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Census and Statistics Office
Dept. Agriculture,
Ottawa, - Canada.

1906

Mineral Production of Canada

A. P. Low, B.Sc.

Deputy Head and Director.

SIR,—I have the honour to submit herewith the annual preliminary statement of the mineral production of Canada for 1906.

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 exploration, development, exports, etc.

Much of this information is not available till several months after the close of the year; the compilation and printing necessarily occupy some time; the Annual Report therefore cannot be completed till well on in the year following the one covered.

Acknowledgements are due the various Provincial Government Bureaus for assistance kindly rendered and to the various operators for promptitude in making returns.

The issue of this statement at an early date is due to the efforts of Mr. J. McLeish, Statistician to the Section, in collecting and compiling the data.

I have the honour to remain, Sir,

Your obedient servant,

ELFRIC DREW INGALL.

MINES SECTION, March 1, 1907.

STAFF OF THE MINES SECTION

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in charge.

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GEOLOGICAL SURVEY OF CANADA

A. P. LOW, B.Sc., Director and Deputy Head.

MINES SECTION

SUMMARY

OF THE

Mineral Production of Canada

FOR

1906.



OTTAWA

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

1907

No. 981

GEOLOGICAL SURVEY OF CANADA

SUMMARY OF THE MINERAL PRODUCTION OF CANADA IN 1906.

(Subject to Revision.)

Product.	Quantity. (a)	Value. (a)
METALLIC.		\$
Copper (b).....Lbs.	57,029,231	10,994,095
Gold, Yukon.....\$5,600,000		
“ all other.....6,423,932		
		12,023,932
Iron ore (exports).....Tons.	74,778	149,177
*Pig iron from Canadian ore.....“	104,660	1,724,400
Lead (c).....Lbs.	54,200,000	3,066,094
Nickel (d).....“	21,490,955	8,948,834
Silver (e).....Oz.	8,568,665	5,723,097
Cobalt, zinc and other metallic products.....		350,000
Total metallic.....		42,979,629
NON-METALLIC.		
Asbestos.....Short tons.	59,283	1,970,878
Asbestic.....“	20,127	17,230
Chromite.....“	8,750	92,100
Coal.....“	9,916,177	19,945,032
Peat (f).....“	250	750
Corundum.....“	2,274	204,973
Feldspar.....“	15,873	38,740
Graphite.....“	447	18,780
Grindstones.....“	5,545	61,624
Gypsum.....“	417,755	591,828
Limestone for flux in iron furnaces.....“	366,015	286,632
Manganese ore (exports).....“	93	925
Mica (exports).....“	913	581,919
Mineral pigments—		
Barytes.....“	4,000	12,000
Ochres.....“	6,837	36,955
Mineral water.....		100,000
Natural gas (g).....		528,868
Petroleum (h).....Brls.	569,753	761,760
Pyrites.....Tons.	39,611	157,438
Salt.....“	76,387	327,150
Talc.....“	1,234	3,030

* The total production of pig iron in Canada in 1906, from Canadian and imported ores amounted to 598,411 short tons, valued at \$7,823,020, of which it is estimated 104,660 tons, valued at \$1,724,400 should be attributed to Canadian ore, and 493,751 tons, valued at \$6,098,620, to the ore imported.

SUMMARY OF THE MINERAL PRODUCTION OF CANADA
IN 1906—*Concluded.*

(Subject to Revision.)

Product.	Quantity. (a)	Value. (a)
STRUCTURAL MATERIALS AND CLAY PRODUCTS.		\$
Cement, natural rock	Brls. 8,610	6,052
" Portland	" 2,139,164	3,164,807
Sands and gravels (exports)	Tons 256,550	139,712
Sewer pipe		446,790
Slate		24,446
Building material, including bricks, building stone lime, etc.		7,200,000
Total structural materials and clay products		10,981,807
Total all other non-metallic		25,738,612
Total non-metallic		36,720,419
Total metallic		42,979,629
Estimated value of mineral products not returned		300,000
Total, 1906		80,000,048
1905, Total		69,525,170
1904 "		60,073,897
1903 "		61,740,513
1902 "		63,211,634
1901 "		65,804,611
1900 "		64,420,983
1899 "		49,234,005
1898 "		38,412,431
1897 "		28,485,023
1896 "		22,474,256
1895 "		20,505,917
1894 "		19,931,158
1893 "		20,035,082
1892 "		16,623,417
1891 "		18,976,616
1890 "		16,763,353
1889 "		14,013,113
1888 "		12,518,894
1887 "		11,321,331
1886 "		10,221,255

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

(b.) Copper contents of ore, matte, &c., at 19.278 cents per lb.

