

DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
WASHINGTON

FOURTEENTH CENSUS OF THE UNITED STATES
MINES AND QUARRIES: 1919

MAINE, NEW HAMPSHIRE, VERMONT
MASSACHUSETTS, RHODE ISLAND
CONNECTICUT

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EXPLANATION OF TERMS.

Scope of census.—Census statistics of mines and quarries, and petroleum and natural-gas wells are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present data throwing light upon character of ownership, size of enterprises, and similar subjects. When use is made of the statistics for these purposes it is imperative that due attention be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census does not cover enterprises which were idle, that is, in which neither productive work nor development work was done during the entire year; or the products of which were valued at less than \$500; or in the case of the bituminous coal mining industry, producing less than 1,000 tons; or, if not productive, in which development work amounting to less than \$5,000 was done.

Period covered.—The returns relate to the calendar year 1919, or the business year which corresponded most nearly to that calendar year, and cover a year's operations, except for enterprises which began or discontinued business during the year.

The enterprise.—As used in the text and tables the term enterprise represents one or more mines and quarries, wells or groups of wells, or natural-gas gasoline plants all within the same State operated under a common ownership or unified control, or for which only one set of books of account was kept, and for which a single report was secured. It may cover plants at several localities within the same State. If plants under unified control were not all located within the same State, separate reports were secured in order that statistics for the several enterprises thus defined might be included in statistics for the States in which they were located. The enterprise is further defined as being limited to a single industry. Separate reports were secured with very few exceptions for each industry conducted by an operator, and only where combined reports on two or more industries could not be separated does a single enterprise cover more than one industry. (See "Classification of Industries.") The number of enterprises shown in the tables is equivalent to the number of individual reports tabulated.

Number of mines, quarries, wells, and plants.—Under these designations is given the count of the number of mines, quarries, wells, and gasoline plants shown by the returns received. The unit of enumeration for mines and quarries was difficult to define. As a rule each group of workings at a given locality in which operations were conducted as a unit or were unified by common management or joint handling of some part of the mining process, has been considered as a single mine or quarry. Many individual openings, therefore, are not counted as individual mines. The total number reported comprises those in operation or in the course of development during the year 1919. For petroleum and natural-gas wells the individual wells were counted and the total number productive December 31, 1919, is reported. The number of natural-gas gasoline plants is the total number reported in operation during the year.

Classification by industries.—The enterprises reported have been grouped by industries according to the kind of products. Only a few enterprises made consolidated reports covering more than one kind of product. In such cases classification was determined by the product of chief value.

Selected industries.—The general tables at the end of this bulletin give the principal facts separately for the industries of the State. A selection has been made of the leading industries of the State for more detailed consideration. Industries of greater importance than some of those selected are omitted when they comprise so few enterprises that detailed presentation would reveal the operations of individual concerns.

Influence of increased prices.—In comparing figures for cost of supplies and materials, and value of products, with the corresponding figures for earlier censuses, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures fail to afford an exact measure of the increase in the volume of business.

Persons engaged in the industry.—The following general classes of persons engaged in the mines and quarries and petroleum and natural-gas industries were distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) technical employees, (5) clerks (including other subordinate salaried employees), and (6) wage earners. In the reports for the census of 1909 the fourth class, technical employees, was not distinguished and was probably included with other salaried employees.

The number of persons engaged in each industry, segregated by occupation, sex, and, in the case of wage earners, also by age (whether under 16 or 16 and over), was reported for a single representative day. The 15th of December was selected as representing for most industries normal conditions of employment, but where this date was not a representative day report for another date was requested.

The number of employees other than wage earners thus reported for the representative date has been treated as equivalent to the average for the year, since the number of employees of this class does not ordinarily vary much from month to month. The average of wage earners has been obtained in the manner explained in the next paragraph.

In addition to the more detailed report by occupation, sex, and age of the number of wage earners on the representative date, a report was obtained of the number employed on the 15th of each month, without distinction of sex or age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported for the several months by 12. The importance of the industry as an employer of labor is believed to be more accurately measured by this average than by the number employed at any one time or on a given day.

The number of wage earners reported for the representative day is given in the table of detailed statistics for the industries, in connection with the classification of wage earners by occupation which was made for the representative day. This number is not used in any other way because, in view of the unavoidable variations of date, such a total is believed to be less significant than the average number. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give undue weight to seasonal industries as compared with industries in continuous operation.

Salaries and wages.—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, in different occupations, and of widely varying degrees of skill. Furthermore, so far as wage earners

are concerned, it would be impossible to calculate accurately even so simple an average as this, since the number of wage earners fluctuates rapidly and irregularly in every industry, and in some to a very great extent from day to day. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month and while representing the number according to the pay rolls to whom wages were paid on that date, no doubt represent a larger number than would be required to perform the work in any industry if all were continuously employed during the year.

Prevailing hours of labor.—No attempt was made to ascertain the number of wage earners working a given number of hours per week. The inquiry called merely for the prevailing practice followed in each enterprise. Occasional variations in hours in an establishment from one part of the year to another were disregarded, and no attention was paid to the fact that a few wage earners might have hours differing from those of the majority. All the wage earners of each enterprise are therefore counted in the class within which the enterprise itself falls. In most enterprises, however, practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

Capital.—The instructions on the schedule for securing data relating to capital were as follows: "The answer should show the total amount of capital, owned and borrowed, invested by the operator in the enterprise on the last day of the business year reported. Do not include securities and loans representing investments in other enterprises." These instructions were identical with those employed at the Census of 1909. The reports received in respect to capital, however, at both censuses, have in so many cases been defective that the data compiled are of value only as indicating very general conditions. While there are some enterprises maintaining accounting systems such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

Expenses.—The expenses reported in the Census of 1919 include salaries and wages; the cost of supplies, materials, and fuels, including the freight on these; cost of power purchased; the cost of contract work; royalties and rents paid; and taxes paid or assessed. The Census of 1909 reported in addition to the items of expenses covered by the present census all other items of expense incident to that year's business except interest on indebtedness, dividends, and allowances for depreciation.

