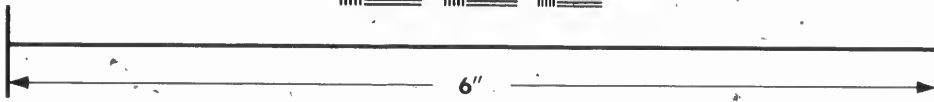
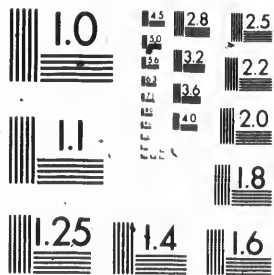
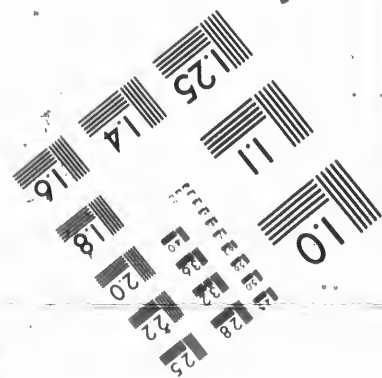
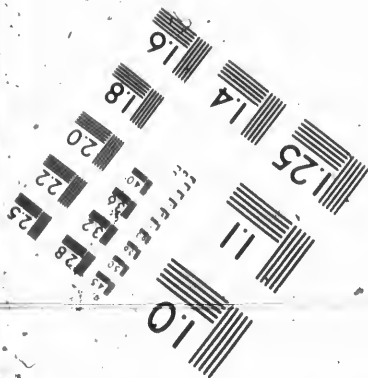