(c.) Lead contents of ore, &c., at 5.657 cents per lb.

(d.) Nickel contents of ore, matte, &c., at 41.64 cents per lb.

(e.) Silver contents of ore at 66.791 cents per oz.

(f.) Additional returns place the output at 479 tons, valued at \$1,422.

(g.) Gross return from sale of gas.

(h.) Deducted from the amount paid in bounties and valued at \$1.337 per barrel.

REMARKS.

The total value of the mineral production in Canada in 1906, as detailed in the foregoing table, was \$80,000,048, as compared with \$69,525,170 in 1905, an increase of \$10,474,878, or over 15 per cent. The statistics show a very healthy condition of growth throughout the mineral industries of Canada. Increases are shown in nearly every item, the only exceptions of importance being gold and petroleum. The decrease in the former is due to the continued falling off in the output of the Yukon placers which reached a maximum production in 1900, while for petroleum the decreased output probably indicates a tendency towards the working out of some of the older fields.

On the other hand specially large increases are shown in the output of silver, nickel, copper and Portland cement, while amongst the other mineral products, both metallic and non-metallic, considerable and general increases in quantities are shown and the total valuations of these are enhanced as well, particularly in the metals, by the higher prices realized in 1906 as compared with 1905.

The following table shows the principal increases and decreases in values:

Product.	Increase.	Decrease.
	\$	\$
Copper	3,496,435	
Gold, Yukon		2,727,200
" all other	140,737	
Pig Iron (from Canadian ore)	692,284	
Lead	389,462	
Nickel	1,398,308	
Silver	2,105,422	
Other Metallic Products	83,977	
Asbestos	484,849	
Chromite		1,201
Coal	2,424,769	
Corundum	55,820	
Gypsum	5,660	
Natural Gas	149,307	
Petroleum		94,268
Natural Cement		4,222
Portland Cement	1,251,067	
Other Net Increases	623,672	
	13,301,769	2,826,891
Total increase	10,474,878	

The mineral products which have shown the greatest growth in output in 1906 are as follows in order of their importance: Portland cement, pig iron from Canadian ore, silver, corundum, etc.

The following table shows the percentage of increase or decrease of the more important products constituting over 90 per cent. of the total production:

Product.	Quantity.		Value.	
	Increase.	Decrease.	Increase.	Decrease.
	%	%	%	%
Metallic—				
Copper.....	18.58		46.63	
Gold.....		17.70		17.70
Pig iron (from Canadian ore only) ...	53.50		67.07	
Pig iron (from both home and imported ores).....	13.91		20.81	
Lead.....		4.68	14.54	
Nickel.....	13.85		18.52	
Silver.....	42.95		58.20	
Non-metallic—				
Asbestos and asbestic.....	16.33		32.25	
Coal.....	14.40		13.83	
Corundum.....	38.32		37.42	
Feldspar.....	35.66		65.55	
Gypsum.....		5.52	.96	
Petroleum.....		10.14		11.01
Portland cement.....	58.86		65.37	

The study of the figures of the proportional growth or decline of the various leading industries as compared with 1905 will show to what extent the increases or decreases in value exhibited in the previous table were due to the higher prices ruling in many cases. It will be noticed that in nearly every case the effects of increased output were much enhanced by the much higher prices ruling for the product and that in more than one case the effect of an actual decrease in quantity was reversed for this cause.

The following table is intended to convey an idea of the relative importance of the various industries as contributors to the total mineral output of the country. There is but little difference in the relative importance of the various mineral products in 1906 as compared with 1905. It will be seen also that the metallic minerals, together with coal, account for about 80 per cent. of the total output.

