1901

MINERAL PRODUCTION OF CANADA

ROBERT BELL, M.D., LL.D., F.R.S.,
Acting Deputy Head and Director.

SIR,—I have the honour to submit herewith the annual preliminary statistical statement of the mineral production of Canada for 1901.

Although the figures given herewith are, as stated, 'subject to revision,' they may still be taken as a very close approximation to those which will be given in the final report.

The completed annual report will follow later, and besides containing a revise of the general table of production, will include other details relating to explorations, development, exports, imports, etc. As much of this information is not available till several months after the close of the year, and the compilation and printing necessarily occupy some time, it cannot be completed until well on in the year following the one covered.

I am, sir,

Your obedient servant,

ELFRIC DREW INGALL.

OTTAWA, February 26, 1902.

GEOLOGICAL SURVEY OF CANADA

SECTION OF MINES

SUMMARY

OF THE

MINERAL PRODUCTION OF CANADA

FOR 1901

ELFRIC DREW INGALL, M.E.

Associate of the Royal School of Mines, England, Mining Engineer to the Geological Survey of Canada.

ASSISTANT

J. McLeish, B.A.

OTTAWA

PRINTED BY S. E. DAWSON, PRINTER TO THE KING'S MOST EXCELLENT MAJESTY.

1902

GEOLOGICAL SURVEY OF CANADA

SUMMARY OF THE MINERAL PRODUCTION OF CANADA IN 1901.

(Subject to Revision.)

Product.		Quantity. (a)	Value. (a)
Metallic.			$
Copper (b)	Lbs.	40,951,196	6,600,104
Gold, Yukon	$18,000,000		
" all other	6,462,222		
			24,462,222
Iron ore (exports)	Tons.	306,199	762,284
*Pig iron from Canadian ore	"	83,100	1,212,113
Lead (c)	Lbs.	50,756,440	2,199,784
Nickel (d)	"	9,189,047	4,594,523
Silver (e)	Oz.	5,078,318	2,993,668
Total metallic		.....	42,824,698
Non-Metallic.			
Actinolite	Tons.	531	3,126
Arsenic	~~Lbs.~~ Tons	695	41,676
Asbestus and asbestic	Tons.	38,079	1,186,434
Chromite (exports)	"	1,759	25,444
Coal	"	6,186,286	14,671,122
Coke (f)	"	373,625	1,264,360
Corundum	"	435	53,115
Felspar	"	5,226	4,710
Fire clay	"	3,979	5,920
Graphite	"	1,440	28,880
Grindstones	"	5,701	55,690
Gypsum	"	293,799	340,148
Limestone for flux	"	169,399	183,162
Manganese ore (exports)	"	440	4,820
Mica	"	.....	160,000
Mineral pigments—			
Baryta	"	653	3,842
Ochres	"	2,233	16,735
Mineral water		.....	100,000
Moulding sand	Tons.	14,620	29,240
Natural gas (g)		.....	312,359
Peat	Tons.	220	660
Petroleum (h)	Bbls.	588,528	953,415
Pyrites	Tons	28,261	113,044
Salt	"	59,428	262,328
Talc	"	259	842

* The total production of pig iron in Canada in 1901 from Canadian and foreign ores amounted to 274,376 tons, valued at $3,512,923, of which it is estimated 83,100 tons, valued at $1,212,113 should be attributed to Canadian ore and 191,276 tons, valued at $2,300,810, to the ore imported.

(a) Quantity or value of product marketed. The ton used is that of 2,000 lbs.

(b) Copper contents of ore, matte, etc., at 16·17 cents per lb.

(c) Lead contents of ores, etc., at 4·34 cents per lb.

(d) Nickel contents of ore, matte, etc., at 50 cents per lb.

(e) Silver contents of ore at 58·95 cents per oz.

(f) Oven coke, all the production of Nova Scotia and British Columbia.

(g) Gross return from sale of gas.

(h) Calculated from inspection returns at 100 galls. crude to 54 refined oil, and computed at $1.62 per brl. of 35 imp. galls.

