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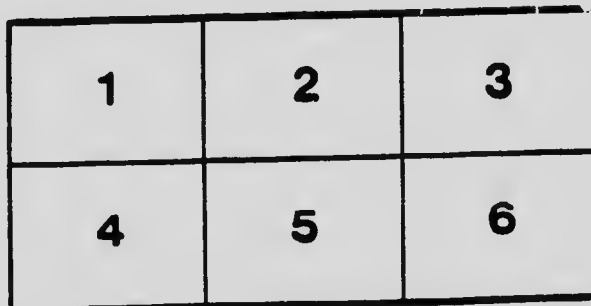
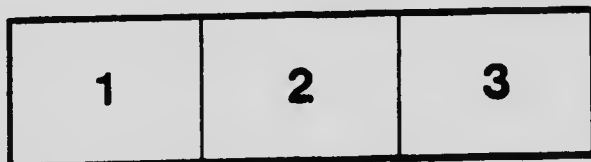
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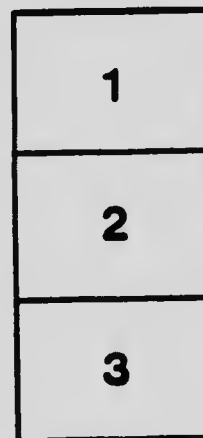
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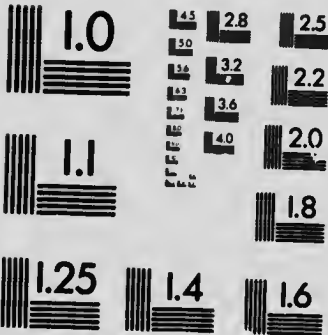
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CANADA
DEPARTMENT OF MINES
HON. MARTIN BURRELL, MINISTER; R. G. McCONNELL, DEPUTY MINISTER

MINES BRANCH
EUGENE HAANEL, PH.D., DIRECTOR

A GENERAL SUMMARY
OF THE
MINERAL PRODUCTION
OF
CANADA

During the Calendar Year

1917

JOHN McLEISH, B.A.
Chief of the Division of Mineral Resources and Statistics.



OTTAWA
J. DE LABROQUERIE TACHÉ
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1919

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**ADVANCE CHAPTER OF THE ANNUAL REPORT ON THE MINERAL
PRODUCTION OF CANADA, DURING THE CALENDAR
YEAR, 1917.**

THE MINERAL PRODUCTION OF CANADA

During the Calendar Year

1917

General Summary.

A preliminary report on the mineral production of Canada in 1917 was published on February 26, 1918, the statistical record being at that time partially estimated and therefore subject to revision.

According to the revised statement of mineral production now presented, the total value¹ of the mineral production in 1917 was \$189,646,821. This is less than the total value estimated in the preliminary report, the difference being due to over estimates on the value of coal production.

Compared with the total value of the production in 1916 which was \$177,201,534, that of 1917 shows an increase of 7.02 per cent and in point of value represents the largest output on record. In the preliminary report it was pointed out and may well be repeated that:—

"It must not be inferred, however, that because such a large increase is shown in the value of our mineral production, our mines and quarries have actually increased their tonnage output at the same average rate. In fact, an examination of the record will show that the quantities of many important products were considerably less in 1917 than in 1916, and over two-thirds of the increase in value is to be attributed to nickel, coal, graphite, gypsum, and cement, in which the quantities marketed were less than in the previous year."

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 1917 as compared with that of 1916.

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.

Comparative Statement of Mineral Production for Years 1916 and 1917.

Product.	1916.			1917.			Increase (+) or Decrease (-).		
	Quantity.	Value (a).	Per Cent of Total.	Quantity.	Value (a).	Per Cent of Total.	Quantity.	Value.	%
<i>Metallic.</i>									
Antimony ore	883	94,537	.....	361	22,000	.....	524	72,537	76.7
Antimony refined	107,185	41,823	.....	.....	.....	.....	107,185	41,823	100.0
Cobalt metallic and contained in oxide, etc.	840,536	924,590	0.52	1,079,572	1,727,315	0.91	239,036	842,725	80.8
Copper (b)	117,990,492	31,867,150	17.98	109,227,332	29,087,480	15.65	-7,762,818	-2,175,161	68.4
Gold	115,691	19,294,976	10.85	738,831	15,272,402	8.05	191,661	3,061,481	20.6
Iron, pig, from Canadian ore (c)	140,698	1,328,605	0.75	46,022	768,783	0.41	69,669	539,822	42.1
Iron ore sold for export (b)	41,497,615	3,532,692	1.99	32,576,281	590,686	0.31	28,644	197,067	50.0
Lead (d)	156,461	156,461	0.09	288,705	288,705	0.15	8,921,334	95,328	2.7
Molybdenite	82,958,864	29,035,498	16.39	82,330,280	33,732,112	17.79	132,244	132,244	84.5
Nickel (e)	15	.....	.....	57	3,823	.....	628,284	4,636,614	16.2
Platinum	25,436,741	16,717,121	9.43	22,221,274	18,091,845	9.54	-3,235,467	-1,374,774	8.2
Silver (f)	23,304,760	2,991,623	1.69	29,668,764	2,640,817	1.39	+6,364,004	+350,806	11.7
Zinc	.....	106,319,365	60.00	.....	106,455,147	56.13	.....	+135,782	0.1
Total	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>Non-metallic.</i>									
Actinolite	250	2,750	.....	120	1,320	.....	130	1,430	52.0
Arsenic, white and in ore	2,186	262,349	0.15	2,036	639,431	0.35	750	407,082	155.2
Asbestos	134,439	5,199,797	2.93	135,502	7,183,090	3.79	2,063	+1,983,302	38.1
Asbestos	20,710	29,072	.....	18,279	47,284	.....	2,431	+18,212	62.6
Chromite	27,517	311,460	0.18	36,725	499,682	0.26	9,208	+188,222	60.4
Coal	14,483,305	38,817,481	21.91	14,016,758	43,199,831	22.78	436,636	+4,382,350	11.3
Corundum	67	10,307	.....	188	32,153	.....	121	21,846	211.9
Feldspar	19,488	71,407	.....	19,402	89,826	.....	26	+18,419	25.8
Fluor spar	1,284	10,238	.....	4,249	88,756	.....	2,965	+58,518	571.6
Graphite	3,955	325,302	0.18	3,713	402,892	0.21	241	+77,590	23.8
Graphite, artificial	263	.....	.....	518	.....	.....	255	.....	.....
Grindstones	3,478	52,782	.....	2,323	45,754	.....	955	+7,028	13.3
Gypsum	342,915	738,593	0.42	336,352	881,964	0.47	6,583	+143,391	19.4
Magnesite	55,413	563,829	0.32	53,090	728,275	0.38	2,677	+164,446	29.2
Magnesium sulphate	.....	.....	.....	920	4,646	.....	920	+4,645	.....
Manganese	957	99,544	.....	158	11,886	.....	799	+74,708	83.4
Mica	(1,208)	255,230	0.14	1,166	338,851	0.19	42	+103,612	40.6