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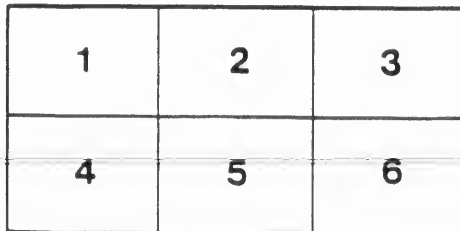
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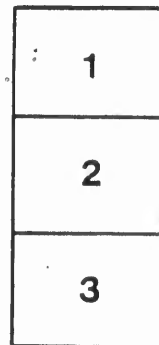
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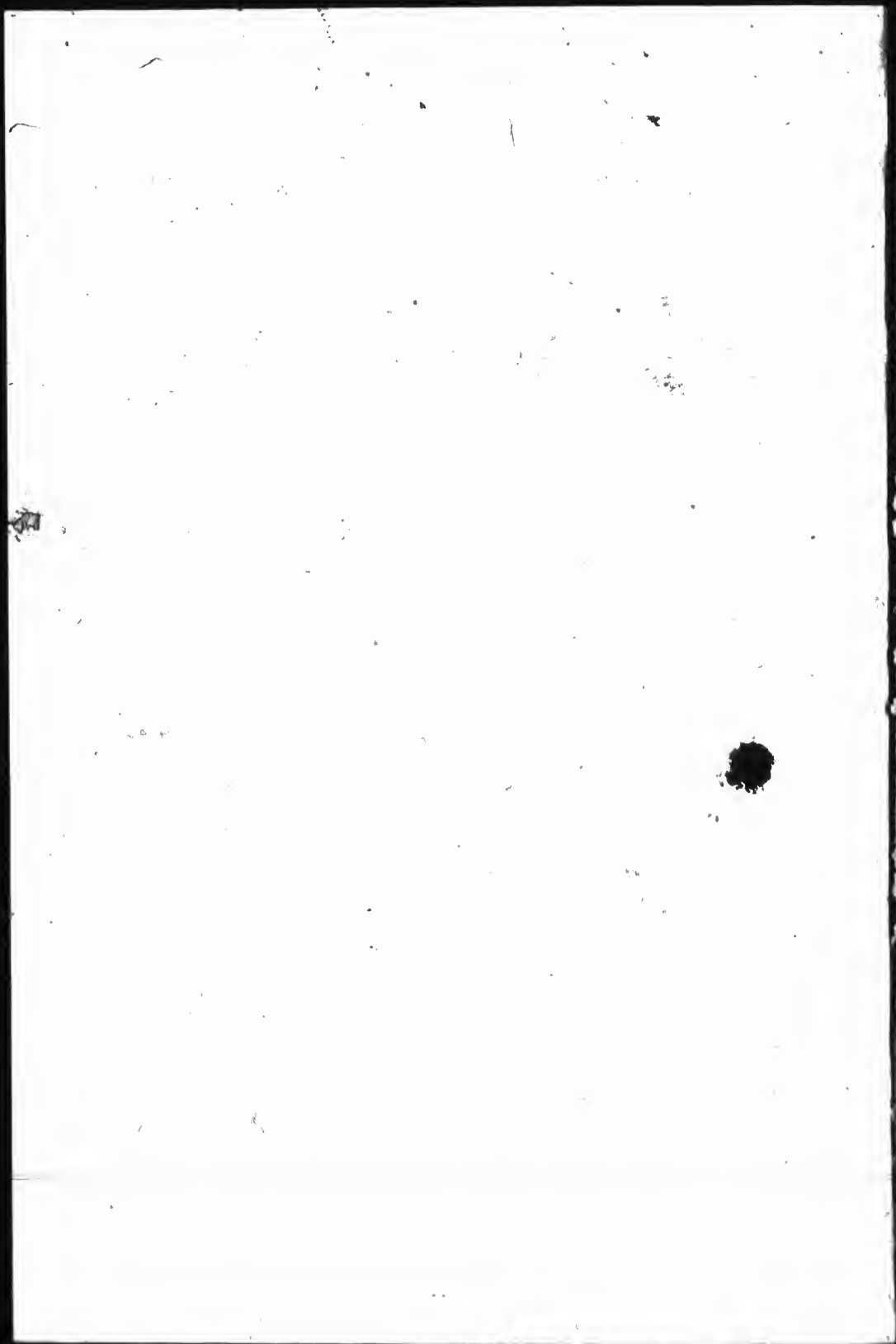
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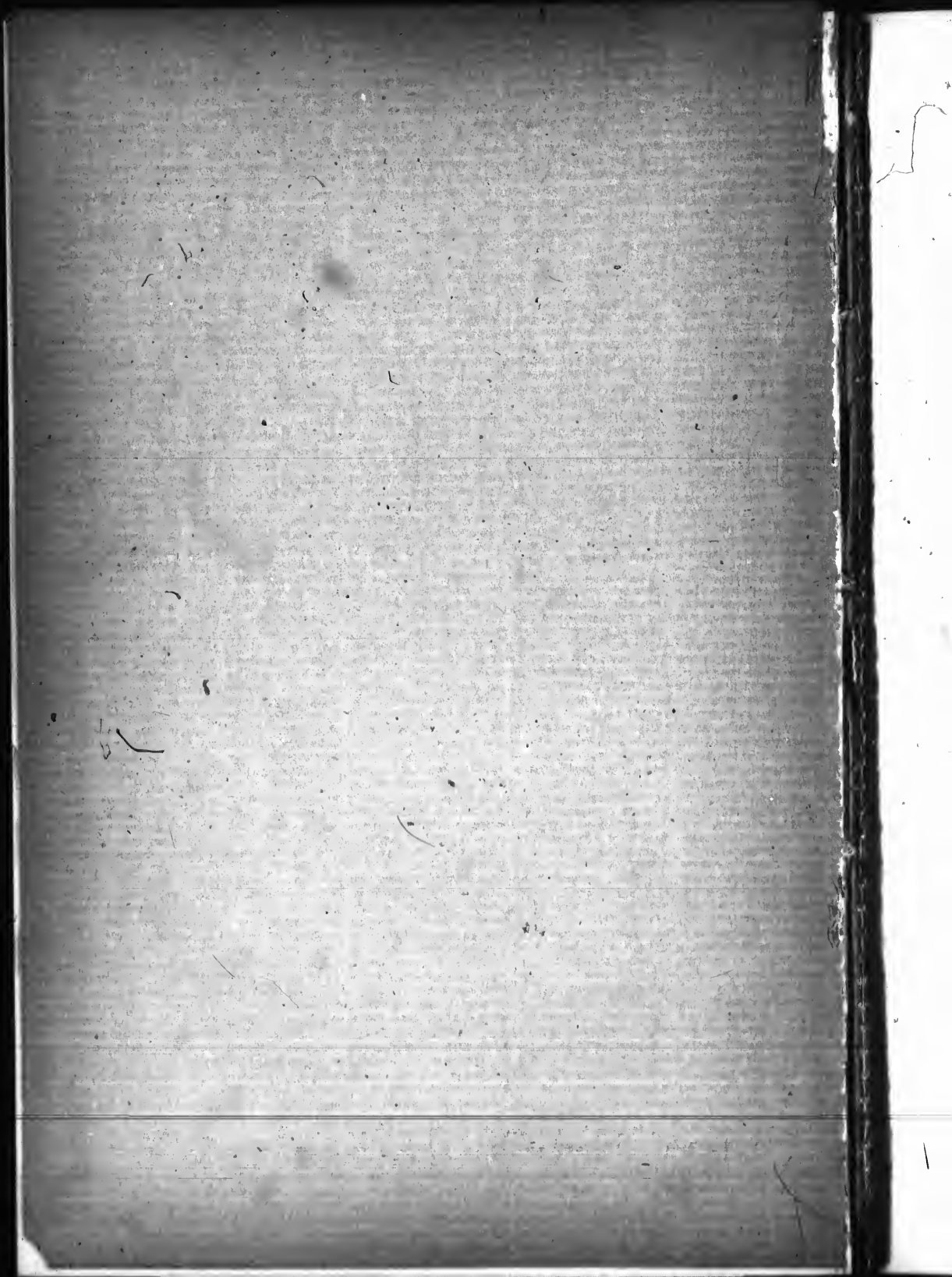
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MINERAL PRODUCTION OF CANADA