Supplies and materials, fuel, and power.—Statistics as to supplies and materials, fuel, and power, relate to the cost of these used during the year which may be more or less than the amount purchased during the year. The term "supplies and materials" covers mine, mill, quarry, and well supplies, and mineral purchased for treatment, resale, or distribution.

Royalties and rents.—The amounts given under this head represent the payment to fee holders or the value of share of product credited to fee holders for mineral output from leased land and also rents paid for plants, equipment, and privileges or easements.

Taxes.—The taxes include Federal capital stock; corporation income, and excess profits tax; and also State, county, and local taxes. The data compiled in respect to Federal taxes are very defective largely for the reason that many mining corporations are engaged in other business and have sources of income other than from mining and do not pay taxes on mining separately. For many of these corporations no data have been obtained; for others satisfactory segregation of mining could not be made.

Expenditures for development work.—The expenses reported as defined above include costs of both productive operation and development work. In the statistics on producing enterprises that part of the expenses for salaries, wages, contract work, supplies and materials, fuel, and power which was credited by the mine operators to development work is shown as expenditures for development work. In the statistics for nonproducing enterprises the total of all these expenses is given as expenditure for development work.

Quantity of products.—In so far as the statistics on quantities of mineral products in 1919 are available for the States, they will be found in the reports of the United States Geological Survey, which has tabulated the statistics on quantities of products collected by the Bureau of the Census in cooperation with the Geological Survey, and will also be presented in the special reports of the Census on the several mining industries.

Value of products.—The amounts given under this heading represent the selling value at point of production or f. o. b. at point of shipment, or such other value as may represent the net value or amount received for the product made in 1919 under the terms by which it was disposed of, and also includes the value at point of production of products used by the operating company.

Cost of mining and profits.—The census data do not show the entire cost of mining and well operations, and consequently can not be used for the calculation of profits. No account has been taken of depreciation or interest; rent of offices and buildings other than mines, quarries, and wells; insurance, selling, and other sundry expenses.

Land controlled.—The inquiry on land tenure was confined to land pertaining to the mining or well operations covered by the report. In many of these, however, land held in reserve for future development and for speculative or other purposes not pertaining to mining was included in the returns, and also a large number of more or less unsatisfactory estimates were included. Nevertheless, it is believed that the data presented reflect fairly the conditions as to land tenure in the mining industries, and correctly show the order of magnitude of land holdings pertaining to mining enterprises.

Power used.—The item, aggregate horsepower, represents the horsepower of prime movers used by the enterprises for generating power plus horsepower of motors, principally electric, and other equipment operated by power purchased from other concerns. It does not cover the power of electric motors taking their current from primary power generators operated by the same enterprise (such equipment is reported separately), because its inclusion would obviously result in duplication. The figures on power represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use.

Fuel.—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, wood, oil, and gas. They relate to the quantity used during the year, which may be more or less than the quantity purchased. As only the principal varieties of fuel are shown, no comparison can be made with the total cost of all fuel.

MAINE.

Maine, which ranks thirty-eighth among the states in size (land area 29,895 square miles) and thirty-fifth in population (768,014 in 1920), ranked forty-first in the value of mineral products in 1919. On the basis of total number of persons engaged in the mining industries and the average number of wage earners employed it ranked thirty-ninth.

The total value of products of all mines and quarries in the state of Maine in 1919 was \$1,823,442, which was a decrease of 11.3 per cent as compared with the corresponding amount for 1909. Decreases in the number of enterprises, individual mines and quarries operated, persons engaged, and in the capital invested, as shown in Table 1, marked the decline of mining industries in the state of Maine. Decreases in salaries, wages, cost of supplies and materials, and value of products are smaller, because these items were affected by the general increase in prices in 1919 as compared with 1909. The large increase in taxes shown is accounted for by the impost of Federal income taxes since the census of 1909.

The mining and quarrying industries reported for 1919, classified by principal products and listed in the order of value of products, were granite, slate, feldspar, and limestone. This listing and statistics herein given do not take into account the production of a large amount of limestone used by the producers at the quarries in the manufacture of lime, which operations are included in the census of manufactures. In addition to the products indicated by the industry designation, quartz or silica and tourmaline were also produced as a by-product by enterprises engaged in the mining of feldspar.

The leading mineral industry in Maine in 1919 was granite quarrying which included 42 enterprises, or 84 per cent of the total number reported. This industry employed 76.3 per cent of the total number of wage earners and produced stone valued at \$1,300,996,

or 71.3 per cent of the total value of products of all mines and quarries in the state. The value of the granite produced in this state was 7.1 per cent of the total value of products of the granite industry throughout the United States (\$18,279,345) in 1919, and gave Maine sixth rank among the granite-producing states.

Development work was reported in the state of Maine, in 1919, for only one nonproducing mining property (a molybdenum deposit).

Table 2 shows that among the operators of mining enterprises in Maine individual ownership outnumbered all other forms of organization. However, the corporations, which conducted 34 per cent of the number of enterprises, employed 86.1 per cent of the total number of wage earners and reported 86.8 per cent of the total value of products.

The relatively large number of small enterprises, as determined by the average number of wage earners employed, is shown in Table 3. Ninety-four per cent of the total number of enterprises had no wage earners or less than 101 each and employed 62 per cent of the total number of wage earners. Only 3 enterprises, or 6 per cent of the total number, employed more than 100 wage earners each, and these enterprises employed 38 per cent of the total number of wage earners. These 3 large enterprises were in the granite industry, the leading industry in the state.

Table 4 shows that for a majority of the enterprises and for 81.1 per cent of the wage earners the prevailing hours of labor were 44 to 53 per week.

The statistics for wage earners presented in Table 5, showing changes in the number employed month by month, reflect conditions prevailing in the industries during the census year.