SUMMARY OF THE MINERAL PRODUCTION OF CANADA IN 1901—*Concluded.*

(Subject to Revision.)

Product.	Quantity. (a)	Value. (a)
Structural Materials and Clay Products.		$
Cement, natural rock ..... Brls.	133,328	94,415
" Portland ..... "	297,066	535,615
Granite	.....	155,000
Pottery	.....	200,000
Sands and gravels (exports) ..... Tons.	197,302	117,465
Sewer pipe	.....	250,115
Slate	.....	9,980
Terra-cotta, pressed brick, etc.	.....	278,671
Building material, including bricks, building stone, lime, tiles, etc.	.....	4,820,000
Total structural materials and clay products	.....	6,461,261
" all other non-metallic	.....	19,821,072
Total non-metallic	.....	26,282,333
" metallic	.....	42,824,698
Estimated value of mineral products not returned	.....	300,000
Total, 1901	.....	69,407,031
1900, Total	.....	64,488,037
1899 "	.....	49,584,027
1898 "	.....	38,697,021
1897 "	.....	28,661,430
1896 "	.....	22,584,513
1895 "	.....	20,648,964
1894 "	.....	19,931,158
1893 "	.....	20,035,082
1892 "	.....	16,628,417
1891 "	.....	18,976,616
1890 "	.....	16,763,353
1889 "	.....	14,013,913
1888 "	.....	12,518,894
1887 "	.....	11,321,331
1886 "	.....	10,221,255

REMARKS.

It is gratifying to note that the value of the mineral production of the country still increases, notwithstanding a considerable falling off in the gold output. The growth shown is equivalent to nearly 8 p. c. addition to the total value for 1900. This is of course a much smaller proportional increase than those shown during the previous few years, but it is encouraging to find that it is due to the large expansion of the more permanent mineral industries, such as the metallic, including iron smelting, with coal, coke, asbestus, etc., amongst the non-metallic. All along the line the evidence of this growth has been quite marked,

giving great promise for the future, so that the inevitable falling off which must occur from time to time in the output of gold from shallow placer workings bids fair to be made up by the growth of those mineral industries that are now becoming such a factor in the commercial life of the country. Leaving the Yukon district out of consideration, the permanent metal mining industries shew an increase of nearly 37 p. c. notwithstanding a falling away of over 20 p. c. in the value of the lead production. The above, taken in connection with the enlarged value of the output of coal and coke of over 14 p. c., gives an average increase of over 27 p. c. for the more important industries of the country. The total value of the non-metallic products shows an increase of over 10 p. c. over last year, that of the whole metallic group nearly 6 p. c., while the structural materials remain about the same. The total value of the mineral production of Canada since 1886, when the statistics were first officially compiled, was but a little over one-seventh what it is to-day, although the population has only increased 17 p. c. in that time. The per capita value is now $12.92 as compared with $2.23 in 1886.

In regard to their relative importance the metal mining industries led, contributing 61·70 p. c., the non-metallic following with 28·86 p. c., the structural class being credited with 9·31 p. c. Grouping the metalliferous class with coal and coke, over 80 p. c. of the value is accounted for.

The following table gives the relative contributions to the grand total of the different mineral industries. A comparison of the two years given will show many interesting features.

1900.		1901	
Product.	Per cent of total Production.	Product.	Per cent of total Production.
1 Gold	43·28	1 Gold	35·24
2 Coal and coke	21·62	2 Coal and coke	22·96
3 Building material	7·48	3 Copper	9·51
4 Nickel	5·16	4 Building material	6·94
5 Copper	4·75	5 Nickel	6.62
6 Lead	4·28	6 Silver	4·31
7 Silver	4·25	7 Lead	3·17
8 Petroleum	1·78	8 Pig iron (from Canadian ore)	1·75
9 Asbestus	1·16	9 Asbestus	1·71
10 Cement	1·00	10 Petroleum	1·37
11 Pig iron (from Canadian ore)	0·90	11 Iron ore (export)	1·10
12 Natural gas	0·65	12 Cement	0·91
13 Salt	0·43	13 Gypsum	0·49

The figures tabulated below, give the growth of the various industries for 1901 as compared with 1900.