1905.		1906.	
Products.	—	Products.	—
1. Coal.....	25.20	1. Coal.....	24.93
2. Gold.....	21.01	2. Gold.....	15.03
3. Nickel.....	10.86	3. Copper.....	13.74
4. Copper.....	10.78	4. Nickel.....	11.19
5. Bricks, Stone, Lime.....	9.37	5. Brick, Stone, Lime.....	8.00
6. Silver.....	5.20	6. Silver.....	7.15
7. Lead.....	3.85	7. Cement.....	3.96
8. Cement.....	2.75	8. Lead.....	3.83
9. Asbestos.....	2.16	9. Asbestos.....	2.49
10. Iron and iron ore (Canadian).....	1.74	10. Pig Iron (from Canadian Ore).....	2.16
11. Petroleum.....	1.23	11. Petroleum.....	.95
12. Gypsum.....	.84	12. Gypsum.....	.74

Gold. The total output of gold as estimated shows a falling off of over two and a half million dollars or nearly 18%. This is due mainly to the continued shrinkage in the shipments from the Yukon, which district fell short of its last year's output by about \$2,750,000. British Columbia showed an increase. For the rest of Canada, which, however, contributed only about 2.5% to the total, the figures as far as at present available, show practically a stationary condition of affairs.

All the gold production of the Yukon and about 15% of that from British Columbia is obtained from placer deposits, the whole from this source amounting to 77%. The remaining 23% represents the gold contents of the sulphuret and quartz ores worked in British Columbia and in Eastern Canada. The placers as a source of the metal have for some years showed a continuous falling off, which, however, is more than neutralized by expansion in the lode mining branch of the industry. Recent consolidations and the inauguration of extensive enterprises for working the poorer gravels, which, however, exist in large quantities in the Yukon Territory and in British Columbia, are likely in a few years to produce marked results in this line.

Silver. In 1906, Ontario, British Columbia, Yukon Territory and Quebec contributed to make up the total production of silver which reached 8,568,665 oz., valued at \$5,723,097. This is an increase, in quantity, of 2,574,373 oz., or 42.95% over the previous year. The average yearly price of the metal on the New York market was 66.791c. per oz. for 1906, as compared with 60.352c. in 1905. This brings up the increase in value of the Canadian production in 1906 over that for 1905, to 58.20%.

Ontario has assumed first place in Canada as a silver producing

province, owing to the rapid development of the Cobalt camp, which has attracted the attention of the whole mining world. As is well known, the silver occurs mostly in the metallic condition associated with numerous other minerals, the most prominent of which are cobalt and arsenic. The veins are narrow, but the ore is exceedingly rich. Some shipments are reported to have returned \$100,000 per car load.

The figures of silver in the ores shipped from Cobalt, Ont., adopted in this report have received corroboration from data kindly furnished by Mr. T. W. Gibson, Deputy Minister of the Ontario Department of Mines, who puts the figure at five and a half million ounces of the metal, when complete returns shall be available. This closely agrees with our own estimate of 5,485,000 ozs., which taken at the market price of the metal would give a value of \$3,663,486.

British Columbia, on the other hand, shows a slight decrease in 1906 as compared with 1905, owing to the output of the Slocan district falling off much below expectations; this was offset to a great extent by an increased production from the St. Eugene and the Sullivan mine in the East Kootenay. The falling off of the Slocan, however, is only temporary, and there is every indication of a resumption of activity, more especially if the expected developments take place in the zinc industry. This would permit of mining the large bodies of zinc-lead ores, which are, as a rule appreciably argentiferous.

Copper. Stimulated by the enhanced price of the metal the production shows a very large increase in quantity, which expansion, together with the higher values obtained is shown in the increase of nearly three and a half million dollars, or nearly 47%.

British Columbia and Ontario are as formerly the two main contributors, the former supplying about 79%, the latter about 18.5%.

The average New York prices for the metal for the years 1905 and 1906 were 15.59c. and 19.278c. per pound or a rise of over 23%.

In British Columbia the mines of the Boundary camp are estimated to have contributed about three-quarters of the output of the province; Rossland being the second in importance with the mines operated along the Pacific coast making up the balance. The rest of the Dominion output is represented by the copper contents of the nickel-copper mattes shipped from the Sudbury mines, with a small contribution from Quebec, representing the copper contents of the pyrites ores shipped from the mines of the Eastern Townships district. Throughout the whole country the much higher prices ruling for this metal have stimulated the search for new deposits, and the re-opening of old mines, some of which can be expected to contribute to next year's production.