Table 6 presents for 1919 statistics in detail for the state as a whole and for granite, the only industry that can be shown without the disclosure of individual operations.

MINES AND QUARRIES—MAINE.

TABLE 1.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES: 1919 AND 1909.

	MINING INDUSTRIES.		Per cent of increase. ¹		MINING INDUSTRIES.		Per cent of increase. ¹
	1919	1909			1919	1909	
Number of enterprises.....	50	97	—50.0	Capital.....	\$1,602,082	\$3,825,931	—55.8
Number of mines and quarries.....	51	102	—50.0	Principal expenses:			
Persons engaged.....	1,093	2,359	—53.7	Salaries.....	118,270	119,020	—1.1
Proprietors and firm members, total.....	52	98	—46.9	Wages.....	1,051,796	1,332,242	—21.1
Number performing manual labor in or about the mines and quarries.....	36	60	—40.0	Contract work.....	32,368	6,728	381.1
Salaried employees.....	62	117	—47.0	Supplies and materials.....	203,187	219,579	—7.6
Wage earners (average number).....	979	2,144	—54.3	Fuel and power.....	122,792	84,683	45.0
Power used (horsepower).....	6,277	8,141	—22.9	Royalties and rents.....	9,980	10,302	—38.7
				Taxes.....	34,253	10,241	110.9
				Value of products.....	1,823,442	2,056,003	—11.3

¹ A minus sign (—) denotes decrease. Percentages are omitted where base is less than 100.

TABLE 2.—CHARACTER OF ORGANIZATION, FOR SELECTED INDUSTRIES, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprise.	Enterprises.	Wage earners.	Value of products.
ALL INDUSTRIES.....	50	979	\$1,823,442	\$36,468	100.0	100.0	100.0
Corporation.....	17	848	1,581,949	\$93,056	34.0	86.1	80.8
Individual.....	18	98	153,848	\$8,547	30.0	9.5	8.4
Firm ¹	15	43	87,650	\$5,843	30.0	4.4	4.8
GRANITE.....	42	747	1,800,996	\$42,976	100.0	100.0	100.0
Corporation.....	10	614	1,061,749	\$106,175	23.8	82.2	81.6
Individual.....	18	98	153,848	\$8,547	42.9	12.4	11.8
Firm ¹	14	40	85,404	\$6,100	33.3	5.4	6.0

¹ Includes 1 other form of organization.

TABLE 3.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Number.	Per cent distribution.	Number.	Per cent distribution.		Number.	Per cent distribution.	Number.	Per cent distribution.
ALL INDUSTRIES.....	50	100.0	979	100.0	GRANITE.....	42	100.0	747	100.0
No wage earners.....	6	12.0	.....	.....	No wage earners.....	5	11.9	.....	.....
1 to 5.....	23	46.0	61	6.2	1 to 5.....	21	50.0	53	7.1
6 to 20.....	11	22.0	117	12.0	6 to 20.....	0	0.0	96	12.9
21 to 50.....	2	4.0	80	8.2	21 to 50.....	2	4.8	80	10.7
51 to 100.....	5	10.0	349	35.6	51 to 100.....	2	4.8	146	19.5
101 to 500.....	8	6.0	372	38.0	101 to 500.....	3	7.1	372	49.8

TABLE 4.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							
	Enterprises.	Wage earners.	35 and under.		36 to 43.		44 to 53.		54 to 62.	
			Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.
All industries.....	144	979	1	3	1	11	34	704	8	171
Granite.....	37	747	1	3	1	11	33	720	2	4
All other industries.....	7	232	.....	.....	.....	.....	1	84	6	167

¹ Exclusive of 6 enterprises employing no wage earners in industries as follows: Granite, 5; limestone, 1.

MINES AND QUARRIES—MAINE.

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TABLE 5.—WAGE EARNERS, BY MONTHS, FOR SELECTED INDUSTRIES: 1919.

[The month of maximum employment for each industry is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	979	461	<i>488</i>	712	968	1,236	1,288	1,175	1,204	1,141	1,116	1,076	933	34.0
Granite.....	747	251	<i>244</i>	500	763	1,008	1,044	933	951	884	870	833	683	23.4
All other industries.....	232	210	<i>194</i>	212	205	228	244	242	253	257	246	243	250	75.5

TABLE 6.—DETAILED STATISTICS FOR MINING INDUSTRIES: 1919.