Product.	Quantity.		Value.	
	Increase.	Decrease.	Increase.	Decrease.
	p. c.	p. c.	p. c.	p. c.
Metallic—				
Copper	116·25	.....	115·27	.....
Gold	.....	.....	.....	12·35
Pig iron (from Canadian ore only)	134·83	.....	107·85	.....
Pig iron (from both home and imported ores)	184·11	.....	133·93	.....
Lead	.....	19·65	.....	20·31
Nickel	29·78	.....	38·07	.....
Silver	13·65	.....	9·24	.....
Non-metallic—				
Asbestus	30·67	.....	58·52	.....
Coal	10·30	.....	10·39	.....
Coke	137·77	.....	94·77	.....
Cement	29·82	.....	.....	2·44
Gypsum	16·54	.....	31·33	.....
Petroleum	.....	17·17	.....	17·17

In *Gold*, according to the figures kindly furnished by the United States mints of purchases of gold from the Canadian Yukon, there was a considerable falling off of over 12 per cent, this year's yield being less by $4,275,000. This was partly offset, however, by an increase of almost $1,000,000 in the output of British Columbia gold. In the other provinces there were no considerable changes.

In *Silver*, whilst the proportional increase in quantity is fair, there is less to record for the value, on account of the lower prices.

In *Lead* the decrease is to be attributed to the difficulties encountered by the operators of the British Columbia mines, which produced all but a very small quantity of the output. Not only were the prices for the year lower, but the industry was seriously crippled by the difficulties encountered in profitably marketing the ores with the smelters in the United States.

Copper :—Commencing as they did in the latter part of December, 1901, the low prices for this metal hardly affected the figures of production. The output showed a very large increase over that of 1900. In the Sudbury district of Ontario, the amount of the copper contained in the shipments of matte was greater by over 25 per cent. British Columbia produced over three times the amount credited to it during

last year, due chiefly to the large output of the mines of the Boundary Creek district.

Nickel :—An increase of nearly 30 per cent in production is recorded. The price of nickel, which, from 1895 to 1898, ranged from 33 to 36 cents per lb. was quoted in the New York market throughout the year 1901, at from 50 to 60 cents per lb. The better prices and increased demand has stimulated production at the Sudbury mines. The output in 1901 was 4,595 tons of nickel as compared with 2,872 tons in 1899 and 1,998 tons in 1897.

Iron Ore :—Owing to the exploitation of the large deposit of ore of the Helen mine at Michipicoten, in Ontario, a considerable growth is evident in the country's production of this mineral. Part of the product goes to furnaces in Ontario, but the larger part is exported. Only the exports are credited in the table under this heading, the rest appearing under the item 'pig iron.' Adding to the exports the 156,613 tons of Canadian ore, &c., charged to Canadian furnaces, we arrive at a total production of 462,812 tons. In the returns of ore charged, however, a small proportion of mill cinder is included.

Pig Iron :—In the production of pig iron in Canadian furnaces an increase of over 184 per cent in quantity is recorded, while the estimated production from Canadian ore alone increased nearly 135 per cent. These increases are due in a large measure to the successful completion and operation of the furnaces of the Dominion Iron and Steel Company at Sydney, N.S. The Midland furnace of the Canada Iron Furnace Co. is also to be credited with a considerable portion of the increase, since they only commenced operations in the latter part of 1900. The various other furnaces continued operations on about the same scale.

Steel :—For obvious reasons the value of the steel product is not included in the general table. There was made, however, in steel furnaces in Canada during the year, 41,948 tons (of 2,000 lbs.) of steel ingots, &c., all of which was worked up into bars, &c. Work was continued on the steel rail plant at Sault Ste. Marie, and the manufacture of steel is said to have commenced during the present year (1902).

Cement :—The figures of production for cement represent the sales and shipments only. A large amount, some 70,000 barrels remained in stock, however, at the close of the year.