record the production in 1918 in Ontario was 288,692 barrels (10,104,220 imperial gallons) which at the average price per barrel of $2·694 was worth $777,737. The New Brunswick production according to bounty payments was 3,009 barrels worth about $7,402 or an average value of $2.46. For five years there has been a small but growing production of crude petroleum in Alberta, the greater part of which, however, does not earn the bounty because of its lightness, or low specific gravity. The approximate production in 1918 was 13,040 barrels valued at $100,004.

The total production in Canada from all sources was therefore 304,741 barrels (10,665,935 imperial gallons) valued at $885,143.

The price of crude oil at Petrolia was quoted at $2.48 from August 20, 1917 to February 12, 1918 when the price was increased 10 cents to $2.58. On March 21, the price was again increased by 10 cents to $2.68, and on July 10, to $2.78 remaining at this price to the end of the year. The average monthly price for the year was thus $2.69⅛, as against an average of $2.33⅛ in 1917; $1.98 in 1916, and $1.39½ in 1915.

The production in barrels of the various fields in the Province of Ontario as kindly furnished by the Supervisor of Petroleum Bounties at Petrolia was as follows: Petrolia and Enniskillen 65,467; Oil Springs 44,671; Moore township 6,367; Sarnia township 3,438; Plympton township 412; Bothwell 29,116; Tilbury 25,228; Dutton 1,875; Onondaga 1,186; Belle River 447; Mosa township 108,988; Thamesville 1,566.

The production in New Brunswick is all obtained in the Stoney Creek district, Albert Co. The Alberta production was obtained from 5 wells situated in the Turner Valley field, near Black Diamond, about 35 miles southwest of Calgary.

In 1918 ten oil refineries in Canada used 262,641,155 gallons of crude oil of which 250,382,965 gallons were imported, and 12,258,190 gallons were obtained from Canadian wells. The production of refined oils and petroleum products included gasoline

and motor oils 72,175,768 gallons; benzoline, benzene, and other light oils, 1,530,592 gallons; illuminating oils 45,268,598 gallons; lubricating oils 14,402,523 gallons; gas and fuel oils and tar 79,092,347 gallons; wax and candles 13,759,972 pounds. There was also a production of asphalt and other products. The total value of the products of refineries was $37,287,891.

According to inspection returns of the Inland Revenue Department the total quantity of illuminating oils inspected during the calendar year 1918 was 55,443,056 gallons and the quantity of naphtha or gasoline and other light oils was 74,310,352 gallons.

Exports of petroleum entered as crude mineral oil in 1918 were 270,302 gallons valued at $28,415 and of refined oil 1,946,967 gallons valued at $206,675. There was also an export of naphtha or gasoline of 91,229 gallons valued at $28,778.

The total value of the imports of petroleum and petroleum products in 1918 was $30,749,570 as against a value of $22,957,688 in 1917.

The total quantity of petroleum oils, crude and refined, imported in 1918 was 420,728,933 gallons as compared with 379,148,006 gallons in 1917. A detailed record will be found in the accompanying tables.

Oil Wells and Oil Shipments, 1918.

Province.	Men Employed.	Wages paid.	(a)	(b)	(c)	(d)	(e)	(f)	(g)	Oil Shipped.		
										Barrels.	Value.	Average Value.
		$									$	$
New Brunswick	*	*	7	...	...	...	...	7	...	3,009	7,402	2·46
Ontario (not complete)	246	173,777	4,014	67	0	1	302	3,821	1	288,692	777,737	2·69
Alberta	18	21,364	5	9	....	....	.....	8	15	13,040	100,004	7·67
Br. Columbia	....	.....	.. ..	....	....	....	.....	.....	1	... .	.....	....
Total	264	195,141	4,026	76	0	1	302	3,836	17	304,741	885,143	2·90

* Included with natural gas statistics.
(a) Number of productive wells at beginning of year.
(b) Number of oil wells drilled during year.
(c) Number of gas wells drilled during year.
(d) Number of dry wells drilled during year.
(e) Number of wells abandoned during year.
(f) Total number of productive wells at end of year.
(g) Number of wells on which drilling was still in progress at end of year.

Petroleum.

	1915.		1916.		1917.		1918.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Bounty paid		$ 112,577		$ 101,014		$ 107,799		$ 153,958
Production, crude—								
New Brunswick ..Bbls.	1,020	1,423	1,345	2,663	2,341	5,460	3,009	7,402
Ontario .. "	214,444	299,149	196,778	389,621	202,991	473,477	288,692	777,737
Alberta .. "	small		small		8,500	63,302	13,040	100,004
	215,464	300,572	198,123	392,284	213,832	542,239	304,741	885,143
Production, refinery—								
Refined oils ..Gals.					173,235,606	23,575,358	232,469,829	35,372,773
Other products (*a*) .. "						1,561,785		1,915,088
						25,137,143		37,287,861
Refined oils inspected *—								
Petroleum ..Gals.	33,091,567		34,155,473		41,366,586		55,443,056	
Naphtha .. "	26,830,499		38,249,129		59,892,046		74,310,352	
	59,922,066		72,404,602		101,258,632		129,753,408	
Exports—								
Coal and kerosene, crude ..Gals.	35,977	1,789	137,647	11,439	2,130	183	270,302	28,415
" " refined .. "	103,488	14,107	446,595	48,137	28,212	6,558	1,946,967	206,675
Gasoline and naphtha .. "	16,644	4,540	54,806	14,194	24,304	7,419	91,229	28,778
	156,109	20,436	639,048	73,770	54,646	14,160	2,308,498	263,868
Imports—								
(*a*) Crude (1) for refining ..Gals.	192,548,743	3,675,253	252,895,361	8,448,778	183,105,102	8,411,730	229,010,561	13,359,636
" (2) all other .. "					142,524,473	5,958,930	148,537,043	8,355,387
(*b*) " gas oils .. "	39,744	2,768	197,909	11,044	854,778	65,404	65,845	7,584
(*c*) Coal and kerosene, distilled .. "	6,658,460	348,444	7,912,419	474,442	13,258,815	978,366	5,241,881	526,609
(*d*) Illuminating .. "	134,413	56,575	167,688	68,451	198,281	115,194	205,839	152,825
(*e*) Lubricating .. "	3,678,253	488,215	4,239,675	597,733	3,438,430	559,605	2,450,588	476,641
Lubricating, n.o.p .. "	868,926	267,320	1,226,401	375,520	1,877,381	650,325	2,849,051	1,203,130
Gasoline .. "	28,030,972	2,693,717	18,321,891	3,624,931	15,369,172	3,293,760	3,121,982	798,387
(*f*) Products, n.o.p .. "	4,954,254	446,972	7,464,777	1,003,577	18,521,574	2,708,395	29,246,143	5,595,425
	236,913,765	7,979,264	292,426,121	14,604,476	379,148,006	22,741,709	420,728,933	30,475,621