Mineral pigments—

Barytes.....	Tons	1,368	13,363	.....	3,490	54,027	.....	2,122	155.1	34,634	178.5
Oxides.....	"	8,811	58,711	.....	9,409	57,005	.....	598	6.8	28,894	49.2
Mineral water.....	M. cu. ft.	25,467,458	127,806	.....	.....	145,814	.....	.....	.....	18,004	14.1
Natural gas (g).....	Tons	198,123	3,958,029	2.23	27,408,940	5,045,298	2.66	+1,941,482	7.7	+1,087,269	27.5
Peat.....	Tons	198,123	1,500	0.22	.....	.....	.....	300	100.0	1,500	100.0
Petroleum.....	Tons	309,203	392,234	0.22	213,832	542,239	0.28	15,709	7.9	149,935	38.2
Phosphate.....	Bla.	309,203	2,514	.....	149	1,486	.....	54	28.6	1,028	40.9
Pyrites.....	Tons	136,715	1,084,095	0.61	416,619	1,610,762	0.85	107,398	34.7	526,667	48.6
Quartz.....	"	132,903	251,226	0.14	216,248	496,182	0.26	79,543	54.2	244,956	37.5
Salt.....	"	13,104	717,653	0.40	138,909	1,047,792	0.15	6,046	4.5	330,139	46.0
Talc.....	"	.....	49,423	.....	15,803	76,539	.....	2,693	20.6	27,116	54.9
Tripolite.....	"	.....	12,189	.....	600	18,000	.....	20	3.2	5,861	48.3
Total.....	.....	.....	53,414,983	30.14	.....	63,354,363	33.41	.....	.....	+9,939,380	18.6

Structural Materials and Clay Products.

Cement, portland.....	Brls.	5,369,560	6,547,728	3.70	4,768,488	7,724,246	4.08	- 601,072	11.2	+ 1,176,518	18.0
Clay products—	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Brick, common.....	No.	237,034,675	1,826,844	1.03	210,630,576	1,999,465	1.06	-26,404,099	11.1	172,621	9.4
Brick, pressed.....	"	44,947,089	492,355	0.28	46,408,946	653,153	0.34	+ 1,461,857	3.3	160,796	32.7
Brick, paving.....	"	1,589,893	30,144	.....	.....	.....	.....	- 1,589,893	100.0	30,144	100.0
Brick, molded and ornamental.....	"	.....	21,102	.....	.....	54,234	.....	.....	.....	33,132	157.0
Fireclay, and fireclay products.....	"	.....	231,562	0.13	.....	326,511	0.17	.....	.....	91,949	39.2
Fireproofing architectural terra-cotta.....	"	.....	361,555	0.20	.....	394,733	0.21	.....	.....	33,178	9.2
Kaolin.....	Tons	1,750	17,500	.....	533	9,594	.....	- 1,217	69.5	7,906	45.2
Pottery.....	.....	.....	61,089	.....	.....	122,878	.....	.....	.....	61,809	101.2
Sewerpipe.....	No.	.....	716,257	0.40	.....	783,762	0.41	.....	.....	67,475	9.1
Tile, drain.....	"	.....	359,387	0.20	.....	434,708	0.23	.....	.....	73,321	21.0
Lime.....	Bus.	5,493,250	1,691,463	0.62	6,567,170	1,556,487	0.82	+ 1,973,930	19.5	467,024	42.8
Stand-line brick.....	No.	16,540,747	126,235	.....	18,001,990	201,355	0.11	+ 1,461,243	8.8	75,130	59.5
Sand and gravel.....	"	8,156,207	1,838,329	1.04	9,182,417	2,336,349	1.23	+ 1,026,210	12.6	487,929	26.5
Slate.....	Squares	1,262	6,223	.....	1,422	7,789	.....	100	12.7	1,566	26.2

*Short tons throughout. (a) The metals, copper, lead, nickel, silver and zinc are for statistical and comparative purposes valued at the final average value of the refined metal. Pig-iron, zinc ore, and cobalt oxides are valued at the furnace or spot, and non-metallic products at the mine or point of shipment. (b) Copper production of smelter products and estimated recoveries from ores exported, at 27.180 cents per pound, in 1917, and 27.202 cents per pound in 1916. (c) The total production of pig-iron in Canada in 1917, was 1,136,789 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 1916 the total production was 1,169,257 tons valued at \$16,750,898, of which 1,053,566 tons valued at \$15,422,293 are credited to imported ores. (d) Refined lead and lead contained in base bullion exported at 11.137 cent's per pound in 1917, and 8.513 cents in 1916, 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 35 cents in 1916. The value of the nickel contained in matte, as returned by the operators, was from 10 to 15 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 65.661 cents in 1916. (g) Gross returns of sale of gas. (h) In 1917 and 1916 figures as reported by the producers, which differ from those of the Trade and Navigation reports.

Comparative Statement of Mineral Production for Years 1916 and 1917—Concluded.

Product.	1916.			1917.			Increase (+) or Decrease (-).	
	Quantity.	Value (a).	Per Cent of Total.	Quantity.	Value (a).	Per Cent of Total.	Quantity.	Value.
<i>Structural Materials and Clay Products.—Con.</i>		\$			\$			\$
Stone—								
Granite		1,247,267	0.70		639,412	0.34		— 607,855
Limestone		2,224,001	1.26		2,283,659	1.20		+ 59,658
Marble		118,810	0.07		55,820	0.03		— 62,990
Sandstone		146,244	0.08		261,256	0.14		+ 115,012
Total		17,467,186	9.86		19,837,311	10.46		+ 2,370,125
Grand total		177,201,534	100.00		189,646,821	100.00		+ 12,445,287
								7.02

The total value of the metallic production in 1917 was \$106,455,147 as against a value of \$106,319,365 in 1916, and \$75,814,841 in 1915. While the net change in 1917 was a small increase amounting to only one-tenth of one per cent it will be noted that decreases in the value of production of fine metals aggregating over \$7,170,000 were offset by increases in seven metals aggregating over \$7,300,000.

The total value of the production of non-metallic products in 1917 was \$83,191,674, as against \$70,882,169 in 1916; \$61,294,330 in 1915 and \$79,273,461 in 1914. Thus, while the value of non-metallic products in 1916 was less than the value in 1912 and 1913, that of 1917 was greater than 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, graphite 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 1886. From 1906 to 1917 the total production has shown an increase of over 139 per cent.