	PRODUCING ENTERPRISES.				PRODUCING ENTERPRISES.		
	Total.	Granite.	All other. ¹		Total.	Granite.	All other. ¹
Number of enterprises.....	50	42	8	Persons engaged, etc.—Continued.			
Number of mines and quarries.....	51	42	9	Wage earners, etc.—Continued.			
Capital.....	\$1,002,082	\$1,044,000	\$648,082	Miners, quarrymen, and drillmen, including their helpers—			
Principal expenses:				Above ground.....	341	318	23
Salaries and wages—				Below ground.....	27		27
Officers.....	\$57,577	\$31,500	\$26,077	Timbermen, trackmen, and men engaged in hauling, tramming, etc.—			
Superintendents and managers.....	\$38,490	\$27,761	\$10,738	Above ground.....	147	113	34
Technical employees.....	\$6,124	\$6,124		Muckers, loaders, laborers, and others not classified—			
Clerks, etc.....	\$10,079	\$8,812	\$7,207	Above ground.....	78	72	6
Wage earners.....	\$1,051,706	\$806,805	\$245,031	Below ground.....	19		19
Supplies and materials.....	\$203,187	\$116,000	\$37,127	Wage earners employed in mills and beneficiating plants—			
Fuel.....	\$77,561	\$71,363	\$6,208	Above ground.....	418	319	99
Power.....	\$45,281	\$17,067	\$28,164	Mineralland operated.....acres..	3,562	2,016	1,546
Royalties and rents.....	\$9,086	\$5,242	\$4,744	Land controlled, total.....acres..	7,220	4,126	3,094
Taxes.....	\$34,253	\$17,825	\$16,428	Mineralland owned.....	2,602	1,009	993
Contract work.....	\$32,308	\$2,800	\$29,508	Mineralland leased.....	996	442	553
Expenditures for development (included in the above items).....	\$10,807	\$5,695	\$5,112	Timber and other lands owned and leased..	3,623	2,075	1,548
Value of products.....	\$1,823,442	\$1,300,906	\$522,446	Power used: Aggregate horsepower.....	6,277	4,050	2,227
Persons engaged in industry.....	1,003	830	254	Prime movers (horsepower, total).....	3,562	3,313	249
Proprietors and firm members (total).....	52	50	2	Steam engines—			
Number performing manual labor.....	36	35	1	Number.....	74	72	2
Salaried officers.....	15	5	10	Horsepower.....	3,397	3,187	210
Superintendents and managers.....	24	19	5	Internal-combustion engines—			
Technical employees.....	4	4		Number.....	14	11	3
Clerks, etc.....	19	14	5	Horsepower.....	165	126	39
Wage earners (average number).....	970	747	232	Purchased power (horsepower, total).....	2,715	737	1,978
Wage earners by occupation (Dec. 15):				Electric motors operated by purchased current—			
Above ground (total).....	1,159	904	195	Number.....	57	15	42
Below ground (total).....	51		51	Horsepower.....	2,715	737	1,978
Foremen, shift bosses, etc.—				Fuel used:			
Above ground.....	48	42	6	Coal, bituminous.....tons, 2,000 pounds..	9,586	9,097	489
Below ground.....	5		5	Wood.....cords..	250	75	175
Engineers, hoistmen, electricians, mechanics, etc.—				Gasoline and other volatile oils.....barrels..	236	198	38
Above ground.....	127	100	27				

¹ Includes enterprises as follows: Feldspar 4; limestone, 1; slate, 3.

NEW HAMPSHIRE.

New Hampshire, which ranks forty-third among the states in size (land area 9,031 square miles) and forty-first in population (443,083 in 1920), ranked forty-third in the value of mineral products in 1919. The state also ranked forty-third in the total number of persons engaged in the mining and quarrying industries and in the average number of wage earners employed.

The total value of products of all mines and quarries in New Hampshire in 1919 was \$1,568,195, which was an increase of 19.8 per cent as compared with the corresponding amount for 1909. Decreases in the number of enterprises, number of mines and quarries operated, and number of persons engaged in the mining industries, as shown in Table 1, marked the decline of these industries in the state of New Hampshire. Increases in salaries, cost of supplies and materials and fuel and power, and value of products are largely due to the general increase in prices since 1909, and not to actual growth of the industries. The large increase in taxes shown is accounted for by impost of Federal income taxes since 1909.

The mining and quarrying industries reported for 1919, classified by principal products and listed in the order of value of products, were granite, mica, fluorspar, and abrasive materials. In addition to the product indicated by the industry designation one operation classified as a mica enterprise also produced a small amount of feldspar, the value of which is included in the total value of products given above.

The leading mineral industry in 1919 was granite quarrying which included 23 enterprises, or 76.7 per cent of the total number of enterprises. This industry employed 86.4 per cent of the total number of wage earners, and produced stone valued at \$1,427,979, or

91.1 per cent of the total value of products for all mines and quarries in the state.

Table 2 shows that among the operators of mining enterprises in New Hampshire corporations were most numerous. Of the total number of enterprises 43.3 per cent had a corporate form of organization, they employed 60.1 per cent of all wage earners in the mining industries in the state, and reported 55.3 per cent of the total value of all mineral products. The table also shows that in the granite industry ownership or control by individuals was more common than by corporations, but that the latter conducted the larger and more important enterprises.

The relatively large number of small enterprises, as determined by the average number of wage earners employed, is shown in Table 3. Of the total number of mining enterprises in this state, 83.3 per cent were in classes having no wage earners or less than 51, and these enterprises employed 33.8 per cent of the total number of wage earners. The remaining five enterprises, or 16.6 per cent of the total number, employed 66.3 per cent of the total number of wage earners. Only one enterprise had more than 100 wage earners; this was in the granite industry and employed 167 wage earners, or 24.5 per cent of the total number reported for the state.

Table 4 shows that in a majority of the enterprises and for 90 per cent of the wage earners the prevailing hours of labor were 44 to 53 per week.

The statistics for wage earners presented in Table 5, showing changes in the number employed month by month, reflect conditions prevailing in the industries during the census year.

Table 6 presents for 1919 statistics in detail for the state as a whole and for granite, the only industry that can be shown without the disclosure of individual operations.

MINES AND QUARRIES—NEW HAMPSHIRE.

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TABLE 1.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES: 1919 AND 1909.

	MINING INDUSTRIES.		Per cent of increase. ¹		MINING INDUSTRIES.		Per cent of increase. ¹
	1919	1909			1919	1909	
Number of enterprises.....	30	45	.....	Capital.....	\$1,658,500	\$1,540,503	7.2
Number of mines and quarries.....	33	53	.....	Principal expenses:			
Persons engaged.....	757	1,508	-49.8	Salaries.....	96,324	53,488	80.1
Proprietors and firm members, total.....	30	42	.....	Wages.....	825,547	926,352	-10.9
Number performing manual labor in or about the mines and quarries.....	17	17	.....	Contract work.....	34,520	9,246	273.4
Salaried employees.....	45	48	.....	Supplies and materials.....	144,046	100,031	43.6
Wage earners (average number).....	682	1,418	-51.9	Fuel and power.....	64,980	54,427	19.4
Power used (horsepower).....	4,336	3,771	15.0	Royalties and rents.....	6,268	4,271	46.8
				Taxes.....	24,710	5,251	370.7
				Value of products.....	1,568,195	1,308,507	19.8

¹ A minus sign (—) denotes decrease. Percentages are omitted where base is less than 100.