Years 1886 to 1896.

No. 683.



GEOLOGICAL SURVEY OF CANADA

G. M. DAWSON, C.M.G., LL.D., F.R.S., DIRECTOR.

SECTION OF
MINERAL STATISTICS AND MINES

SUMMARY

OF THE

MINERAL PRODUCTION OF CANADA

FROM

1886 to 1896

ELFRIC DREW INGALL, M.E.,

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

ASSISTANT

A. A. COLE, M.A., B.A.Sc.



OTTAWA
GOVERNMENT PRINTING BUREAU
1897

To DR. G. M. DAWSON, C.M.G., F.R.S., ETC.,
DIRECTOR OF THE GEOLOGICAL SURVEY.

SIR,—I have the honour herewith to submit a tabulated statement of the Mineral Production of Canada for the past eleven years. A similar statement has been previously issued for each of the years dealt with, first in pamphlet form, and subsequently, after revision, as part of the Annual Report of this section. These latter, having been revised according to the latest information available and brought to a uniform basis of presentment are now compiled to form a comparative statement illustrating the progress of the mineral industries of Canada from 1886 to 1896 inclusive.

I am, sir,

Your obedient servant,

ELFRIC DREW INGALL,

In charge of Section.

GEOLOGICAL SURVEY OF CANADA,
(Section of Mineral Statistics and Mines),
26th June, 1897.

INTRODUCTION.

In examining the attached table of the Mineral Production of Canada for the past eleven years, the following important features relating to Canada's mineral development will be noticed.

In 1886 the total mineral production of the country as per direct returns, supplemented by close estimates where complete returns could not be obtained, was valued at a little over ten million dollars. In 1896 the value of Canada's mineral production had increased 125 per cent or to over twenty-two and a half million dollars. Taking the data given for the United States in the volume of, the "Mineral Industry," issued by the Engineering and Mining Journal of New York, we find that in a similar period the increase has been only in the neighbourhood of 40 per cent. The mineral production of the United States, however, is of course vastly greater than that of Canada, the latter amounting in 1896 to but $3\frac{1}{2}$ per cent of the former. The relative per capita production of minerals for the two countries is as follows, viz., for Canada about \$4.50 and for the United States about \$8. The rapid growth noted above is, however, a most encouraging feature and the present outlook for mineral discovery and development in Canada would seem to promise a rapid rate of increase for many years to come. The main part of this increase must of course be in those minerals which permit of being exported and sold in foreign markets, as the home market must necessarily be limited and grow slowly in a country with so small a population, and where even that small number of people are scattered over so large an extent of territory. This necessarily influences in an important way the question of distribution, enhancing considerably the cost of carriage from producer to consumer, and even rendering many of our deposits of the lower priced minerals unworkable at a profit at present. Great improvements have been made in this respect of late years and others are contemplated in the near future which will bring some of our most promising mineral districts within economically reachable distance of extensive markets and help considerably towards the expected general growth of the industry.