Paraffin wax	Lbs.	756,234	40,965	1,061,112	70,368	1,620,634	140,723	1,755,422	209,916
" " candles	"	224,428	27,552	220,264	30,539	513,337	75,257	327,657	64,033
		980,662	68,517	1,281,376	100,847	2,133,971	215,979	2,083,079	273,949

(*a*) (1) Crude petroleum in its natural state ·7900 specific gravity or heavier at 60 degrees temperature, when imported by oil refineries to be refined in their own factories. (2) Petroleum (not including crude petroleum imported to be refined, or illuminating or lubricating oils) ·8235 specific gravity or heavier at 60 degrees temperature.

(*b*) Crude petroleum, gas oils (other than benzene, naphtha and gasoline.)

(*c*) Coal and kerosene, distilled, purified, or refined.

(*d*) Illuminating oils composed wholly or in part of the products of petroleum, coal, shale or lignite, costing more than 30 cents per gallon.

(*e*) Lubricating oils composed wholly or in part of petroleum, costing less than 25 cents per gallon.

(*f*) Products of petroleum, n.o.p.

(*n*) Including wax, candles, and asphalt. (See table following.)

* Department of Inland Revenue returns.

68468—5

REFINERY STATEMENT.

—	1917.		1918.	
	Quantity.	Value.	Quantity.	Value.
		$		$
No. men employed, wages			2,934	3,439,394
Crude oil receipts—				
Canadian ..... Gals.	7,487,366	577,985	12,258,190	918,332
Imported ..... "	201,434,568	14,764,954	250,382,965	22,789,768
	208,921,934	15,342,939	262,641,155	23,708,100
Materials used—				
Crude oil, Canadian ..... Gals.	8,434,059		10,039,645	
" imported ..... "	190,822,740		250,170,254	
Sulphuric acid ..... Lbs.	31,738,514		37,866,316	
Soda and alkali ..... "	1,803,946		2,179,620	
Litharge ..... "	105,612		97,319	
Sulphur ..... "	29,785		52,302	
Other material ..... "	1,050,520		382,672	
Output—				
Gasoline and motor oils ..... Gals.	54,114,786	13,502,313	72,175,768	19,249,169
Benzoline, benzene and other petrol spirits "			1,530,592	384,927
Illuminating ..... "	49,144,564	4,513,912	65,268,598	7,130,517
Lubricating ..... "	14,532,549	1,969,658	14,402,523	2,571,691
Fuel and gas oils, tar ..... "	55,643,707	3,589,475	79,092,347	6,036,469
Wax and candles ..... Lbs.	12,744,371	916,266	13,759,972	1,148,727
Other solids		645,519		766,361
Total		25,137,143		37,287,891
Crude equivalent of stocks on hand Dec. 31st ..Gals.	58,307,179		75,102,150	

PHOSPHATE.

The small production of phosphate, or apatite, which has been obtained in Canada since 1896 has been produced almost altogether as a by-product in connexion with the mining of mica. Shipments during 1918 totalled 140 tons, valued at $1,200.

Phosphate is used at Buckingham, Que., in the manufacture of fertilizers, phosphorus and ferro-phosphorus, and the main supply of ore is obtained from Florida.

—	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		$		$		$		$
Production:								
Quebec	200	2,400	190	2,340	123	1,230	140	1,200
Ontario	17	102	13	174	26	256	.....	.....
.....	217	2,502	203	2,514	149	1,486	140	1,200
Exports	179	1,860	103	1,543	14	200	.....	.....
Imports:								
Phosphate rock (fertilizer)	.....	14,148	.....	16,182	.....	62,543	.....	90,363
Acid phosphate (*a*)	982	105,035	1,376	146,910	1,440	209,298	1,558	302,424
Phosphorus	38	29,572	48	42,738	36	34,519	37	35,125
Phosphor, tin and bronze	.....	17,217	.....	26,426	.....	50,709	.....	46,554
Manufactured fertilizers	.....	734,952	.....	639,884	.....	1,045,140	.....	670,364
Unmanufactured "	.....	.....	.....	16,301	.....	57,137	.....	82,174

(*a*) Probably refined phosphate of lime and phosphate of soda.

PYRITES.

The shipments of pyrites as sulphur ore from Canadian mines were about 5,000 tons less in 1918 than 1917. The total shipments during the last year were 411,616 tons, valued at $1,705,219, and included 124,871 tons, valued at $507,802, from the Province of Quebec; 268,507 tons, valued at $1,133,963, from the Province of Ontario; and 18,238 tons, valued at $63,454, from the Province of British Columbia. The total sulphur content of shipments was 154,269 tons, or an average of 37·5 per cent. Of the total shipments, 83,868 tons were sold for consumption in Canada and 327,748 tons for consumption in the United States.