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:—

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	1902.....	63,231,836	11.36
1887.....	10,321,331	2.23	1903.....	61,740,513	10.83
1888.....	12,518,894	2.67	1904.....	60,082,771	10.27
1889.....	14,013,113	2.96	1905.....	69,078,999	11.49
1890.....	16,763,353	3.50	1906.....	79,286,697	12.81
1891.....	18,976,616	3.92	1907.....	86,865,202	13.75
1892.....	16,623,415	3.39	1908.....	85,557,101	13.16
1893.....	20,035,082	4.04	1909.....	91,831,441	13.70
1894.....	19,931,158	3.98	1910.....	106,823,623	14.93
1895.....	20,505,917	4.05	1911.....	103,220,994	14.42
1896.....	22,474,256	4.38	1912.....	135,048,296	18.27
1897.....	28,485,023	5.49	1913.....	145,634,812	18.77
1898.....	38,412,431	7.32	1914.....	128,863,075	15.96
1899.....	49,234,005	9.27	1915.....	137,109,171	.....
1900.....	64,420,877	12.04	1916.....	177,201,334	.....
1901.....	65,797,911	12.16	1917.....	189,646,821	.....

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) 86,565,202
1908.....	41,774,362	32,142,784	11,339,985	(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	45,380,674	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.....	106,455,147	63,354,363	19,837,311	189,646,821

(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 1917 was exceeded only by the production of coal, copper, 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.

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 1917 was \$167,805,818 compared with \$171,178,583 in 1916. This value includes for 1917 mine products to the value of \$77,069,667 and manufactures valued at \$90,736,151, as against mine products valued at \$80,755,461 and manufactures valued at \$90,423,122 in 1916.

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 about 90 per cent of the value of the mine products exported. Manufactured products exported consist chiefly of iron and steel goods, agricultural implements, aluminium, calcium carbide, acetate of lime, fertilizers, and coke.

The United States is the chief destination of Canada's mine exports, about 77 per cent having been exported to that country during the fiscal year 1916-17 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 increase 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 1917 has greatly exceeded those of any previous year and amounted to \$353,660,555, as compared with a value of \$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 1917 over one-half was comprised in iron and steel goods and nearly 30 per cent in coal, coke, and petroleum.

Exports of Products of the Mine and Manufactures of Mine Products, Calendar Year, 1916 and 1917.

Products.	1916.		1917.	
	Quantity.	Value.	Quantity.	Value.
		\$		\$
Arsenic..... Cwt.	39,506	197,458	45,724	507,898
Asbestos..... Tons.	96,775	3,872,463	93,932	4,903,326
Asbestos sand and waste..... "	33,564	241,272	52,088	430,966
Coal..... "	2,135,359	7,099,387	1,733,186	7,387,192
Cobalt (nine months only)..... Tons.	12,633	712,880		1,542,945
Chromite (Chromic ore)..... Tons.	56	152,534	19,229	342,528
Corundum..... "		8,583	142	22,578
Feldspar, magnesite, talc, etc..... "		329,215		410,007
Gold-bearing quartz, dust, nuggets, etc..... "		18,382,903		15,929,051
Gypsum or plaster, crude..... Tons.	221,156	252,470	224,423	245,182
Metals, viz:—				
Copper, fine, contained in ore, matte, regulus, etc..... Cwt.	1,249,424	20,776,536	865,569	14,183,264
Lead, metallic, contained in ore, etc..... "	90,484	558,180	134,104	925,066
Molybdenite..... "			147	81,173
Nickel, fine, contained in ore, matte, or speiss..... "	804,417	8,662,179	812,724	8,708,650
Platinum, contained in concentrates or other forms..... Ozs.	532	41,945	136	11,309
Silver, metallic, contained in ore concentrates, etc..... "	25,279,359	15,637,885	21,718,781	17,021,398
Mica..... Lbs.	1,308,793	379,720	1,271,460	451,345
Mineral pigments, iron oxides, ochres..... Cwt.	33,917	25,312	29,022	30,052
Mineral water, natural, not in bottles..... Gals.	229	22	75	20
Mineral wax..... Cwt.	80,987	201,653	72,337	401,331
Oil:—				
Mineral, coal and kerosene, crude..... Gals.	137,647	11,439	2,130	183
Mineral, coal and kerosene, refined..... "	446,595	48,137	28,212	6,568
Gasoline and naphtha..... "	54,806	14,194	24,304	7,419
Orgs:—				
Antimony..... Tons.	794	48,158	774	56,476
Iron..... "	161,260	541,779	164,004	660,673
Manganese..... "	957	89,544	185	16,031
Other..... "	69,331	1,348,540	60,863	683,380
Phosphates..... "	103	1,543	14	200
Plumbago, crude ore and concentrates..... Cwt.	6,223	13,114	2,232	7,455
Pyrites..... Tons.	156,722	557,024	279,646	974,200
Salt..... Cwt.	3,059	2,223	172,850	94,364
Sand and gravel..... Tons.	1,114,913	388,309	1,075,374	290,964
Stone, ornamental, granite, marble, etc., unwrought..... "	15,967	7,989	330	359
Stone, building, freestone, limestone etc., unwrought..... "	128,453	103,796	139,153	122,430
Stone, crushed..... "	26,754	27,611	2,308	2,277
Stone, for manufacture of grindstones, rough..... "	356	1,764	310	2,062
Other articles of the mine..... "		17,694		15,375
Total mine products.....		80,755,461		77,069,667
MANUFACTURES.				
Abrasives, artificial (9 months).....				1,249,513
Agricultural implements and machines, viz:—				
Mowing machines..... No.	6,672	233,024	149	486,593
Cultivators..... "	4,219	142,028	336	170,611
Reapers..... "	1,115	65,011	2,771	188,897
Drills..... "	4,713	317,831	6,246	314,435
Harvesters and binders..... "	7,495	814,517	9,582	1,158,757
Ploughs..... "	17,760	483,650	25,357	1,150,386
Harrows..... "	6,691	214	4,095	93,609
Hay rakes..... "	2,011	746	4,704	116,395
Seeders..... "	2	128	26	2,621
Threshing machines..... "	1,522	465,209	1,172	274,764
All others..... "		292,603		297,640
Parts.....		750,966		1,025,275