TABLE 2.—CHARACTER OF ORGANIZATION, FOR SELECTED INDUSTRIES, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprise.	Enterprises.	Wage earners.	Value of products.
ALL INDUSTRIES.....	30	682	\$1,568,195	\$52,273	100.0	100.0	100.0
Corporation.....	13	410	867,304	66,716	43.3	60.1	55.3
Individual.....	10	69	132,683	13,268	33.3	10.1	8.5
Firm.....	7	203	568,208	81,173	23.3	29.8	36.2
GRANITE.....	23	589	1,427,979	62,086	100.0	100.0	100.0
Corporation.....	7	317	727,884	103,983	30.4	53.8	51.0
Individual.....	9	69	131,887	14,654	39.1	11.7	9.2
Firm.....	7	203	568,208	81,173	30.4	34.5	39.8

TABLE 3.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Number.	Per cent distribution.	Number.	Per cent distribution.		Number.	Per cent distribution.	Number.	Per cent distribution.
ALL INDUSTRIES.....	30	100.0	682	100.0	GRANITE.....	23	100.0	589	100.0
No wage earners.....	4	13.3	.....	.....	No wage earners.....	3	13.0	.....	.....
1 to 5.....	9	30.0	19	2.8	1 to 5.....	8	34.8	14	2.4
6 to 20.....	8	26.7	98	14.4	6 to 20.....	4	17.4	55	9.3
21 to 50.....	4	13.3	113	16.6	21 to 50.....	3	13.0	68	11.5
51 to 100.....	4	13.3	285	41.8	51 to 100.....	4	17.4	285	48.4
101 to 500.....	1	3.3	107	24.5	101 to 500.....	1	4.3	187	28.4

MINES AND QUARRIES—NEW HAMPSHIRE.

TABLE 4.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—					
			35 and under.		44 to 53.		54 to 62.	
	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.
All industries.....	126	632	1	23	19	614	6	45
Granite.....	20	589	1	23	17	564	2	2
All other industries.....	6	93	.....	.....	2	50	4	43

¹ Exclusive of 4 enterprises employing no wage earners in industries as follows: Granite, 3; mica, 1.

TABLE 5.—WAGE EARNERS, BY MONTHS, FOR SELECTED INDUSTRIES: 1919.

[The month of maximum employment for each industry is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	682	344	360	398	571	708	830	839	887	860	871	818	698	38.9
Granite.....	589	800	271	302	479	624	739	747	779	763	780	726	598	33.3
All other industries.....	93	<i>84</i>	<i>89</i>	<i>96</i>	<i>92</i>	<i>84</i>	<i>91</i>	<i>92</i>	<i>108</i>	<i>97</i>	<i>91</i>	<i>92</i>	<i>100</i>	77.8

TABLE 6.—DETAILED STATISTICS FOR MINING INDUSTRIES: 1919.

	PRODUCING ENTERPRISES.				PRODUCING ENTERPRISES.		
	Total.	Granite.	All other. ¹		Total.	Granite.	All other. ¹
Number of enterprises.....	30	23	7	Persons engaged in industry—Continued. Wage earners by occupation, etc.—Contd. Miners, quarrymen, and drillmen, including their helpers— Above ground.....	247	221	26
Number of mines and quarries.....	33	24	9		15	.....	15
Capital.....	\$1,658,509	\$1,455,780	\$202,723	Below ground.....	.....	.....	.....
Principal expenses:				Timbermen, trackmen, and men engaged in hauling, tramming, etc.— Above ground.....	15	13	2
Salaries and wages—				Muckers, loaders, laborers, and others not classified— Above ground.....	55	48	7
Officers.....	\$24,500	\$24,500	.....	Wage earners employed in mills and beneficiating plants— Above ground.....	359	318	41
Superintendents and managers.....	\$51,490	\$45,497	\$5,993	Mineral land operated..... acres.	10,030	4,088	5,342
Technical employees.....	\$0,784	\$0,784	.....	Land controlled, total..... acres.	10,531	5,170	5,352
Clerks, etc.....	\$13,460	\$9,541	\$3,919	Mineral land owned.....	8,098	4,055	4,043
Wage earners.....	\$325,547	\$744,023	\$81,524	Mineral land leased.....	1,332	33	1,299
Supplies and materials.....	\$144,946	\$110,782	\$34,164	Timber and other lands owned and leased.....	501	491	10
Fuel.....	\$41,567	\$37,056	\$3,611	Power used: Aggregate horsepower.....	4,336	4,121	215
Power.....	\$23,413	\$23,413	.....	Prime movers (horsepower, total).....	2,673	2,453	215
Royalties and rents.....	\$6,268	\$1,000	\$5,268	Steam engines— Number.....	73	64	9
Taxes.....	\$24,719	\$23,672	\$1,047	Horsepower.....	2,625	2,415	210
Contract work.....	\$34,520	\$34,520	.....	Internal-combustion engines— Number.....	5	4	1
Expenditures for development (included in the above items).....	\$55,049	\$14,814	\$40,235	Horsepower.....	48	43	5
Value of products.....	\$1,568,195	\$1,427,979	\$140,216	Purchased power (horsepower, total).....	1,063	1,063	.....
Persons engaged in industry.....	757	657	100	Electric motors operated by purchased current— Number.....	49	49	.....
Proprietors and firm members (total).....	30	29	1	Horsepower.....	1,063	1,063	.....
Number performing manual labor.....	17	17	.....	Fuel used:			
Salaried officers.....	6	6	.....	Coal, anthracite..... tons, 2,240 pounds..	53	50	3
Superintendents and managers.....	25	22	3	Coal, bituminous..... tons, 2,000 pounds..	5,027	4,853	174
Technical employees.....	2	2	.....	Wood..... cords..	420	124	296
Clerks, etc.....	12	9	3	Fuel oils..... barrels..	88	88	.....
Wage earners (average number).....	682	589	93	Gasoline and other volatile oils..... barrels..	162	142	20
Wage earners by occupation (Dec. 15):							
Above ground (total).....	1773	1690	83				
Below ground (total).....	16	.....	16				
Foremen, shift bosses, etc.— Above ground.....	22	18	4				
Below ground.....	1	.....	1				
Enginemen, hoistmen, electricians, mechanics, etc.— Above ground.....	75	72	3				

¹ Includes enterprises as follows: Abrasive materials, 1; fluorspar, 1; mica, 5.