It had been anticipated during the early part of the year that the production of pyrites during 1918 would considerably exceed that of the previous year, but labour shortage, transportation difficulties, high cost of supplies, and other causes prevented this realization.

The principal shipments were obtained as usual from the same source as in previous years. In Quebec, practically the same tonnage of cupriferous ores was shipped from the Eustis and Weedon mines, in the Eastern Townships. In Ontario the largest shippers for export were the mines at Goudreau, on the Algoma Central railway, in Michipicoten district, and at North Pines, on the Canadian National railway, northwest of Port Arthur. Mines shipping for domestic consumption were the Helen, in Michipicoten, the Sulphide, Queensboro, Craig, Clyde Lake, and Bannockburn, in central Ontario; additional trial shipments of car lots were made from three other properties. In British Columbia shipments were made from the Sullivan mine at Kimberley to the sulphuric acid plant at Trail, and from Anyox to the acid plant at Barnet, B.C.

Customs records show exports of pyrites during 1918 as 240,453 tons, valued at $949,067. These figures are much less than those reported directly by the operators, and it is possible that some of the exports from Quebec may be entered as a copper ore. The imports of brimstone or sulphur in roll or flour were 92,062 tons, valued at $2,058,811.

	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		$		$		$		$
Production:								
Quebec	142,735	570,940	130,639	523,272	122,882	501,351	124,871	507,802
Ontario	143,303	414,250	177,552	555,523	288,058	1,080,866	268,507	1,133,963
British Columbia	.....	.....	1,060	5,300	5,709	28,545	18,238	63,454
	286,038	985,190	309,251	1,084,095	416,649	1,610,762	411,616	1,705,219
Sulphur content	116,157	.....	116,975	.....	155,453	.....	154,269	.....
Exports	137,598	527,318	156,722	557,024	279,646	974,200	240,453	949,067
Imports:								
Brimstone or sulphur in roll or flour	30,182	480,317	73,467	1,186,618	82,445	1,515,309	92,062	2,058,811

Sulphuric Acid.—Sulphuric acid is manufactured in different grades, or strengths, and in recording statistics of production it is desirable for purposes of comparison that the quantities of the several grades should be reduced as far as possible to a uniform standard.

Production records have been obtained in terms of the standard grades 50° Be., 60° Be., 66° Be., and stronger acids. The quantities of the first two grades have, however, in the following statistics been reduced to their equivalent in 66° Be. acid.

The total production of sulphuric acid in Canada during the twelve months ending December 31, 1918, derived from ten producing plants expressed in terms of 66° Be. acid was 190,621 short tons. The production during the first six months of 1918, was 94,383 tons and during the last six months of the year 96,238 tons.

The ores used in the manufacture of sulphuric acid in 1918 included 25,552 tons of imported sulphur, or brimstone, and 75,941 tons of pyrites chiefly from Canadian mines, but including 1,428 tons imported.

Exports of sulphuric acid during 1918 were 11,199,200 pounds valued at $165,579. Imports of sulphuric acid in 1918 were 5,954 tons valued at $208,288.

	1915.		1916.		1917.		1918.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Ore used :—		$		$		$		$
Sulphur.....Tons	4,716	.....	20,566	.....	25,694	.....	25,552	.....
Pyrites ..... "	55,586	.....	62,681	.....	66,128	.....	75,941	.....
Production .....† "	75,838	.....	124,920	.....	153,530	.....	190,621	.....
Imports.....	141	4,872	2,403	115,173	216	15,680	5,954	208,288
Exports..... "	9,635	243,457	1,576	74,527	9,478	197,888	5,600	165,579

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

† Tons of 66° Be acid.

QUARTZ (SILICA).

The statistics of quartz, or silica production given in the tabulated statement herewith include chiefly the quartz or quartzite used in the smelting of nickel and copper ores, in the manufacture of ferro-silicon and in the manufacture of sanitary ware, or earthenware. Production of silica in the form of infusorial earth has already been included under tripolite and a small production of silica in the form of crushed sandstone used in the manufacture of glass and for foundry work in steel plants is included in the statistics of sandstone production.

The total shipments of quartz, or quartzite, in 1918, were 268,155 tons valued at $629,813.

Imports of silex, a finely ground quartz, in 1918 were 607 tons valued at $12,054 and the imports of flint were 5,749 tons valued at $109,825.

	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
Production :		$		$		$		$
Quebec..... ...	778	778	1,149	1,436	550	1,788	1,730	5,383
Ontario.....	95,771	143,257	94,519	167,636	177,983	362,251	216,539	474,772
British Columbia.....	30,559	61,118	41,077	82,154	37,755	132,143	49,886	149,658
	127,108	205,153	136,745	251,226	216,288	496,182	268,155	629,813
Imports :								
Silex	402	5,527	1 677	18,297	851	12,812	607	12,054
Flint.....	4,327	48,966	5,349	71,983	3,774	64,292	5,749	109,825

SALT.

In 1918 for the first time since 1907 the quantity of salt sold from Canadian salt wells shows a falling off as compared with the previous year. The total sales in 1918, including the salt equivalent of brine used for chemical manufacturing, were 131,727 tons valued at $1,285,039. Notwithstanding the decrease of 7,182 tons or 5 per cent in quantity, the total value of the sales shows an increase of $237,247, or 22·6 per cent. These values as far as possible exclude the value of packages. The value of packages used in 1918 was $574,033. By grades the production included: table and dairy, 34,324 tons; common fine, 54,210 tons; common coarse, 41,152 tons; and land salt, 2,041 tons.

The number of men employed in 1918 was 302; wages paid $286,781.