It is interesting to note the proportions contributed by the various minerals towards the grand total, and their arrangement according to their importance as in the following table brings out some interesting points.

MINERAL PRODUCTION OF CANADA, 1896.

Proportionate Value of different Mineral Products.

Product.	Contributing over 10 p.c.	Contributing between 5 and 10 p.c.	Contributing between 1 and 5 p.c.	Contributing under 1 p.c.	Total.
Coal.....	31.94				
Gold.....	12.30				
Silver.....		9.50			
Bricks (estimated).....		7.10			
Nickel.....		5.25			
Petroleum.....		5.11			
Copper.....			4.52		
Building stone (estimated).....			4.43		
Lead.....			3.20		
Lime (estimated).....			2.88		
Asbestos.....			1.90		
Salt.....			1.53		
Natural gas.....			1.22		
Gypsum.....				0.76	
Iron.....				0.65	
Sundry under 1 p.c.....				7.74	
Totals.....	44.24	26.96	19.65	9.15	100.00

From the above it will be seen that, in the year under consideration, coal is to be credited with almost a third while gold comes second at about 12 per cent. In the five to ten per cent class come silver, bricks, nickel and petroleum; whilst in the one to five per cent class we find copper, building stone, lead, lime, asbestos, salt and natural gas in the order named. Gypsum and iron contribute less than one per cent. Over 90 per cent of the total is thus accounted for under the above fifteen headings out of a total number of fifty-four minerals mentioned.

Taking the different classes of minerals we find that the metallic group contributed 35.63 per cent; the miscellaneous non-metallic 44.12 per cent; the structural materials 19.14 per cent with an allowance of 1.11 per cent for estimated value of mineral products unreturned.

In studying a comparative statement such as the tabulation given, it must be remembered that the above percentages are of the gross values which vary from year to year, not only by reason of varying amounts produced, but also on account of the fluctuations in the price. This latter factor has affected some minerals more than others. The heavy drop in the price of silver, for instance, in the past few years, has very greatly affected its place in the scale, and copper, nickel and asbestos have also suffered heavily in this respect, as can be seen by comparison of 1896 with earlier years in the main table. In order to facilitate this use of the table the features of increase and decrease have been brought out by the use of differing type as explained in the foot notes.