² Includes 1 wage earner under 16 years of age.

VERMONT.

Vermont, which ranks forty-second among the states in size (land area 9,124 square miles) and forty-fifth in population (352,428 in 1920), ranked thirty-third in mineral production in 1919. On the basis of total number of persons engaged in the mining industries and the average number of wage earners employed, the state also ranked thirty-third.

The total value of products for all mines and quarries was \$8,555,030, which was an increase of 4.1 per cent over the corresponding amount reported at the census of 1909. This increase and the increases in salaries, cost of supplies and materials and fuel and power, as shown in Table 1, are largely due to general price increases. An actual decrease in quarrying and mining in Vermont is indicated by the decrease in the number of enterprises, number of mines and quarries operated, and the large decrease in the average number of wage earners employed in the industries. The addition of Federal income taxes since 1909 will account for the large increase in taxes shown.

The mining and quarrying industries reported in Vermont for 1919 were granite, marble, slate, talc and soapstone, limestone, clay, and copper. Although low rank on the basis of total mineral production, Vermont ranked first among the states in the production of granite and marble, and second in the production of slate and talc and soapstone. These principal industries—granite, marble, slate, and talc and soapstone—accounted for 98.1 per cent of the total value of mineral products and employed 97.6 per cent of all wage earners engaged in the mines and quarries of Vermont in 1919. The quarrying and mining industries in Vermont are ranked by value of products for 1919 in Table 2, which also shows a different order of rank on the basis of number of wage earners employed.

The granite industry, which leads all other mineral industries in the state, reported products to the amount \$3,563,784, which was 41.7 per cent of the total value of products of all mines and quarries in Vermont and was 19.5 per cent of the total value of products for the granite industry of the United States (\$18,279,345) in 1919. The production of granite was reported chiefly from Washington County, but also from Caledonia, Orange, Orleans, and Windham Counties.

The marble industry, which was second in importance in the state in 1919, reported products valued \$2,108,872, or 24.7 per cent of the total value of all mineral products in the state and 48 per cent of the total value of products of the marble quarrying industry in the United States (\$4,397,912). The production of marble, reported chiefly from Rutland County, was

also reported from Addison, Bennington, Franklin, and Washington Counties.

The Vermont slate quarrying industry, which was third in rank among the mineral industries in the state for 1919 with a production valued at \$2,057,388, or 24 per cent of the total value of all mineral products in the state, was second only to that of Pennsylvania and amounted to 36 per cent of the total value of products of the slate-quarrying industry in the United States (\$5,720,792). The production reported from Vermont was quarried in Rutland County.

Talc and soapstone mining was fourth in importance among the mineral industries in Vermont in 1919 with a production valued at \$663,261, or 7.8 per cent of the total value of all mineral products in the state and 28.8 per cent of the total value of products of the talc and soapstone industry in the United States (\$2,302,393). The production of talc and soapstone in Vermont in 1919 came from Addison, Lamoille, Washington, Windham, and Windsor Counties.

Table 3 shows that among the operators of quarries and mines in Vermont corporations are in the majority. Enterprises having this form of organization conducted 61.3 per cent of the total number of enterprises, employed 83.8 per cent of the total number of wage earners, and reported 88.8 per cent of the total value of products.

The relatively large number of small enterprises, as determined by the average number of wage earners employed, is shown in Table 4. Of the total number of enterprises in Vermont in 1919, 92.5 per cent were in classes having no wage earners or less than 101, and such enterprises employed 58.5 per cent of the total number of wage earners. Enterprises employing more than 100 wage earners numbered 7 and constituted 7.5 per cent of the total number of enterprises, and employed 41.5 of the total number of wage earners. These larger enterprises were all in the principal quarrying industries—granite, marble, and slate.

Table 5 shows that in 57.6 per cent of all enterprises employing wage earners and for 52.1 per cent of the wage earners the hours of labor were 54 to 62 per week. In the marble and slate industries the 9-hour day prevailed, while in the granite industry shorter hours were reported.

The statistics for wage earners given in Table 6, showing the changes in the number employed month by month, reflect conditions prevailing in the industries during the census year.

Table 7 presents for 1919 statistics in detail for the state as a whole and for each industry that can be shown without the disclosure of individual operations.

MINES AND QUARRIES—VERMONT.

TABLE 1.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES: 1919 AND 1909.

	MINING INDUSTRIES.		Per cent of increase. ¹		MINING INDUSTRIES.		Per cent of increase. ¹
	1919	1909			1919	1909	
Number of enterprises.....	93	137	-32.1	Capital.....	\$10,710,058	\$13,902,000	-23.5
Number of mines and quarries.....	109	182	-40.1	Principal expenses:			
Persons engaged.....	3,239	8,658	-62.6	Salaries.....	448,733	870,237	-48.2
Proprietors and firm members, total.....	60	100	-40.0	Wages.....	3,041,551	4,440,315	-31.6
Number performing manual labor in or about the mines and quarries.....	18	63	-71.4	Contract work.....	91,750	64,698	41.8
Salaried employees.....	243	353	-31.2	Supplies and materials.....	1,272,798	905,157	40.6
Wage earners (average number).....	2,936	8,145	-64.0	Fuel and power.....	425,398	362,438	17.4
Power used (horsepower).....	28,119	25,608	9.5	Royalties and rents.....	58,500	84,332	-30.6
				Taxes.....	300,554	72,147	324.9
				Value of products.....	8,555,030	8,221,323	4.1

¹ A minus sign (-) denotes decrease. Percentages are omitted where base is less than 100.