The Canadian production was obtained as usual entirely from the salt field in southern Ontario. Some years ago there was a small production from brines near Sussex, New Brunswick, and at Lake Winnipegosis in Manitoba. A deposit of rock salt of considerable thickness is being opened up in the neighbourhood of Malagash, Cumberland county, Nova Scotia. This is the first known discovery of rock salt in the Maritime Provinces, and the first in Canada to be discovered at a depth sufficiently shallow to allow it to be won economically by actual mining.[4]

The exports of salt in 1918 were 893 tons valued at $16,743. The imports of salt were 165,494 tons valued at $1,267,169, and included: 51,450 tons of fine salt in bulk valued at $294,676; 13,941 tons of salt in packages valued at $156,736; and 100,103 tons of salt imported from Great Britain, or any British possession for the use of fisheries valued at $815,757.

The calculated consumption of salt in 1918 was 296,328 tons valued at $2,535,465 (the value of the imported salt being that at point of origin).

Caustic soda and chloride of lime are manufactured by the Canadian Salt Company at their chemical works at Sandwich, Ont. A second plant is under construction and will shortly be completed[5] at Amherstburg, Ont., by the Brunner, Mond, Canada, Ltd., in which it is understood the first product to be manufactured will be soda ash.

The imports of salt cake (sodium sulphate) in 1918 were 34,387 tons valued at $676,571; soda ash (sodium carbonate) 45,569 tons valued at $1,973,641; caustic soda 6,180 tons valued at $623,023; sal soda 5,691 tons valued at $174,555, and of chloride of lime 4,892 tons valued at $162,748.

—	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		$		$		$		$
Production:—								
Table and dairy	.....	.....	35,045	247,456	34,252	.....	34,324	.....
Common, fine	.....	.....	54,596	262,660	65,117	.....	54,210	.....
Common, coarse	.....	.....	41,259	200,479	37,398	.....	41,152	.....
Land salt	.....	.....	2,003	7,058	2,142	.....	2,041	.....
Total*	119,900	600,226	132,903	717,653	138,909	1,047,792	131,727	1,285,039
Value packages	.....	280,747	.....	309,603	.....	403,879	.....	574,033
Stocks on hand, Dec. 31	3,613	.....	1,970	.....	2,024	.....	2,775	.....
Exports	445	5,836	153	2,223	(a)	.....	893	16,743
Imports:—								
Fine, in bulk[1]	27,613	84,449	34,035	111,130	44,973	184,792	51,450	294,676
In bags, barrels[2]	6,867	50,997	7,680	59,980	12,293	120,665	13,941	156,736
All other[3]	103,006	382,080	109,493	523,725	113,550	782,748	100,103	815,757
	137,486	517,526	151,208	694,835	130,816	1,088,205	165,494	1,267,169
Consumption	256,941	1,111,916	283,958	1,410,265	(c) 269,725	2,135,997	296,328	2,535,465

* Quantity sold or used; values exclude packages. (c) Estimated.
[1] Duty 5c. per 100 pounds; [2] Duty 7½c. per 100 pounds; [3] Free—Imported for use of fisheries.
(a) Correct figures not available.

[4] Notes on a Discovery of Rock Salt in Nova Scotia, by L. H. Cole, Mines Branch, Ottawa. Can. Min. Journal, January 8, 1919.
[5] This plant was placed in operation early in October, 1919.

TALC.

The total shipments of crude and ground talc by mine operators during 1918 were 18,169 tons valued at $119,197. A considerable portion of the shipments of crude mineral included above is ground at Madoc and the total shipments of ground talc during 1918 were 15,903 tons of varying grades having an average of about $14 per ton as compared with 13,703 tons averaging $12.50 in 1917. Crude talc sold at from $3.50 to $5 per ton.

The Henderson mine has been operated for some years, the greater part of the output being sold to Geo. H. Gillespie & Co., who operate a grinding mill at Madoc, the balance being exported to United States. The Connolly mine, of the Anglo-American Talc Corporation, was also operating. Small shipments of ground talc were reported from British Columbia in 1916 and 1917.

Exports of talc for the 12 months ending December 31, 1918, were valued at $208,-301, the quantity not being recorded.

Imports of talc in 1915 were 154 tons valued at $1,866 and have not been separately recorded since.

	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		$		$		$		$
Production (*a*):—								
Crude	11,885	40,554	13,051	48,575	13,184	51,856	12,772	47,494
Refined	.....	.....	53	848	2,619	24,683	5,397	71,703
	11,885	40,554	13,104	49,423	15,803	76,539	18,169	119,197
Imports*	154	1,866	.....	.....	.....	.....	.....	.....
Exports**	.....	.....	.....	.....	.....	131,637	.....	208,301
Total refined sold (*b*)	6,748	77,602	8,198	98,588	13,703	171,788	15,903	222,167

*Not separately recorded since 1915. **Not recorded prior to April, 1917.
(*a*) Mine operators' returns. (*b*) Product Canadian plants.

STRUCTURAL MATERIALS AND CLAY PRODUCTS.

INTRODUCTORY.

The subjects included under this heading comprise cement, clay products of various kinds, such as brick, sewerpipe and tile, pottery, etc., lime, sand-lime brick, sand and gravel, slate, and stone for building and other purposes: including granite, marble, limestone, sandstone, etc.

The total value of the production of these structural products in 1918 was $19,130,799 as compared with $19,837,311 in 1917, $17,467,186 in 1916, and $17,920,759 in 1915, the decrease in 1918 being $706,512, or 3·6 per cent, as compared with the previous year.

The total value of imports for the same class of products in 1918 was $8,117,394, as against $7,901,398 in 1917, $5,562,220 in 1916, and $3,912,946 in 1915.

The total exports were valued at $608,886 as against $647,369 in 1917, $681,239 in 1916, and $519,676 in 1915.