Cobalt. The production of this metal is represented by the amounts contained in the shipments of ore made from the camp of that name in Northern Ontario. It is stated by some operators that in selling the ores value has been received for the cobalt contents; whilst others have claimed to get no return for this metal. As processes of treatment for these complex ores are perfected, however, it is hoped that this unsatisfactory state of affairs will be remedied.

Nickel. The production of nickel from the ores of the Sudbury district in Ontario has made a very rapid growth during the past two years, the output in 1906 being over twice that of 1904. The ore is smelted at Copper Cliff and Victoria Mines to a matte carrying from 78 to 80% of the combined metals, copper and nickel. The resulting matte is shipped to the United States and Great Britain for refining.

The following were the aggregate results of operations on the nickel-copper deposits of Ontario in 1906:

	Tons of 2,000 lbs.
Ore mined	343,814
Ore smelted	340,059
Matte produced	20,364
Matte shipped	20,310
Copper contents of matte shipped	5,264.6
Nickel contents of matte shipped	10,745
Spot value of matte shipped	\$4,629,011

According to customs returns, exports of nickel in matte, etc., were for twelve months ending December 31, as follows:

	Pounds.
To Great Britain	2,716,892
To United States	21,252,444
Total	23,969,336

The price of refined nickel, according to the *Engineering and Mining Journal*, of New York, remained fairly steady from the first of January to the 8th of September, quotations for large lots, New York delivery, being from 40 to 45c. per pound. From September 8th to the end of the year quotations were from 45 to 50c. per pound according to size and condition of order, while for small quantities prices were from 50 to 65c. per pound.

Although nickel is one of the minor constituents of the rich silver ores of the Cobalt district, the buyers of these ores have made no allowance for the nickel contents, and statistics of its output have not been obtained.

Lead. The figures of production of lead show a slight decrease in tonnage this year as compared with 1905; but owing to an increase of 20% in the average yearly price of this metal on the New York market the value is very sensibly greater. The total quantity produced in 1906 was 54,200,000 lbs., valued at \$3,066,094, whereas in 1905 a quantity of 56,580,703 lbs. was recorded valued at \$2,676,632.

The average yearly price of lead in the New York market for 1906 was 5.657c. per lb., as compared with 4.309c. for the previous year.

About 95% of the above figure of production is to be credited to British Columbia, the great bulk being derived from the East Kootenay district. However, when arrangements are completed which will permit of mining the bodies of zinc-lead ores of the Slocan district there is no doubt that a much larger production will be recorded.

Zinc. Throughout the year great hopes were entertained that the problem of utilization of the zinc ores of British Columbia was drawing very near to a solution. The Federal Government had appointed a commission to study the question of the sources and of the market for these ores, and a large zinc smelter was being erected at Frank, Alta., through the enterprise of a group of French capitalists. The conclusion of the commission was that a satisfactory supply of zinc ores could probably be obtained in the Kootenays. The Frank smelter was put in operation and several tons of spelter were turned out from ores derived mainly from the Slocan district, but owing to defective apparatus the plant will require extensive and costly alterations before it can be run on a remunerative basis.

Iron. The total production of pig-iron in Canada in 1906 from both Canadian and imported ore amounted to 598,411 short tons, as compared with 525,306 tons in 1905, or an increase of over 13% in quantity. This production represents the output of nine companies operating fifteen blast furnaces. Of these furnaces, three use charcoal as fuel, and twelve are run on coke.

The ore charged into the blast furnaces totalled 1,204,473 short tons, of which 221,733 tons were Canadian ore, and the balance, or 982,740 tons, was imported. The production of pig iron attributable to Canadian ore amounted to 104,660 tons, which is a marked increase over the previous year, when the production amounted to only 68,170 tons.

Besides the above quantity of Canadian iron ore charged into the furnaces, 74,778 tons were exported, which brings the total of iron ore produced in Canada in 1906 to 296,511 tons. This is only a slight increase over 1905, but the interest which seemingly was taken in our Canadian iron ore deposits in 1906, presages a great improvement, in a near future, in this industry; there is apparently no reason why the mining of iron ore in Canada should not take a much greater development than it has in the past.