**Exports of Products of the Mine and Manufactures of Mine Products, Cal. Year
Year, 1916 and 1917—Concluded.**

Products.	1916.		1917.	
	Quantity.	Value.	Quantity.	Value.
MANUFACTURES.—Con.		\$		\$
Asbestos, manufactures of.....		4,741		55,666
Bricks..... M.	1,746	13,942	4,464	40,039
Cement.....		2,424		16,857
Clay, manufactures of.....		58,530		83,600
Coke..... Tons.	48,539	221,334	23,596	137,318
Cream separators.....		34,607		150,923
Drugs, chemicals and medicines, viz:—				
Acetate of lime..... Cwt.	73,589	215,397	67,607	216,042
Acid sulphuric.....	31,517	74,527	189,551	197,888
Ammonium sulphate (9 months).....			160,947	693,377
Calcium carbide.....	1,469,663	4,369,085	1,629,827	4,027,894
Cyanide (9 mos.).....			749,955	1,837,959
Phosphorus..... Lbs.	831,950	122,323	1,121,835	185,767
Earthenware and manufactures of.....		7,620		14,504
Fertilizers.....		3,338,413		1,253,667
Gasoline engines..... No.	529	86,310	800	152,275
Grindstones, manufactured.....		43,178		29,242
Gypsum or plaster, ground.....		154,630		146,384
Iron and steel and manufactures of, viz:—				
Stoves of all kinds.....		29,956		50,451
Gas buoys and parts of.....		2,484		85
Castings, n.o.p.....		167,881		593,297
Ferro-silicon and ferro compounds..... Tons.	22,802	1,352,013	33,212	2,616,924
Pig-iron.....	23,304	374,383	12,081	423,814
Linotype machines and parts of.....		35,465		6,977
Machinery, n.o.p.....		1,206,863		2,499,581
Sewing machines, and parts of..... No.		82,032		157,809
Washing machines, domestic and wringers.....		5,763		6,400
Typewriters..... No.	3,597	246,761	1,883	97,904
Scrap iron or steel..... Cwt.	2,285,991	1,357,018	3,531,826	2,300,022
Bars and rods (9 mos.)..... Tons.			41,321	3,632,787
Billets, blooms, ingots (9 mos.).....			41,658	1,831,917
Rails (9 mos.).....			26,402	1,605,742
Hardware, viz:—				
Wire and wire nails..... Cwt.	2,450,517	8,597,320	2,109,637	9,823,700
Tools, hand or machine.....		376,549		940,347
Hardware, n.o.p.....		515,613		917,177
All other, n.o.p.....		38,974,154		7,000,678
Lime.....		66,406		74,523
Metals:—				
Aluminium in bars, blocks, etc..... Cwt.	184,253	5,201,066	223,246	7,620,953
Aluminium, manufactures of.....		26,780		17,165
Brass, old and scrap..... Cwt.	375,037	6,064,779	595,000	9,615,627
Copper in pigs, bars, sheets, etc.....	24,304	581,268	175,706	4,776,025
Copper, old and scrap.....	58,466	1,284,895	159,939	4,296,989
Lead in pigs, etc.....	1,121	7,710	10,045	62,453
Metallic shingles and laths and corrugated roofing.....		30,563		41,084
Plated ware, n.o.p.....		15,050		23,164
Platinum, old and scrap (9 mos.)..... Ozs.			195	18,290
N.o.p.....		3,143,135		5,611,556
Mineral and aerated waters in bottles.....		1,576		10,745
Oil, n.o.p..... Gals.	3,391,857	1,038,025	4,264,160	1,041,467
Plumbago, manufactures of.....		304,919		384,505
Stone of all kinds, dressed.....		4,592		1,816
Tar.....		50,352		43,547
Tin, manufactures of.....		16,284		58,844
Vehicles:—				
Automobiles..... No.	12,579	6,078,668	9,492	4,561,875
" parts of.....		672,060		2,035,769
Bicycles..... No.	580	50,894	454	61,984
" parts of.....		5,877		52,260
Total Manufactures.....		90,423,122		90,736,151
Grand Total.....		171,178,583		167,895,818

EXPORTS.

Showing Destination of Mine Products during the Fiscal Years, 1914-15, 1915-16, and 1916-17.

Destination.	1914-15 Value.	1915-16. Value.	1916-17. Value.
<i>British Empire.</i>			
	\$	\$	\$
United Kingdom	12,219,937	12,425,248	15,545,227
Australia	125,903	122,409	53,297
Bermuda		5	210
British South Africa	8,092	43,397	27,151
" Guiana		28,812	109,590
" India	612		119,559
" E. Indies, other	4,404		37,567
" W. Indies	1,552	9,170	60
Gibraltar	1,974	3,301	55,828
Hong Kong	213,254	498,091	263,812
Newfoundland	516,756	806,726	919,300
New Zealand	130	695	12,659
Total British Empire	13,092,614	13,943,754	17,144,240
<i>Other Countries.</i>			
Alaska	243,231	295,169	347,124
Argentina	3,447	102	132
Austria Hungary	37,124		
Belgium	45,668		
Brazil	3,159		135
Chili			6,991
China	94,203	368,199	135,483
Cuba	1,461	7,304	5,194
Denmark	611		7,646
Egypt			3,312
France	91,857	186,868	555,589
French W. Indies			900
Germany	290,276		4,644
Greece		914	
Greenland, Iceland, etc		4,957	
Hawaii	26,262	1,804	
Holland	87,207	5,130	17,923
Italy	41,353	154,783	212,938
Japan	69,483	61,016	146,440
Mexico	1,928	9,393	
Miquelon and St. Pierre	36,519	40,919	22,107
Norway	2,662		
Panama	3,891		
Peru		237	
Philippines	5,257	2,016	
Porto Rico			
Portugal	633		
Russia	2,678	62,687	24,885
San Domingo			6,456
Spain	911	9,900	
Sweden	345	9,001	
United States	37,558,209	51,425,708	66,974,768
Total other countries	38,648,375	52,646,107	68,472,667
Grand total	51,740,989	66,589,861	85,616,907

IMPORTS.

Imports of Products of the Mine and Manufactures of Mine Products—Calendar Years 1915, 1916, and 1917.