The apparent total consumption of these structural products based upon the record of production, imports and exports, was in 1918 valued at $26,639,307 as compared with $27,091,340 in 1917, $22,348,167 in 1916, and $21,314,029 in 1915, the decrease in value of consumption in 1918 being $452,033.

A summary of the production, imports, exports and consumption of structural materials and clay products in 1918 follows:—

Structural Materials, Calendar Year 1918.

	Production.	Imports.	Exports.	Consumption.
	$	$	$	$
Cement, portland	7,076,503	28,360	13,752	7,091,111
Clay products	4,583,489	6,734,081	174,917	11,142,653
Lime	1,876,025	53,745	70,930	1,858,840
Sand-lime brick	186,066	.....	.....	186,066
Sand and gravel	2,367,018	435,992	229,957	2,573,053
Slate	5,124	133,054	.....	138,178
Stone	3,036,574	732,162	119,330	3,649,406
	19,130,799	8,117,394	608,886	26,639,307

CEMENT.

The total quantity of cement sold from Canadian cement mills in 1918 was 3,591,481 barrels valued at $7,076,503, or an average of $1.97 per barrel, a decrease in quantity sold of 1,177,007 barrels, or 24·68 per cent, and a decrease in total value of $647,743, or 8·38 per cent.

Sales of cement from mills in Quebec in 1918 were 1,564,360 barrels valued at $3,003,571; in Ontario, 1,220,003 barrels valued at $1,976,815; and from Manitoba, Alberta, and British Columbia, 807,118 barrels valued at $2,096,117.

The total quantity of cement made in 1918 was 3,417,660 barrels as compared with 4,987,255 barrels made in 1917, a decrease of 1,569,595 barrels, or 31·47 per cent.

Stocks of cement on hand January 1, 1918, were 1,660,406 barrels and at the end of December had been reduced to 1,480,565 barrels.

The total imports of cement in 1918 were 20,695 hundredweight equivalent to 5,913 barrels of 350 pounds each, valued at $19,851, or an average of $3.36 per barrel.

The total consumption of cement, therefore, neglecting a small export, was 3,597,394 barrels, a decrease of 1,179,674 barrels, or 24·57 per cent.

	1915.		1916.		1917.		1918.	
	Bbls.	Value.	Bbls.	Value.	Bbls.	Value.	Bbls.	Value.
Plants:		$		$		$		$
Active: No. Capacity	16—38,850		15—38,475		9—28,340		10—29,275	
Idle: No. Capacity.	10—13,100		14—14,940		17—21,890		13—18,940	
Output:								
Marl	429,268		164,436		96,755		86,532	
Limestone	4,724,495		4,588,597		4,890,500		3,331,128	
	5,153,763		4,753,033		4,987,255		3,417,660	
Sold or used	5,681,032	6,977,024	5,369,560	6,547,728	4,768,488	7,724,246	3,591,481	7,076,503
Stocks Dec. 31	2,062,961		1,444,875		1,660,406		1,480,565	
Imports:								
Portland	28,190	40,426	20,596	31,621	8,580	19,646	5,913	19,851
Manufactures		7,410		12,126		8,710		8,509
Exports		5,161		2,424		16,857		13,752
Consumption	5,709,222		5,390,156		4,777,068		3,597,394	

CLAYS AND CLAY PRODUCTS.

For a number of years a small quantity of fireclay has been produced and sold as such, and during the past few years there has been a small, but increasing production of kaolin, or china-clay from a deposit in the Province of Quebec. With these exceptions, the clay production in Canada consists almost altogether of the manufactured product.

The clay products made in Canada comprise brick of various kinds, including common and pressed, ornamental and fancy building brick, paving brick, firebrick, porous fire-proofing brick and blocks, sewerpipe and drain tile, pottery and sanitary ware, the last two products chiefly from imported clays.

The total value of the clay products sold or marketed in 1918 was $4,583,489, as compared with a value of $4,779,038 in 1917; $4,120,805 in 1916, and $3,914,488 in 1915. The value of the production in 1918 shows a decrease of $195,549 as compared with the previous year.

The average number of men employed in 1918 was 3,423 as compared with 3,915 in the previous year, and the total wages paid were $2,131,614, as against $2,174,167.

Of the total value of the sales in 1918, building brick and fireproofing contributed $2,830,010 or about 61·7 per cent. Sewerpipe and tile production, $1,199,114 or 26·1 per cent. The total value of the production of pottery was $647,622 of which $130,242 only, is estimated as attributable to Canadian clays, the balance being credited to imported clays.

The value of the production of fireclays and firebrick from domestic clay, was $404,824, and the production of kaolin was 863 tons valued at $19,299.

Detailed statistics of production of the several classes of clay products by provinces in 1918, are shown in the following table:—

Production of Clay Products by Provinces, 1918.

Province.	Per cent of total value.	No. of active firms reporting.	No. of men employed.	Wages.	Common brick.				Pressed brick.			
					No. manufactured.	No. sold.	Value of sales.	Per M	No. manufactured.	No. sold.	Value of sales.	Per M
				$			$	$			$	$
Nova Scotia	6·62	10	265	147,414	14,199,500	12,748,500	120,865	9.48	.....	.....	.....	.....
New Brunswick	0·85	5	72	26,558	1,680,000	1,550,000	20,255	13.07	.....	.....	.....	.....
Quebec	17·83	16	664	348,191	41,345,025	45,734,729	479,974	10.49	3,545,290	3,266,132	64,033	19.61
Ontario	53·11	163	1,731	1,142,356	73,744,881	75,067,667	915,704	12.20	28,262,037	30,495,086	476,783	15.63
Manitoba	2·54	6	120	38,228	7,046,000	7,458,348	103,928	13.93	.....	.....	.....	.....
Saskatchewan	2·92	9	123	54,490	5,653,000	5,290,468	62,219	11.76	1,326,000	1,035,500	25,209	24.33
Alberta	8·32	10	297	210,505	16,225,000	12,680,565	122,447	9.66	4,348,000	4,499,520	59,614	13.25
British Columbia	7·81	11	151	163,842	4,066,250	4,439,810	54,419	12.26	690,298	850,298	13,444	15.82
Total	100·00	230	3,423	2,131,614	163,959,656	164,970,087	1,879,811	11.39	38,171,625	40,146,536	639,083	15.92