TABLE 2.—PRINCIPAL INDUSTRIES, PRODUCING ENTERPRISES, RANKED BY VALUE OF PRODUCTS: 1919.

INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.		INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.	
		Average number.	Per cent distribution.	Amount.	Per cent distribution.			Average number.	Per cent distribution.	Amount.	Per cent distribution.
All industries.....	93	2,936	100.0	\$8,555,030	100.0	Slate.....	38	1,039	35.4	\$2,057,388	24.0
Granite.....	27	1,062	36.2	3,563,734	41.7	Talc and soapstone.....	6	195	6.6	693,261	7.8
Marble.....	16	570	19.4	2,108,872	24.7	Limestone.....	4	40	1.4	70,152	0.9
						All other industries ¹	3	30	1.0	85,623	1.0

¹ Includes enterprises in industries as follows: Clay, 1; copper, 2.

TABLE 3.—CHARACTER OF ORGANIZATION; FOR SELECTED INDUSTRIES, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprise.	Enter-prise.	Wage earners.	Value of products.
ALL INDUSTRIES.....	93	2,936	\$8,555,030	\$91,990	100.0	100.0	100.0
Corporation.....	57	2,401	7,593,820	133,278	91.3	83.8	88.8
Individual.....	19	215	543,725	28,617	20.4	7.3	6.4
Firm ¹	17	200	414,485	24,381	18.8	8.0	4.8
GRANITE.....	27	1,062	3,563,734	131,990	100.0	100.0	100.0
Corporation.....	13	919	3,153,017	242,540	48.1	86.5	88.5
Individual and firm.....	14	143	410,717	29,887	51.9	13.5	11.5
MARBLE AND LIMESTONE.....	19	610	2,185,024	115,001	100.0	100.0	100.0
Corporation.....	10	593	2,154,000	134,381	84.2	97.2	98.0
Individual.....	8	17	30,928	10,309	15.8	2.8	1.4
SLATE.....	38	1,039	2,057,388	54,142	100.0	100.0	100.0
Corporation.....	21	742	1,605,008	76,475	55.3	71.4	73.1
Individual.....	8	52	89,700	20,930	7.0	6.0	4.4
Firm ¹	14	245	361,680	25,831	30.8	23.0	17.0

¹ Includes 1 other form of organization.

MINES AND QUARRIES—VERMONT.

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TABLE 4.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Number.	Per cent distribution.	Number.	Per cent distribution.		Number.	Per cent distribution.	Number.	Per cent distribution.
ALL INDUSTRIES.....	93	100.0	2,036	100.0	MARBLE.....	15	100.0	570	100.0
No wage earners.....	1	1.1			1 to 5.....	2	13.3	3	0.5
1 to 5.....	21	22.6	59	2.9	6 to 20.....	6	40.0	71	12.5
6 to 20.....	32	34.4	375	18.4	21 to 50.....	5	33.3	153	26.8
21 to 50.....	25	26.9	788	38.7	51 to 500.....	2	13.3	343	60.2
51 to 100.....	7	7.5	496	24.3					
101 to 500.....	7	7.5	1,218	59.4					
GRANITE.....	27	100.0	1,062	100.0	TALC AND SOAPSTONE.....	6	100.0	195	100.0
No wage earners.....	1	3.7			6 to 20.....	3	50.0	38	19.5
1 to 5.....	11	40.7	25	2.4	21 to 50.....	1	16.7	23	11.8
6 to 20.....	4	14.8	51	4.8	51 to 100.....	2	33.3	134	68.7
21 to 50.....	8	29.6	211	19.9					
51 to 100.....	2	7.4	145	13.7	LIMESTONE.....	4	100.0	40	100.0
101 to 500.....	3	11.1	630	59.3	1 to 5.....	1	25.0	5	12.5
SLATE.....	38	100.0	1,039	100.0	6 to 20.....	2	50.0	12	30.0
1 to 5.....	6	15.8	23	2.2	21 to 50.....	1	25.0	23	57.5
6 to 20.....	16	39.5	176	16.9					
21 to 50.....	12	31.6	378	36.4					
51 to 100.....	3	7.9	217	20.9					
101 to 500.....	2	5.3	245	23.6					

TABLE 5.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAIL- ING HOURS OF LABOR PER WEEK WERE--				INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAIL- ING HOURS OF LABOR PER WEEK WERE--			
	Enter- prises.	Wage earnors.	36 to 43.		54 to 62.			Enter- prises.	Wage earnors.	36 to 43.		54 to 62.	
			Enter- prises.	Wage earnors.	Enter- prises.	Wage earnors.				Enter- prises.	Wage earnors.	Enter- prises.	Wage earnors.
All Industries.....	162	2,936	30	1,405	53	1,531	Marble.....	15	570			15	570
Granite.....	120	1,062	20	1,062			Tile and soapstone.....	6	195			6	195
Slate.....	38	1,039	11	333	27	704	Limestone.....	4	40	1	5	3	35
							All other.....	3	39	1	3	2	27

¹ Exclusive of 1 enterprise employing no wage earners.

TABLE 6.—WAGE EARNERS, BY MONTHS, FOR SELECTED INDUSTRIES: 1919.

(The month of maximum employment for each industry is indicated by bold-faced figures and that of minimum employment by *italic* figures.)

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	2,080	2,725	3,008	2,721	2,854	3,015	3,166	3,145	2,877	2,860	3,005	3,082	3,091	85.5
Granite.....	1,062	855	907	892	1,003	1,060	1,171	1,171	1,185	1,132	1,170	1,098	1,100	72.2
Slate.....	1,039	983	976	981	1,080	1,099	1,162	1,180	871	885	976	1,149	1,167	73.8
Marble.....	570	506	530	506	585	614	601	572	579	588	600	561	598	82.4
Talc and soapstone.....	195	234	180	172	183	189	162	171	191	201	211	220	246	85.9
Limestone.....	40	40	34	39	30	61	48	41	38	41	35	39	42	48.9
All other industries.....	80	107	71	71	16	12	12	11	13	13	13	15	12	9.3

MINES AND QUARRIES—VERMONT.