Products	1915. Value.	1916. Value.	1917. Value.
	\$	\$	\$
Alumina	892,634	1,114,061	1,806,240
Alum, alum cake and ohloralum	196,685	471,886	423,908
Aluminium and manufactures	722,235	671,068	580,481
Ammonia, nitrate of		202,153	238,854
Ammonia, sulphate of	14,637	9,672	26,062
Antimony regulus	344,918	208,450	61,732
Antimony salts	10,320	13,891	6,295
Arsenic, oxide and sulphide of	6,072	18,925	54,136
Asbestos	168,894	334,670	537,431
Asphaltum	570,205	563,446	454,403
Bells and gongs	43,205	72,420	84,021
Bismuth	9,004	8,608	12,022
Blanc fixe and satin white	59,471	86,306	90,482
Blast furnace slag	14,067	4,602	7,106
Borax	164,180	265,933	381,294
Brick and tile	488,288	390,467	442,455
Brick, fire, of a kind not made in Canada, and n.o.p.	813,071	1,657,792	3,158,591
Bromine and bromides	530	413	530
Burstones	314	648	910
Cement, portland, and manufactures	47,836	43,747	28,356
Chalk, Cornwall stone, feldspar, fluorspar, magnesite, mica, schist.	100,012	170,498	264,220
Clays: china, fire, pipe and all other	237,696	325,494	416,209
Coal: anthracite, bituminous, slack and run-of-mine	28,348,605	38,289,666	70,562,357
Coke	1,608,464	2,229,078	6,517,260
Coke, ground for electric batteries	12,266	8,119	15,239
Copper and manufactures of	3,957,770	7,506,080	10,015,561
Cryolite	61,312	78,916	101,141
Crucibles, clay or plumbago	106,761	520,341	798,044
Chloride of lime	112,142	158,546	100,834
Cyanides of potassium, sodium, cyanogen, or epd. of bromine	367,329	507,021	505,294
Diamonds, unset, and bort	709,154	1,332,957	1,538,887
Earthenware	1,460,010	2,180,414	2,595,582
Earths, crude	1,811	4,074	3,917
Electric carbons	40,685	58,676	65,225
Emery	206,732	367,719	632,836
Fertilizers, compound or manufactured	734,952	639,884	1,045,140
Flint, quartz, silice, etc.	54,493	90,280	77,104
Foundry facings	9,855	27,638	47,416
Fullers earth	12,321	13,072	17,004
Fossils	4,000	2,699	6,943
Gannister	2,462	2,833	23,954
Gold and silver and manufactures of	1,829,953	20,016,288	2,921,018
Graphite and manufactures of	45,117	103,150	171,209
Grindstones	79,391	122,291	185,607
Gypsum and plaster of Paris	25,819	43,291	35,460
Hydrofluosilicic acid	36,085	28,611	97
Iron and steel—Total, 1915	74,308,883		
1916	129,040,248		
1917	186,538,538		
Pig-iron	624,200	1,145,150	2,764,165
Ferro products and chrome steel	820,976	1,893,879	2,045,595
Ingots, blooms, billets, puddled bars, etc.	1,270,687	895,446	1,401,782
Scrap iron and scrap steel	127,614	179,751	454,079
Plates and sheets	7,647,560	12,806,866	17,582,700
Tin plates and sheets	2,843,951	5,221,163	9,985,631
Bar, rods, hoops, bands, etc.	5,829,088	13,362,807	22,567,187
Structural iron and steel	3,615,333	8,042,127	15,282,012
Rails and connexions	379,218	470,023	944,595
Pipes and fittings	110,978	165,576	143,124
Nails and spikes	86,876	283,007	892,021
Wire	2,175,834	4,305,674	4,409,376
Forging castings and manufactures	1,932,370	3,343,559	5,976,313
Other iron and steel products	46,804,298	76,975,990	102,089,958
Iron ore	2,331,755	4,419,013	5,124,889

IMPORTS.

Imports of Products of the Mine and Manufactures of Mine Products—Calendar Years 1915, 1916, and 1917—Continued.

Products.	1915. Value.	1916. Value.	1917. Value.
	\$	\$	\$
Iron sand.....	3,263	15,641	36,737
Kainite.....	146	5,016	38,828
Lead and manufactures; litharge.....	2,482,916	2,077,806	1,732,428
Lime.....	98,040	98,332	78,251
Lithographic stone.....	1,316	2,768	3,921
Manganese, oxide of.....	46,678	63,786	92,618
Magnesia.....	9,695	20,651	16,186
Meerschaum.....	73		
Mercury or quicksilver.....	159,284	74,461	76,322
Metallic alloys:—			
Babbitt metal.....	16,709	20,624	36,444
Brass and manufactures of.....	3,177,942	4,676,374	5,328,650
Britannia metal and manufactures.....	11,198	25,192	20,513
German silver, nickel, and nickel silver.....	274,706	414,410	519,064
Type metal.....	1,838	2,126	1,193
Mineral and bituminous substances.....	123,726	344,743	647,444
Mineral water, including aerated water.....	126,569	130,933	108,444
Nickel anodes.....	9,571	6,019	8,348
Ochres, etc.....	284,749	409,258	417,502
Ores of metals, n.o.p.....	962,999	2,844,277	3,221,267
Paraffin wax.....	40,935	70,308	140,722
Paraffin candles.....	27,352	30,839	75,257
Petroleum and products of.....	7,979,264	14,604,476	22,741,709
Phosphate (fertilizer).....	14,144	16,182	62,543
Platinum and manufactures of.....	84,087	88,543	114,279
Potash and manufactures of.....	206,575	156,736	135,836
Precious stones.....	132,173	207,621	192,748
Pumice.....	18,814	34,554	34,162
Salt.....	517,526	694,835	1,084,205
Saltpetre.....	279,692	101,103	163,556
Sand and gravel.....	120,756	183,894	312,403
Slate and manufactures of.....	108,676	96,776	106,893
Sand paper.....	133,677	247,317	331,776
Soda products: barilla, bicarbonate, caustic, salt, and salt cake.....	858,344	2,079,859	3,096,578
Stone and manufactures of (including marble).....	539,173	587,304	764,658
Soda, nitrate of.....	1,050,648	2,973,473	1,935,698
Sulphate of iron (copperas).....	5,302	11,549	9,982
Sulphur and phosphorus.....	509,889	1,229,356	1,549,828
Sulphuric acid.....	4,872	115,173	15,680
Talc.....	1,866	(a)	(a)
Tar, coal and pine.....	151,377	184,286	208,065
Tin and manufactures of (including tinware).....	1,634,796	2,999,675	5,656,665
Whiting and prepared chalk.....	169,551	181,349	261,812
Zinc and manufactures of.....	2,775,358	3,690,777	3,641,272
	146,465,510	256,346,726	353,660,555

(a) Not separately recorded.

Production by Provinces.

A summary of the mineral production by provinces in 1916 and 1917 is shown in the accompanying tables in the first of which the total production in the several provinces and the percentages of each are given for the past three years.

In comparing the relative productions 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, 1915, 1916, and 1917.

Province.	1915.		1916.		1917.	
	Value of production.	Per cent of total.	Value of production.	Per cent of total.	Value of production.	Per cent of total.
	\$		\$		\$	
*Nova Scotia	18,088,342	13.19	20,042,262	11.31	21,104,542	11.13
New Brunswick	903,467	0.66	1,118,187	0.63	1,435,024	0.76
Quebec	11,619,375	8.48	14,400,598	8.13	17,400,677	9.18
Ontario	61,071,287	44.54	80,461,323	45.41	89,066,600	46.04
Manitoba	1,318,	0.00	1,823,576	1.08	2,628,264	1.30
Saskatchewan	451,	0.33	560,473	0.33	860,651	0.45
Alberta	9,909,347	7.29	13,297,643	7.50	16,527,535	8.71
British Columbia	28,689,425	20.92	39,569,962	22.55	30,141,926	15.06
Yukon	5,057,708	3.69	5,491,610	3.10	4,482,202	2.26
Dominion	137,109,171	100.00	177,201,534	100.00	189,646,821	100.00

*Includes a small production of lime from Prince Edward Island in 1916.