Asbestos. The production of asbestos from the Eastern Townships of the Province of Quebec, divided into crude and mill stock, was as follows:

	Tons.	Value.
Crude	3,793	\$626,895
Mill stock	55,490	1,343,983
		<hr/>
Total asbestos	59,283	1,970,878
Asbestic	20,127	17,230
		<hr/>
Total products	79,410	\$1,988,108

Exports of asbestos, according to customs returns were 59,864 tons valued at \$1,689,257.

The special features of interest regarding the asbestos mining industry during the year have been a general increase in output, a marked improvement in plant and machinery in some of the older mines, the opening up of new and promising properties, and a tendency toward the consolidation of a number of mines formerly separately owned, under one management and ownership.

Coal and Coke. The Provinces of Nova Scotia, British Columbia, Alberta, Saskatchewan, New Brunswick and the Yukon Territory contributed to the total coal production, their relative outputs being in the order named. Nova Scotia figures in the coal returns for more than 60% of the whole Canadian production, and British Columbia for slightly over 20%. As far as the figures now available will permit us to compare, the output for 1906 shows an increase of 1,248,229 tons over 1905.

The coal output is growing steadily and for the past twelve years each year has shown an increase over the preceding one. The salient feature of the Canadian coal industry in 1906 is the great development which coal mining has assumed in the western provinces, more particularly in Alberta. In this last province there were in 1901 only two mines which produced over 100,000 tons each per year. In 1906 not less than six collieries had an actual production greater than this figure; and several others, whose output did not quite reach the 100,000 mark are equipped to easily handle this amount.

In Nova Scotia and in British Columbia the increases of the past few years have been due mainly to the development of comparatively old established collieries.

An appreciable proportion of the coal of both eastern and western provinces was converted into coke for metallurgical purposes. At the end of the year there were about 800 coke ovens in operation in Nova Scotia, and somewhat over 1,000 in Alberta and British Columbia.

The main features of the coal industry in 1906, as well as special notes on new discoveries both in the east and in the west, have been published in the Summary Report of the Geological Survey of Canada for 1906. (See Summary Report, page 192).

Petroleum and Natural Gas. The production of petroleum is practically all derived from the Ontario peninsula, the only exception being a very small quantity obtained in New Brunswick in the Memramcook field. Besides the old established fields of Lambton and Kent counties, some new oil-pools were brought in in 1906, the main ones being those of Merlin in Tilbury Township and of Moore Township.

In the western provinces there has been great activity displayed in search for petroleum and natural gas; large sums have been spent in boring operations both in Alberta and Saskatchewan, but so far we have no production to record from these.

The figures of production of natural gas show a substantial increase over those of 1905, resulting mainly from the development of new gas-pools by the Dominion Natural Gas Company, in Brant, Haldimand and Norfolk counties. This company and the Provincial Natural Gas and Fuel Company are now the largest Canadian producers. The Medicine Hat field, in Alberta, has also produced very satisfactorily, and shows no perceptible sign of diminution.

Cement. The total quantity of Portland Cement made in Canada in 1906 was 2,152,562 barrels, as compared with 1,541,568 barrels in 1905, an increase of 610,994 barrels, or 39.6%. The total sales of Portland cement were 2,119,764 barrels, as compared with 1,346,548 barrels in 1905, an increase of 773,216 barrels or 57.4%. Additional details will be found tabulated below.

Fifteen companies were operating plants during 1906, with a total daily capacity of about 10,500 barrels, viz.: one in Nova Scotia, two in Quebec, eleven in Ontario, and one in British Columbia. At least four plants were under construction during the year of which the total initial daily capacity will be about 4,700 barrels.

Detailed statistics of production in 1905 and 1906 are as follows.

	1905.	1906.
	Bbbs.	Bbbs.
Portland cement sold	1,346,548	2,119,764
Portland cement manufactured	1,541,568	2,152,562
Stock on hand 1st January	111,446	269,558*
Stock on hand 31st December	306,466*	302,356
Value of cement sold	\$1,913,740	\$3,164,807

*Note.—Some companies do not take stock at the end of the calendar year, consequently their estimates of stock on hand do not always agree from year to year.

The average price per barrel at the works in 1906 was \$1.49, as compared with \$1.42 in 1905.