Province.	Fireproofing.		Ornamental and terra-cotta.		Refractories	Hollow building blocks.		Pottery.	Sewerpipe.		Tiles, drain.		Kaolin.	Total.
	Tons.	Value.	No. sold.	Value.	Value.	No. sold	Value.	Value.	Tons.	Value.	M.	Value.	Value.	Value.
		$		$	$		$	$		$		$	$	$
Nova Scotia	.....	.....	.....	.....	71,977	.....	.....	.....	7,108	106,068	286	4,605	.....	303,515
New Brunswick	.....	.....	.....	.....	.....	.....	.....	18,800	.....	.....	.....	.....	.....	39,055
Quebec	3,242	23,857	31,108	1,221	59,333	.....	.....	627	10,138	162,216	100	6,797	19,299	817,357
Ontario	15,683	138,221	501,437	42,221	.....	160,708	5,507	38,165	18,126	362,531	18,917	455,083	.....	2,434,215
Manitoba	.....	.....	.....	.....	.....	861,450	12,489	.....	.....	.....	.....	.....	.....	116,417
Saskatchewan	.....	.....	.....	.....	19,007	.....	.....	.....	.....	.....	275	27,500	.....	133,935
Alberta	9,162	64,720	.....	.....	2,193	117,000	995	72,650	293	56,267	59	2,188	.....	381,074
British Columbia	.....	.....	.....	.....	252,314	243,000	21,885	.....	909	12,692	125	3,167	.....	357,921
Total	28,087	226,798	(c) 532,545	43,442	(b) 404,824	1,402,158	40,876	(a) 130,242	36,574	699,774	19,762	499,340	19,299	4,583,489

(a) There was also a production of $517,380 from imported clays. (b) There was also a production of $92,558 from imported clays. (c) Of which 174,752 valued at $15,146 credited to terra-cotta.

Clay Paving Brick.—Paving brick has been made in Canada, chiefly at West Toronto, Ontario, from shale obtained from the banks of the Humber river, and more recently during the years 1915 and 1916 there was a small production reported from Clayburn, B.C. There was no production reported for the year 1917 and 1918. The annual production for a number of years has varied from 3,000,000 to over 5,000,000 per season.

Drain Tile.—The total sales of drain tile in Canada as reported to this Branch, were 19,762 M valued at $499,340. The greater part of this production is from Ontario, the sales in this Province as reported by the producers being 18,917 M valued at $455,083.

Kaolin.—The shipments of kaolin in 1918 were 863 tons, valued at $19,299, as compared with 533 tons, valued at $9,594 in 1917.

The production was obtained from the deposits in the township of Amherst, Ottawa county, Quebec, operated by the Canadian China Clay Company, of Toronto.

The plant for refining the clay is situated 2 miles from St. Remi d'Amherst, and 7 miles from Huberdeau, the terminus of the Montfort branch of the Canadian National Railway, 46 miles northwest of Montreal.

Pottery.—Sanitary porcelain is made at St. Johns, Que., and electrical porcelain is made at Hamilton and Peterboro, Ont. These are the only firms in Canada at present making white wares. The raw materials, including clays, ground quartz and feldspar are all imported.

Stoneware pottery, such as crocks, jars, churns, and jardinieres, is made at Medicine Hat, Alberta, from Saskatchewan clay; at Hamilton, Ont., from imported clays; and at St. John, N.B., partly from Nova Scotia clay.

Flower pots are made at a few localities from the red burning and tile clays of the vicinity.

Refractories.—The total value of the sales of fireclay, firebrick, and fireclay brick in 1918 was $404,824. There was in addition in 1918, a production of fireclay products valued at $92,558 reported as being made from imported clays. The production in 1918 included: fireclay, or refractory clay sold as such 8,732 tons, valued at $44,351; firebrick 7,192 M valued at $248,884, and other fireclay products valued at $111,589.

Sewerpipe.—The total sales of sewerpipe in 1918 were 36,574 tons, valued at $699,774. About 50 per cent of the value of the production is credited to Ontario.