Mineral Production of Nova Scotia, 1916 and 1917.

Product.		1916.		1917.	
		Quantity.	Value.	Quantity.	Value.
			\$		\$
Gold	Ozs.	4,562	94,305	2,210	45,686
Barytes	Tons	1,368	19,393	3,490	54,027
Coal	"	6,912,140	18,514,602	6,327,061	19,410,737
Grindstones	"	273	5,800	875	9,875
Gypsum	"	238,212	278,160	215,472	301,261
Manganese	"	646	70,371	158	14,836
Molybdenite	Libs.			94	94
Tripolite	Tons	620	12,139	600	18,000
Clay products	"		238,470		331,542
Lime	Bns.	911,534	182,506	986,106	197,344
Stone	"		459,298		569,521
Other products	"		167,158		151,620
Total			20,042,262		21,104,542

The total production of pig-iron in Nova Scotia in 1917 was 472,147 tons valued at \$10,387,254, and in 1916, 470,955 tons valued at \$7,050,825.

Mineral Production of New Brunswick, 1916 and 1917.

Product.		1916.		1917.	
		Quantity.	Value.	Quantity.	Value.
			\$		\$
Silver	Ozs.			400	326
Copper	Libs.			33,920	9,219
Coal	Tons	143,540	386,016	189,095	708,010
Grindstones	"	3,205	46,982	2,148	35,879
Gypsum	"	39,546	153,064	38,556	191,631
Manganese ore	"	(a)			
Natural gas	M. cu. ft.	610,118	79,628	796,775	103,735
Petroleum	Bls.	1,345	2,663	2,341	6,460
Clay products	"		42,881		51,304
Lime	Bns.	424,113	104,635	532,251	171,248
Stone	"		112,257		111,150
Other products	"		190,061		47,062
Total			1,118,187		1,435,024

(a) Included in "Other products."

Mineral Production of Quebec, 1916 and 1917.

Product.		1916		1917	
		Quantity.	Value.	Quantity.	Value.
			\$		\$
Molybdenite	Lbs.	...	...	216,693	216,693
Copper	...	5,703,317	1,551,121	5,015,500	1,363,220
Gold	Ounc.	1,034	21,375	1,511	31,235
Iron ore, sold for export	Tons	3,209	8,308	16,488	48,599
Lead	Lbs.	698,760	59,485	1,378,001	133,408
Silver	Ounc.	98,610	64,748	136,104	119,885
Zinc ore	Lbs.	1,663,200	212,956	1,780,740	159,638
Asbestos and asbestos	Tons	154,119	5,228,869	153,771	7,228,233
Chromite	"	27,517	311,460	30,725	499,682
Feldspar	"	4,610	18,075	1,188	8,204
Graphite (a)	"	479	75,776	541	101,305
Magnetite	"	54,778	551,304	58,090	728,275
Mica	"	...	192,343	...	286,730
Mineral water	Gall.	93,782	10,223	...	9,201
Iron oxides	Tons	8,811	58,111	9,409	87,605
Phosphate	"	100	2,340	127	1,230
Pyrites	"	99,639	523,272	122,892	501,351
Quartz	"	140	1,435	550	1,788
Cement	Tons	2,100,075	2,525,863	2,070,625	3,274,989
Clay products	"	...	976,161	...	973,716
Kaolin	Tons	750	17,500	533	9,594
Lime	Tons	1,400,845	207,119	1,470,486	335,012
Slate	Sq. ft.	1,262	6,223	1,422	7,789
Stone	"	...	1,370,465	...	991,593
Other products	"	...	342,159	...	265,633
Total			14,406,598		17,400,007

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

Mineral Production of Ontario, 1916 and 1917.

Product.		1916.		1917.	
		Quantity.	Value.	Quantity.	Value.
			\$		\$
Asbestos	Tons			10	2,150
Cobalt, metallic and in oxide, etc.	Lbs.	840,538	924,500	1,079,572	1,737,315
Copper	"	44,997,085	12,340,004	42,867,774	11,651,401
Gold	Ozs.	492,441	10,180,483	423,261	8,749,581
Iron ore, sold for export	Tons	137,309	385,381	162,764	542,007
Iron, pig, from Canadian ore (a)	"	115,691	1,324,605	46,022	768,783
Lead	Lbs.	685,982	58,308	1,584,711	176,712
Molybdenite	"	(b)		68,213	68,213
Nickel	"	82,958,564	29,035,499	84,330,290	33,732,112
Silver	Ozs.	21,608,158	14,188,133	19,301,835	15,714,975
Actinolite	Tons	250	2,750	120	1,320
Arsenious oxide	"	2,188	262,349	2,656	664,231
Corundum	"	67	10,307	188	32,153
Feldspar	"	14,878	53,332	18,274	81,622
Fluor spar	"	1,284	10,238	4,249	68,766
Graphite	"	3,476	249,588	3,173	296,587
Gypsum	"	30,668	116,066	48,947	130,138
Mica	"		62,896		72,121
Mineral water	"		110,333		125,231
Natural gas	M. cu. ft.	17,933,109	2,765,105	19,865,036	3,641,587
Peat	Tons	300	1,500		
Petroleum	Bls.	196,778	380,621	202,991	473,477
Phosphate	Tons	13	174	26	256
Pyrites	"	177,562	555,523	288,058	1,040,866
Quartz	"	94,519	167,636	177,983	362,251
Salt	"	132,903	717,653	138,000	1,047,792
Talc	"	13,051	48,575	15,778	76,139
Cement	Bls.	2,230,386	2,312,677	1,676,904	2,207,610
Clay products	"		2,145,036		2,575,304
Lime	Bns.	2,031,396	367,115	2,846,859	668,368
Sand-lime brick	No.	11,638,150	77,725	10,667,600	100,885
Stone	"		857,023		992,455
Other products	"		836,903		1,170,062
Total			80,461,323		89,066,600

(a) The total production of pig-iron in Ontario in 1917 was 698,353 tons, valued at \$14,638,726; in 1916 690,202 tons, valued at \$9,700,073.

(b) Included under "Other products."

Mineral Production of Manitoba, 1916 and 1917.