The imports of Portland cement into Canada in 1906 were:

	Quantity.	Value.
Six months ending June	cwt. 945,187	\$319,021
Six months ending December	" 1,485,573	459,685
The year 1906	" 2,430,760	\$778,706

This is equivalent to 694,503 barrels of 350 pounds each, at an average price per barrel of \$1.12. The duty is 12½c per hundred pounds.

The imports in 1905 were equivalent to 917,558 barrels, valued at \$1,138,548, or an average price per barrel of \$1.24.

There is very little cement exported from Canada. The consumption is therefore practically represented by the Canadian sales, together with the imports.

Following is an estimate of the consumption of Portland cement in Canada for the past six years:

Year.	Canadian. Bbls.	Imported. Bbls.	Total. Bbls.
1901	317,060	555,906	872,966
1902	594,594	544,954	1,139,548
1903	627,741	773,678	1,401,419
1904	910,358	784,630	1,694,988
1905	1,346,548	917,558	2,264,106
1906	2,119,764	694,503	2,814,267

GEOLOGICAL SURVEY OF CANADA.

SECTION OF MINERAL STATISTICS AND MINES.

Mineral Production of Canada, Calendar Years 1886 to 1896

PRODUCTS.	1886.		1887.		1888.		1889.		1890.		1891.		1892.		1893.		1894.		1895.		1896.		PRODUCTS.		
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.			
METALLIC.																									
		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$			
Antimony ore.....	Tons.	665	31,490	584	10,860	345	3,696	55	1,100	26½	625	10	60	818,580	871,809	7,737,016	739,659	8,789,162	945,714	9,393,012	1,021,960	Antimony ore.....			
Copper (c).....	Lbs.	3,505,000	385,550	3,260,424	366,798	5,562,864	927,107	6,809,752	936,341	6,013,671	947,153	8,928,921	1,149,598	7,087,275	818,580	8,109,856	871,809	7,737,016	739,659	8,789,162	945,714	9,393,012	Copper.....		
Gold (d).....	Oz.	66,061	1,365,496	59,884	1,237,804	53,150	1,098,610	62,658	1,295,159	55,625	1,149,776	45,022	930,614	43,908	907,601	47,247	976,603	54,605	1,128,688	92,485	1,911,676	134,498	2,780,086	Gold.....	
Iron ore (a).....	Tons.	69,708	126,982	76,330	146,197	78,587	152,068	84,181	151,640	76,511	155,380	68,979	142,005	103,248	263,866	125,602	299,368	109,991	226,611	102,797	238,070	91,906	191,557	Iron ore.....	
Lead (e).....	Lbs.			204,800	9,216	674,500	29,813	165,100	6,488	165,000	4,704	88,665	3,857	808,420	33,064	2,135,023	79,636	5,703,222	187,636	16,461,794	531,716	24,199,977	721,159	Lead.....	
Mercury.....	"																							Mercury.....	
Nickel (f).....	"							(h) 830,477	498,286	1,435,742	933,232	4,626,627	2,775,976	2,413,717	1,399,956	3,982,982	2,071,151	4,907,430	1,870,958	3,888,525	1,369,984	3,397,113	1,188,990	Nickel.....	
Platinum.....	Oz.			1,400	5,600	1,500	6,000	1,000	3,500		4,500		10,000		3,500		1,800		950		3,800		750	Platinum.....	
Silver.....	"	*210,141	*209,090	349,330	341,645	395,377	371,654	383,318	358,785	400,687	419,118	414,523	409,549	310,651	272,130	422,158	330,128	847,697	534,049	1,775,683	1,159,166	3,205,343	2,149,503	Silver.....	
Total value, Metallic.....			*2,118,608		2,118,120		2,588,948		3,251,299		3,614,488		5,421,659		3,698,697		4,630,495		4,688,551		6,153,469		8,055,945		
NON-METALLIC.																									
		(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)			
Asbestos (white).....	Tons.	120	5,460	30	1,200	+30	+1,200		25	1,500	20	1,000					7	420						Asbestos.....	