		1915.		1916.		1917.		1918.	
		Quant'y	Value.	Quant'y	Value.	Quant'y	Value.	Quant'y	Value.
			$		$		$		$
Manufactured—									
Common brick	M	196,819		241,521		216,596		163,360	
Pressed brick	M	41,452		43,361		51,472		38,171	
Stocks, Dec. 31—									
Common	M	127,511		85,879		57,596		57,419	
Pressed	M	20,306		15,778		17,273		11,665	
Production—									
Common	M	234,733	1,755,187	237,035	1,826,844	210,631	1,999,465	164,970	1,879,811
Pressed	M	49,817	492,774	44,947	492,355	46,409	653,153	40,147	639,083
Fire proofing	Tons.		253,401		361,555		299,645	28,087	226,798
Hollow building blocks	M						95,088	1,402	40,876
Kaolin	Tons.	1,300	13,000	1,750	17,500	533	9,594	863	19,299
Ornamental	M	1,009	49,097		21,102		32,854	358	28,296
Terra-cotta	M						21,380	175	15,146
Paving	M	1,228	20,694	1,590	30,144				
Pottery			64,900		61,069		122,878		130,242
Refractories :—									
Fireclay	Tons.	2,328	12,065	9,206	30,767	10,534	49,455	8,732	44,351
Firebrick	M	2,896	68,700	5,689	147,757	8,192	190,171	7,192	248,884
Other products			29,928		56,038		77,885		111,589
Sewerpipe	Tons.		799,446		716,287		783,762	36,574	699,774
Tile, drain	M		355,296		359,387		434,708	19,762	499,340
			3,914,488		4,120,805		4,779,038		4,583,489
Imports—									
Bath brick			630		902		2,299		2,134
Building brick	M	10,168	114,958	10,083	118,687	4,111	61,511	3,232	55,976
Bldg. blocks			181,145		69,353		151,765		64,622
Clays—									
China	Tons.	21,940	124,658	19,062	114,110	11,596	97,856	10,538	116,999
Fire			87,267		187,124		283,746		401,357
Pipe			614		2,440		2,427		2,167
Other clays			24,557		21,820		32,180		34,130
Drain tile, unglazed			346		2,072		2,289		481
Drain and sewerpipe			41,801		40,233		42,864		24,763
Earthen and chinaware			1,460,010		2,180,414		2,595,582		2,163,455
a Firebrick			577,458		1,162,679		1,994,212		2,852,233
Firebrick, n.o.p.			235,613		495,113		691,578		650,341
b Magnesite brick							470,801		210,103
Paving brick	M	5,865	76,759	5,667	70,268	2,190	37,814	798	17,534
Other clay mfrs			72,649		88,952		143,913		138,086
			2,998,465		4,554,167		6,610,837		6,734,081
Exports—									
Bldg. brick	M	1,155	9,089	1,746	13,942	4,464	40,039	3,277	34,593
Manufactures			25,202		58,550		83,600		129,691
Earthenware			11,281		7,620		14,504		10,633
			45,572		80,112		138,143		174,917
Consumption			6,867,381		8,594,860		11,251,732		11,142,653

(*a*) Duty free; of a kind not made in Canada.

(*b*) Not separately shown prior to April, 1917.

LIME.

The production of lime in 1918 is reported as 6,363,951 bushels, valued at $1,876,025, or an average of 29·5 cents per bushel. Sixty-five firms reported with 741 men employed, and wages, $664,357.

The average price per bushel of lime sold in 1918 varied from a minimum of 20 cents in Nova Scotia to a maximum of 55 cents in Alberta. About 83 per cent of the total production was derived from Ontario, Quebec, and the Maritime Provinces. The production of hydrated lime was 18,133 tons, valued at $167,250.

The exports during 1918 were 7,483 tons, valued at $70,930, while the imports were 4,987 tons, valued at $53,745.

	1915.		1916.		1917.		1918.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Production:	Bush.	$	Bush.	$	Bush.	$	Bush.	$
Nova Scotia	915,086	183,017	909,800	181,960	985,286	197,057	748,314	149,663
P. E. Island	.....	.....	1,734	546	820	287	.....	.....
New Brunswick	369,117	93,797	424,113	104,635	532,251	171,248	482,548	221,935
Quebec	1,351,306	274,831	1,498,845	267,119	1,470,486	335,012	1,527,784	418,883
Ontario	1,903,914	328,515	2,031,396	367,115	2,846,850	668,368	2,660,791	762,976
Manitoba	281,432	71,372	355,301	83,754	393,982	92,932	462,544	134,725
Alberta	74,152	14,445	78,019	20,033	104,540	35,516	80,408	44,141
Br. Columbia	152,237	49,725	194,042	66,301	232,955	58,067	401,562	143,697
	5,047,244	1,015,702	5,493,250	1,091,463	6,567,170	1,558,487	6,363,951	1,876,025
Hydrated Lime produced	Tons. 7,972	....	Tons. 9,137	56,775	Tons. 16,339	126,268	Tons. 18,133	167,250
Imports	18,977	98,040	21,178	96,332	12,150	78,254	4,987	53,745
Exports	.....	15,617	.....	66,406	.....	74,523	7,483	70,930

SAND-LIME BRICK.

The first record of the production of sand-lime brick in Canada was obtained for the year 1907, when there was a production by ten firms amounting to 16,492,971 brick, valued at $167,795.

In 1918 the sales were reported at 14,589,324 brick, valued at $186,066, or an average of $12.75 per thousand, as compared with sales in 1917 of 18,001,990 brick, valued at $201,355.

	1915.		1916.		1917.		1918.	
	M.	Value.	M.	Value.	M.	Value.	M.	Value.
		$		$		$		$
Manufactured	7,678	.....	13,884	.....	17,080	.....	15,256	.....
Sold or used	17,961	141,742	16,541	126,235	18,002	201,355	14,589	186,066
Stocks, Dec. 31	9,347	.....	5,178	.....	3,259	.....	2,610	.....

SAND AND GRAVEL.

The total sales of sand and gravel produced in Canada during 1918 amounted to 11,262,282 tons, valued at $2,367,018. This production included: building sand and gravel for concrete and road building, 1,019,770 tons valued at $412,357; gravel, including sand and gravel and crushed gravel, 1,477,851 tons, valued at $750,010; railway ballast, 8,633,917 tons, valued at $1,087,207; moulding sand, 62,835 tons, valued at $71,488; and other sands, core sands, engine sands, etc., 67,909 tons, valued at $45,956.

	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		$		$		$		$
Production—								
Sand	1,169,756	440,619	1,379,319	475,811	1,505,907	614,272	1,019,770	412,357
Sand and gravel	1,338,409	591,135	2,058,980	767,530	2,214,369	904,584	1,477,851	750,010
Ballast	3,773,297	527,257	4,559,686	521,189	5,312,218	718,801	8,633,917	1,087,207
Moulding sand	164,255	65,756	19,251	16,726	46,790	46,018	62,835	71,488
All other			139,051	57,064	103,133	42,574	67,909	45,956
	6,445,717	1,624,767	8,156,207	1,838,320	9,182,417	2,326,249	11,262,282	2,367,018
Imports	199,597	120,756	233,777	183,894	328,520	312,403	310,610	435,99
Exports	808,022	380,549	1,114,913	388,309	1,075,374	290,964	902,750	229.95

SLATE.