Product.		1916.		1917.	
		Quantity.	Value.	Quantity.	Value.
			\$		\$
Copper	Lbs.			1,116,000	303,329
Gold	Ozs.			440	9,095
Silver	"			7,201	5,863
Calcined gypsum	Tons	28,489	191,283	33,347	258,534
Clay products	"		104,248		114,651
Lime	Bns.	355,301	83,754	393,982	92,932
Cement	Bls.	427,293	794,897	544,949	1,175,669
Sand-lime brick	No.	3,215,097	33,048	5,070,500	76,742
Stone	"		372,894		301,968
Other products	"		243,452		289,081
Total			1,828,676		2,628,284

Mineral Production of Saskatchewan, 1916 and 1917.

Product.		1916.		1917.	
		Quantity.	Value.	Quantity.	Value.
			\$		\$
Coal.....	Tons	281,300	441,836	355,445	642,451
Clay products.....			78,608		78,251
Sand-lime brick.....	No.	990,000	9,890	674,500	7,674
Other products.....			60,079		112,255
Total.....			590,473		860,651

Mineral Production of Alberta, 1916 and 1917.

Product.		1916.		1917.	
		Quantity.	Value.	Quantity.	Value.
			\$		\$
Gold.....	Ozs.	82	1,605		
Coal.....	Tons.	4,559,054	11,386,577	4,734,350	14,153,685
Natural gas.....	M. cu. ft.	6,904,231	1,113,296	6,744,130	1,299,076
Petroleum.....	Bls.			8,500	63,302
Cement.....		275,727	477,832	259,423	567,969
Clay products.....			225,140		309,991
Lime.....	Bns.	78,019	20,033	104,540	35,516
Sand-lime brick.....	No.	697,500	5,571	1,547,600	15,703
Stone.....			257		7,482
Other products (a).....			67,142		73,911
Total.....			13,297,545		16,527,635

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

Mineral Production of British Columbia, 1916 and 1917.

Product.	1916.		1917.	
	Quantity.	Value.	Quantity.	Value.
		\$		\$
Antimony and Molybdenite..... Lbs.		13,003	3,705	3,705
Copper (a)..... "	63,642,550	17,312,046	57,730,959	15,691,275
Gold..... Ozs.	219,633	4,540,216	133,742	2,764,693
Lead..... Lbs.	39,157,701	3,333,496	29,183,725	3,283,602
Platinum..... Ozs.	15	600	57	3,823
Silver..... "	3,392,872	2,227,794	2,655,964	2,162,430
Zinc ore..... Lbs.	21,701,560	2,778,667	27,861,441	2,479,947
Arsenic..... Tons.			280	11,200
Coal..... "	2,584,061	8,075,190	2,433,888	8,235,716
Gypsum..... "			10	20
Magnesite..... "	635	9,525		
Magnesium sulphate..... "			929	4,645
Mineral water..... "		1,250		1,382
Pyrites..... Tons.	1,060	5,300	5,709	28,545
Quartz..... "	41,077	82,154	37,755	132,143
Talc..... "	53	848	25	400
Cement..... Bls.	285,679	436,459	207,587	438,009
Clay products..... "		292,698		334,685
Lime..... Bus.	194,042	66,301	232,955	58,067
Stone..... "		564,218		265,978
Other products..... "		230,197		241,661
Total.....		39,969,962		36,141,926

(a) Smelter recoveries of copper.

Mineral Production of Yukon, 1916 and 1917.

Product.	1916.		1917.	
	Quantity.	Value.	Quantity.	Value.
		\$		\$
Antimony ore..... Tons.	20	160		
Copper..... Lbs.	2,807,096	763,586	2,460,079	668,650
Gold..... Ozs.	212,760	4,396,900	177,667	3,672,703
Lead..... Lbs.	955,222	81,318	127,844	14,238
Silver..... Ozs.	360,101	236,446	119,605	97,379
Coal..... Tons.	3,300	13,200	4,872	29,232
Total.....		5,491,610		4,482,202

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, con- centrates or minerals shipped.	Net value of ship- ments.
		Under- ground.	Surface.				
METALLIFEROUS ORES.	No.	No.		\$	Tons.	Tons.	\$
Iron ores.....	5	598		364,455	345,410	244,854	542,041
Milling gold ore—							
Bullion shipped.....						13	6,101,463
Concentrates.....	44	1,070	1,206	2,603,414	754,732	6,974	860,379
Silver-cobalt ores—							
Mine bullion shipped.....						354	5,665,006
Ore and concentrate.....	29	1,412	1,883	3,207,116	733,174	16,917	7,827,140
Nickel-copper ores.....	9	736	1,286	1,693,997	1,000,364	979,908	5,020,003
Copper ores.....	4	113	180	177,721	119,295	117,762	502,637
Silver-lead and zinc ores.....	76	394	817	1,110,876	186,646	70,207	2,652,802
Zinc products.....						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

Mine Production 1914—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				
Silver-cobalt ores—						
Mine bullion shipped.....		10,335,527			15,141	
Ore and concentrate.....		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.....	334	2,501,820			50,527,130	
Zinc products.....		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.
		Under-ground.	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.....						18	8,953,130
Concentrates.....	50	1,324	1,555	2,893,187	1,190,477	8,335	711,947
Silver-cobalt ores—							
Mine bullion shipped.....						232	3,410,936
Ore and concentrate.....	25	1,008	1,531	2,363,414	588,104	61,362	8,326,776
Nickel-copper ores.....	9	857	1,745	2,202,536	1,361,018	1,372,724	10,552,673
Copper ores.....	6	173	205	215,065	141,758	112,121	1,026,562
Silver-lead and zinc ores.....	66	328	784	960,878	215,694	73,752	2,958,391
Zinc products.....						14,895	540,022
Gold-copper-silver ores.....	53	886	1,694	2,868,449	2,380,709	2,186,616	10,947,059
Placer mining—							
Yukon.....						9	4,776,145
British Columbia.....							770,000
Alberta.....							4,026
Total metalliferous.....	205	12,618		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

Mine Production, 1915—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 concentrate.....		17,603,943					
Nickel-copper ores.....			43,891	23,318			
Copper ore.....	1,151	64,965		3,538			
Silver-lead-zinc ores.....	439	2,637,144			21,354		
Zinc products.....		316,731				6,116	
Gold-copper-silver ores.....	292,127	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	540

Mine Production, 1916.