Asbestos.....	"	3,458	206,251	4,619	226,976	4,404	255,007	6,113	426,554	9,860	1,260,240	9,279	999,878	6,082	390,462		6,331	310,156	7,630	420,825	8,756	368,175	12,250	429,856	Asbestos.....
Chromite.....	"	*60	*945	38	570													1,000	20,000		3,177	41,300	2,342	27,004	Chromite.....
Coal.....	"	*2,116,653	*3,739,840	2,429,330	4,388,206	2,602,552	4,674,140	2,658,303	4,894,287	3,084,682	5,676,247	3,577,749	7,019,425	3,287,745	6,363,757	3,783,499	7,359,080	3,847,070	7,429,468	3,478,344	6,739,153	3,745,716	7,226,462	Coal.....	
Coke (g).....	"	*35,396	*101,940	40,428	135,951	45,373	134,181	54,539	155,043	56,450	166,298	57,084	175,592	56,135	160,249	61,078	161,790	58,044	148,551	53,356	143,047	49,619	110,257	110,257	Coke.....
Felspar.....	"									700	3,500			685	3,425	175	525		4,525						Felspar.....
Fire clay.....	"		(h)	(h)	(h)	(h)	(h)	*400	*4,800		250	750	1,991	4,467	1,991	4,467	539	2,167	1,329	3,492	842	1,805	1,805	1,805	Fire clay.....
Graphite.....	"	500	4,000	300	2,400	150	1,200	242	3,160	175	5,200	260	1,560	167	3,763		69	223	69	223	220	139	9,455	9,455	Graphite.....
Grindstones.....	"	*4,000	*46,545	5,292	64,008	5,764	51,129	3,404	30,863	4,884	42,340	4,479	42,587	5,283	51,187	4,600	38,379	3,757	32,717	3,475	31,932	3,713	33,310	33,310	Grindstones.....
Gypsum.....	"	162,000	178,742	154,008	157,277	175,887	179,393	213,273	205,108	226,509	194,033	203,605	206,251	241,048	241,127	192,568	196,150	223,631	202,031	226,178	202,608	297,032	178,061	178,061	Gypsum.....
Limestone for flux.....	"		(h)	*17,171	*17,500	16,857	16,533	22,122	21,909	18,478	18,361	11,376	22,967	21,492	27,797	27,519	35,101	34,347	34,579	32,916	37,462	36,140	36,140	36,140	Limestone.....
Lithographic stone.....	"																								Lithographic stone.....
Manganese ore.....	"	1,789	41,499	1,245	43,658	1,801	47,944	1,455	32,737	1,328	32,550	255	6,694	115	10,250		213	14,578		74	30,000				Manganese ore.....
Mica.....	Lbs.	*20,361	*20,008	22,083	29,816	29,025	30,207		28,718	770,959	68,074		71,510		104,745			75,719		45,581		60,000			Mica.....
Mineral pigments—																									
Baryta.....	Tons.	3,864	19,270	400	2,400	1,100	3,850		1,842	7,543			315	1,260			1,081	2,830				145	715	715	Baryta.....
Ochres.....	"	*350	*2,350	485	3,733	397	7,900	794	15,280	275	5,125	900	17,750	390	5,800		1,070	17,710	611	8,690	1,339	14,600	2,362	16,045	Ochres.....
Mineral waters.....	Galls.		(h)	(h)	(h)	*124,870	*11,456	424,600	37,360	561,165	66,031	427,485	54,268	640,380	75,348	725,096	108,347	767,460	110,040	739,382	126,048	706,372	111,736	111,736	Mineral waters.....
Molybdenite.....	Lbs.	*150	*156																						Molybdenite.....
Moulding sand.....	Tons.		(h)	*160	*800	169	845	170	850	320	1,410	230	1,000	345	1,380	4,370	9,086	6,214	12,428	6,765	13,530	5,739	11,478	11,478	Moulding sand.....
Natural gas.....	Brls.	584,061	525,655	713,728	556,708	695,203	713,695	704,690	653,600	795,030	902,734	755,298	1,010,211	779,753	984,438	798,406	874,255	829,104	835,322	726,138	1,086,738	726,822	1,155,647	1,155,647	Natural gas.....
Phosphate (apatite).....	Tons.	20,495	304,338	23,690	319,815	22,485	242,285	30,988	316,662	31,753	361,045	23,588	241,003	11,932	157,424	8,198	70,942	6,861	4						

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