There is a small annual production of slate in Canada, obtained from the New Rockland quarries, Melbourne township, Richmond county, Quebec, operated by the New Rockland Slate Co., Ltd.

The production in 1918 was 933 squares, valued at $5,124, as compared with the production in 1917 of 1,422 squares, valued at $7,789.

Exports have not been reported since 1909. The imports of slate during the past twelve years have ranged in value from $90,000 to over $200,000 per annum. During the calendar year 1918 they were valued at $133,054.

	1915.		1916.		1917.		1918.	
	Squares.	Value.	Squares.	Value.	Squares.	Value.	Squares.	Value.
		$		$		$		$
Production	397	2,039	1,262	6,223	1,422	7,789	933	5,124
Imports:								
Roofing	7,483	34,528	4,412	21,335	3,909	20,785	8,296	47,975
School-writing		38,874		35,887		40,603		41,122
Pencils		4,954		11,309		8,717		10,361
All other		30,320		28,245		36,788		33,596
		108,676		96,776		106,893		133,054

STONE.

Statistics of stone production given herewith include the sales of all classes of stone used for building, monumental and ornamental purposes, stone for paving purposes, curbstone and flagstone, rubble, riprap and crushed stone, limestone for furnace flux, sugar factories, etc., but stone used for burning lime or manufacturing cement is not included.

The kinds of stone quarried have been classed as granite (including trap rock, syenite, and other igneous rocks), limestone, sandstone, and marble.

The records are practically confined to quarry operations, and to the production of sawn or polished stone when these operations are carried on by quarry operators. In addition to this production of stone by regular operators, there is no doubt a large stone production by individuals, such as farmers and others, for house or barn foundations, concrete work, etc., of which it would be impracticable to obtain any satisfactory record. Much stone is also used in railway construction work and in road building, of which the record is probably very incomplete.

The total value of the production of stone during 1918, according to returns received, was $3,036,574, as compared with a value of $3,240,147 in 1917, showing a falling off of $203,573.

The number of active firms reporting in 1918 was 141, the total number of men employed 2,368, and total wages paid $1,646,987.

Production of Stone by Kinds and by Provinces, Showing Purposes **Used, 1918**.

By kinds.	Building.	Ornamental and monumental	Paving and curbstone.	Rubble.		Crushed.		Furnace Flux.		Total Value.	Per cent of Total.
				Short Tons.	Value.	Short Tons.	Value.	Short Tons.	Value.		
	$	$	$		$		$		$	$	
Granite	120,978	250,373	44,535	6,346	5,682	198,128	169,303			590,871	19·5
Limestone	386,387	4,702	212	77,468	61,671	1,132,506	1,021,384	801,474	868,047	2,342,403	77·1
Marble	450					100	100			550	
Sandstone	18,237			4,808	6,879	34,593	77,634			102,750	3·4
By Provinces.											
Nova Scotia	44,481	10,232	4,180	1,384	1,712	21,917	47,607	337,688	370,509	478,721	15·8
New Brunswick	1,348	(1) 70,676	3,180	400	200	8,534	23,640			99,044	3·3
Quebec	214,060	156,849	28,290	21,342	19,999	462,461	532,504	600	700	952,402	31·4
Ontario	44,439	15,318	9,097	51,867	38,218	819,567	615,327	348,642	357,355	1,079,745	35·6
Manitoba	217,541			6,202	6,686	9,637	8,684	10,680	5,340	238,251	7·8
Alberta						643	569			569	
British Columbia	4,192	2,000		7,427	7,417	42,568	40,090	103,864	134,143	187,842	6·2
Total	526,052	255,075	44,747	88,622	74,232	1,365,327	1,268,421	801,474	868,047	3,036,574	
Per cent	17·3	8·4	1·5		2·4		41·8		28·6		

(1) Finished stone valued at $134,417.

	1915.		1916.		1917.		1918.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
Production :		$		$		$		$
Granite		1,525,553		1,247,267		639,412		590,871
Limestone		2,312,081		2,224,091		2,283,659		2,342,403
Marble		158,027		118,810		55,820		550
Sandstone		249,336		146,244		261,256		102,750
Production :								
Nova Scotia		367,924		459,298		569,521		478,721
New Brunswick		153,512		112,257		111,150		99,044
Quebec		1,966,194		1,370,465		991,593		952,402
Ontario		806,137		857,023		992,455		1,079,745
Manitoba		153,464		372,894		301,968		238,251
Alberta		890		257		7,482		569
British Columbia		796,876		564,218		265,978		187,842
		4,244,997		3,736,412		3,240,147		3,036,574
Exports :								
Crushed	42,716	24,453	26,754	27,611	2,308	2,277	1,526	1,983
Ornamental, rough (*a*)	29,976	12,764	15,967	7,989	330	359	1,042	5,059
Building, rough (*b*)	35,804	28,910	128,453	103,796	139,153	122,430	62,683	107,690
Dressed		6,650		4,592		1,816		4,598
		72,777		143,988		126,882		119,330
Imports :								
Building stone		112,010		112,349		176,134		125,132
Granite		180,188		133,229		132,645		85,652
Marble		152,454		171,849		199,697		284,862
Refuse stone		94,521		169,877		256,182		236,516
		539,173		587,304		764,658		732,162

(*a*) Granite, marble, etc., unwrought. (*b*) Freestone, limestone, etc., unwrought.

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