	No. of mines or works.	Men employed.		Wages paid.	Ores or minerals mined.	Metals, ores, concentrates or minerals shipped.	Net value of shipments.
		Under-ground.	Sur-face.				
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		576,716	331,822	275,176	715,107
Milling gold ore—							
Bullion shipped.....						21	10,418,652
Concentrates.....	19	1,304	1,709	3,540,899	1,502,336	9,340	522,409
Silver-cobalt ores							
Mine bullion shipped.....						171	3,444,736
Ore and concentrate.....	32	1,034	1,561	2,450,614	547,882	77,453	9,736,499
Nickel-copper ores.....	6	875	1,837	2,824,818	1,566,333	1,566,333	11,766,291
Copper ores.....	12	292	261	293,115	170,666	155,999	1,444,676
Silver-lead and zinc ores.....		573	1,079	1,803,633	395,802	84,516	4,568,500
Zinc products.....	84					82,077	1,086,219
Gold-copper-silver ores.....	59	1,259	1,975	4,395,924	2,907,314	2,431,930	18,514,772
Placer mining—							
Yukon.....							
British Columbia.....						9	4,413,958
Alberta.....							580,590
							1,695
Total metalliferous.....	260	14,598		15,897,748	7,450,654	4,684,041	67,536,166
Total non-metalliferous.....	532	30,541		24,987,562	18,170,297	15,690,830	53,414,983
Total structural materials.....	816	12,465		6,237,168			17,467,186
Total.....	1,608	57,604		47,092,478			138,418,335

(a) Includes refined antimony.

(b) MoS₂ contents of concentrates produced.

Mine Production, 1916—Content of Shipments.

	Gold.	Silver.	Nickel.	Copper.	Lead.	Zinc.	Antimony.
	Ozs.	Ozs.	Tons.	Tons.	Tons.	Tons.	Tons.
Antimony ore.....							129
Milling gold ore—							
Bullion.....	513,202	102,349					
Concentrates.....	30,138	54,136					
Silver-cobalt ores—							
Mine bullion shipped.....		4,982,702					
Ore and concentrates.....		15,690,716					
Nickel-copper ores.....			51,127				
Copper ores.....	713	65,438		25,266			
Silver-lead-zinc ores.....	784	2,582,952		1,638			
Zinc products.....		363,262			27,062		
Gold-copper-silver ores.....	163,466	905,685		42,126		21,219	
Placer mining—							
Yukon.....	211,010	47,703					
British Columbia.....	28,082						
Alberta.....	82						
Total.....	954,477	24,794,913	51,127	72,030	27,062	21,219	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.
		Under-ground.	Surface.				
METALLIFEROUS ORES.	No.	No.		\$	Tons.	Tons.	\$
Antimony ore.....	1	46		35,739	8,182	361	22,000
Molybdenite.....	23	501		260,692	26,871	1,554	320,066
Iron ores.....	9	528		509,163	305,330	215,302	758,621
Milling gold ore—							
Bullion shipped.....						18	9,312,424
Concentrates.....	45	1,388	1,633	3,687,392	1,363,410	8,874	365,375
Silver-cobalt ores—							
Mines 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	1,501,841	11,323,808
Silver-lead and zinc ores.....	87	716	1,198	2,295,090	445,063	46,799	3,866,862
Zinc products.....						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			3,310,263
British Columbia.....	34	275		208,589		8	496,000
Total metalliferous.....	389	16,250		18,650,809	6,690,827	3,851,194	64,900,113
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

Mine Production, 1917—Content of Shipments.

	Gold.	Silver.	Nickel.	Copper.	Lead.	Zinc.	Anti- mony.	Molyb- denite.
	Ozs.	Ozs.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Antimony ore.....							144	165
Molybdenum ore.....								
Milling gold ore—								
Bullion.....	447,373	250						
Concentrates.....	21,906	98,119						
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.....	1,033	1,670,064			19,348			
Zinc products.....		465,153				32,328		
Placer mining—								
Yukon.....	176,548	39,723						
British Columbia.....	21,994							
Alberta.....								
Total	748,452	24,425,537	52,587	65,000	19,348	32,328	144	165

Labour and Wages Statistics Covering Non-Metalliferous Mines during 1915, 1916, and 1917.

	1915.				1916.				1917.			
	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 asbestos.			\$				\$				\$	
Chromite.	9	2,394	1,691,076		13	2,821	1,639,913		15	3,114	2,312,110	
Coal.	6	204	116,339		12	229	109,146		9	253	211,165	
Feldspar.	255	24,574	17,885,290		277	23,611	20,884,286		329	24,586	25,963,520	
Fluorspar.	6	87	21,173		7	119	42,960		8	101	55,742	
Graphite.					3	36	8,449		7	59	28,810	
Gypsum.	5	110	40,643		6	344	191,876		5	282	191,307	
Grindstones, pulpstones and scythestones.	16	1,152	468,612		15	919	467,282		12	774	445,128	
Magnesite.	4	110	23,007		3	183	144,367		2	286	194,864	
Mica and phosphates.	23	138	47,372		33	241	86,101		28	283	119,440	
Mineral pigments: barytes, and ochres.	4	61	24,197		4	125	42,169		7	169	56,185	
Mineral water.	17	50	23,066		20	60	30,307		22	53	22,246	
Natural gas.	(a)	88	511,967		94	750	532,913		105	597	320,290	
Peat.			3,200									
Petroleum.												
Pyrites.	(c)	1			(c)							
Quartz.	7	207	172,986		(d)	375	310,656		168	270	167,205	
Salt.	122	122	78,747		8	167	164,763		11	454	451,940	
All others†.	11	254	186,069		9	282	219,565		12	289	297,817	
	10	182	43,885		12	171	67,879		10	309	249,073	
Total non metallic.	472	30,392	29,257,126		532	30,541	24,987,562		8	157	96,736	
STRUCTURAL.												
Cement.												
Clay products.	20	1,686	1,184,459		15	1,685	1,307,234		9	1,386	1,424,215	
Blue.	349	4,405	1,452,828		290	4,164	1,740,990		276	3,915	2,174,167	
Sand and lime brick.	78	633	236,735		76	738	381,365		67	770	554,617	
Sand and gravel.	18	177	41,013		15	139	30,079		13	150	65,175	
Slate.	211	1,721	491,830		221	1,667	631,195		208	1,562	770,167	
Stone.	1	20	5,520		1	22	11,085		1	19	10,933	
Total structural.	236	5,144	2,188,302		198	4,020	2,115,320		165	3,002	1,610,588	
Total non-metalliferous.	943	13,786	5,657,717		816	12,465	6,237,168		739	10,814	6,669,872	
	1,415	44,178	25,874,670		1,348	43,005	31,224,730		1,502	42,902	38,608,442	

† Includes in 1915—actinolite, corundum, manganese, talc, and tripolite.
 " 1916—actinolite, corundum, manganese, peat, tripolite and talc.
 " 1917—corundum, manganese, magnesium sulphate, tripolite and talc.
 (a) Estimated for 1915. (b) Included in "All other." (c) Not collected. (d) Partial.