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PRODUCTS.	1886		1887		1888		1889		1890		Quantity	Value
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.		
METALLIC.												
Antimony ore	Tons.	645	31,490	584	10,860	315	3,686	55	1,100	261	625	
Copper (a)	Lbs.	3,505,000	385,550	3,260,424	366,738	5,562,864	927,107	6,809,752	936,341	6,013,671	947,153	8,928,153
Gold (b)	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	67,578
Iron ore (a)	Tons.	69,708	126,982	76,330	146,197	78,587	152,068	84,181	151,610	76,511	155,380	85,885
Lead (c)	Lbs.			204,800	9,216	674,500	29,813	165,100	6,488	465,000	1,701	
Mercury								(b) 830,477	498,286	1,435,742	933,232	4,626,000
Nickel (d)				1,400	5,600	1,500	6,000	1,000	3,500		45,000	
Platinum	Oz.					395,377	371,654	383,318	358,785	400,687	419,118	414,000
Silver		210,141	209,090	349,330	341,645							
Total value, Metallic			2,118,608		2,118,120		2,588,948		3,251,299			3,614,488
NON-METALLIC.												
Arsenic (white)	Tons.		(a) 3,400	30	1,200	130	1,200		(a)	25	1,500	
Asbestos		3,458	206,251	4,619	226,976	4,404	255,007	6,113	426,554	9,860	1,260,240	
Chromite		90	945	38	570							
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	3,575,000
Coke (g)		35,396	101,940	40,428	135,951	45,373	131,181	54,539	155,043	56,450	166,298	3,500
Felspar								100	1,800	700	3,500	
Fire clay		500	4,000	300	2,400	150	1,200	242	3,160	175	5,200	
Graphite		4,000	16,545	5,292	64,008	5,764	51,129	3,404	30,963	4,894	42,340	
Grindstones		162,000	178,742	151,008	157,277	175,887	179,393	213,273	205,108	226,599	194,033	200,000
Gypsum				17,171	17,500	16,857	16,333	23,122	21,909	18,478	18,361	
Limestone for flux												
Lithographic stone		1,789	41,499	1,245	43,658	1,801	47,944	1,455	32,737	1,328	32,550	
Manganese ore		20,361	29,008	22,083	29,816	29,025	30,207	36,529	28,748	770,959	68,074	
Mica	Lbs.											
Mineral pigments—												
Barytes	Tons.	3,864	19,270	400	2,400	1,100	3,850			1,842	7,543	
Ochres	Galls	550	23,350	485	3,733	397	7,900	794	15,280	275	5,125	
Mineral waters	4bs.	150	150			121,870	11,456	424,600	37,360	561,165	66,031	
Molybdenite	Tons.			100	800	169	845	170	850	320	1,410	
Moulding sand												
Natural gas	Bels.	584,061	525,655	713,728	556,708	695,203	713,695	704,690	633,600	795,030	902,734	
Petroleum (h)	Tons.	20,495	304,338	23,690	313,815	22,485	242,285	30,988	316,662	31,753	361,045	
Phosphate (apatite)	Tons.			38,043	171,494	63,479	285,656	72,225	307,292	49,227	123,067	
Precious stones		42,906	193,077							200	1,000	
Pyrites	Tons.	62,359	227,195	60,173	166,394	30,070	185,460	32,832	129,547	43,754	198,857	
Quartz		50	100	100	800	140	280	195	1,170	917	1,239	
Salt												
Soapstone												
Structural minerals and clay products.												
Bricks	M.	139,345	873,600	181,581	986,689	165,818	1,036,746	200,561	1,273,884	211,727	1,266,982	
Building stone	Cu. yds.	165,777	642,509	262,592	552,267	411,570	641,712	341,337	913,691	382,563	964,783	
Cement, natural	Bels.			69,843	81,909	50,668	35,593	90,474	69,790	102,216	92,405	
Portland												
Flagstones	sq. ft.	70,000	7,875	116,000	11,600	64,800	6,580	14,000	1,400	17,865	1,643	
Granite	Tons.	6,062	63,309	21,217	142,506	21,352	147,350	10,197	79,624	13,307	63,983	
Lime	Tons.	1,535,950	283,755	2,269,087	394,859	2,216,764	339,951	2,948,249	362,848	2,501,079	412,308	
Marble	Tons.	501	9,900	212	6,224	191	3,108	83	98	780	10,776	
Miscellaneous clay products (i)			112,910		182,150				239,385		195,242	
Pottery												
Roofing cement	Tons.			180,860	30,307	260,923	38,398	283,044	52,647	342,158	65,518	
Sands and gravels (k)		121,865	24,226				266,320				318,000	
Sewer pipe	Tons.	5,345	64,673	7,357	89,000	5,314	90,689	6,935	119,160	6,368	100,250	
Slate	Tons.										90,000	
Terra cotta	M	12,416	112,617	14,658	230,068	7,548	111,057	10,526	134,265	10,521	140,877	
Tiles	Tons.											
Whiting	Bels.	400	400	400	400	400	240			500	500	
Total structural materials and clay products			2,225,376		2,707,579		2,798,001		3,247,674		3,761,271	
All other non-metallic			5,627,271		6,290,006		6,842,601		7,264,940		9,137,594	
Total value, non-metallic			7,852,647		8,997,585		9,640,602		10,512,614		12,898,868	
Estimated value of products unspecified or not reported (m)			250,000		250,000		250,000		250,000		250,000	
Grand total			10,221,255		11,365,705		12,479,550		14,013,913		16,763,353	

(a) Value at mine, quarry or works.

(b) Not reported.

(c) Copper contents of ore, matte, etc., at the average market price for the year.

(d) Ounces, fine, calculated at value of 820 67 per oz.

(e) Lead contents of ore, matte, etc., at average market price for year.

(f) Nickel

(g) Oven coke.

(h) Calculated from official price per barrel of 35 cu ft.

NOTE: The above figures represent the summary statements incorporated in the annually issued reports of the Section, those for the earlier years being corrected and revised to make the method of statement uniform. The differing type shows the increases, decreases, etc., as compared with the previous year, as follows: Heavy faced type, increase; ordinary type, decrease; ordinary type with 1, same as previous year.