TABLE 7.—DETAILED STATISTICS FOR MINING INDUSTRIES: 1919.

	PRODUCING ENTERPRISES.						
	Total.	Granite.	Marble.	Slate.	Talc and soapstone.	Limestone.	All other. ¹
Number of enterprises.....	93	27	15	38	0	4	3
Number of mines and quarries.....	109	31	25	39	7	4	3
Capital.....	\$10,710,058	\$3,202,764	\$3,027,651	\$2,212,813	\$1,241,879	\$151,001	\$274,000
Principal expenses:							
Salaries and wages—							
Officers.....	\$192,907	\$78,887	\$30,021	\$52,027	\$31,000		
Superintendents and managers.....	\$166,019	\$47,853	\$13,189	\$34,472	\$30,121	\$1,315	\$6,008
Technical employees.....	\$5,053	\$1,003	\$1,200	\$1,475		\$700	\$1,378
Clerks, etc.....	\$83,254	\$21,100	\$28,554	\$26,139	\$7,000	\$2,478	\$976
Wage earners.....	\$3,041,551	\$1,225,258	\$553,075	\$870,143	\$214,823	\$35,793	\$39,491
Supplies and materials.....	\$1,272,793	\$778,480	\$180,320	\$220,644	\$58,623	\$21,480	\$4,200
Fuel.....	\$220,276	\$135,472	\$13,349	\$28,838	\$32,017	\$5,090	\$7,312
Power.....	\$235,122	\$30,379	\$37,211	\$37,221	\$28,270		\$2,081
Royalties and rents.....	\$58,606	\$7,009	\$10,700	\$34,103	\$8,004		
Taxes.....	\$500,584	\$182,780	\$96,186	\$23,784	\$12,500	\$705	\$330
Contract work.....	\$91,760	\$91,980		\$10,637	\$19,133		
Expenditures for development (included in the above items).....	\$36,499	\$25,444	\$500	\$10,555			
Value of products.....	\$3,555,030	\$3,503,734	\$2,108,872	\$2,057,388	\$608,261	\$70,182	\$85,028
Persons engaged in industry.....	3,239	1,188	610	1,171	220	52	42
Proprietors and firm members (total).....	60	10		38	1	3	2
Number performing manual labor.....	18	7		11			
Salaried officers.....	52	14	3	25	10		
Superintendents and managers.....	89	21	6	37	14		
Technical employees.....	11	2	1	3			
Clerks, etc.....	94	23	30	29	6		
Wage earners (average number).....	2,930	1,062	570	1,030	105	40	30
Wage earners by occupation (Dec. 15):							
Above ground (total).....	2,983	1,112	569	994	173	51	55
Below ground (total).....	330			208	73		58
Foremen, shift bosses, etc.—							
Above ground.....	104	62	20	55	8	2	7
Below ground.....	15			8	4		3
Engineers, hoistmen, electricians, mechanics, etc.—							
Above ground.....	338	141	33	128	15	4	17
Below ground.....	7			2	3		2
Miners, quarrymen, and drillmen, including their helpers—							
Above ground.....	1,420	668	341	404		4	3
Below ground.....	175			148	17		10
Timbermen, trackmen, and men engaged in hauling, tramming, etc.—							
Above ground.....	55	28	9	7	3	11	2
Below ground.....	23				15		3
Muckers, loaders, laborers, and others not classified—							
Above ground.....	353	135	18	100	12	23	5
Below ground.....	119			50	34		35
Wage earners employed in mills and beneficiating plants—							
Above ground.....	648	88	178	280	134	2	21
Mineral land operated..... acres.....	16,048	1,987	9,448	1,855	2,798	80	445
Land controlled, total..... acres.....	18,169	2,748	9,670	2,323	2,745	83	600
Mineral land owned.....	14,417	1,932	8,408	825	2,727	80	445
Mineral land leased.....	1,681	55	1,040	530	6		
Timber and other lands owned and leased.....	2,121	701	222	908	12	3	108
Power used: Aggregate horsepower.....	23,119	10,780	7,364	9,447	2,073	483	973
Prime movers (horsepower, total).....	8,090	6,112	910	458	827	408	976
Steam engines—							
Number.....	120	88	7	12	6	6	1
Horsepower.....	5,887	3,887	900	367	520	408	75
Steam turbines—							
Number.....	1	1					
Horsepower.....	1,500	1,500					
Internal-combustion engines—							
Number.....	3	2					
Horsepower.....	32	25			1		
Water wheels, turbines, and motors—							
Number.....	7	2	1	2			
Horsepower.....	1,571	750	220	101			200
Purchased power (horsepower, total).....	19,129	4,677	6,444	5,989	1,540	75	398
Electric motors operated by purchased current—							
Number.....	699	80	310	237	44	3	10
Horsepower.....	19,109	4,567	6,444	5,980	1,540	75	398
Other equipment operated by purchased power—							
Horsepower.....	20	20					
Electric motors run by current generated by enterprise using:							
Number.....	20		0	4		5	3
Horsepower.....	664		245	44		105	180
Fuel used:							
Coal, anthracite..... tons, 2,240 pounds.....	2,328	1,561	200	150	405		
Coal, bituminous..... tons, 2,000 pounds.....	24,883	14,537	2,035	3,578	2,840	887	1,000
Coke..... tons, 2,000 pounds.....	213				218		
Wood..... cords.....	261	140	28	39	37	2	
Gasoline and other volatile oils..... barrels.....	67	15			50		

¹ Includes enterprises as follows: Clay, 1; copper, 2.² Includes 3 female wage earners reported by 1 enterprise.

MASSACHUSETTS.

Massachusetts, which ranks forty-fourth among the states in size (land area 8,039 square miles) and sixth in population (3,852,356 in 1920), ranked thirty-sixth in value of mineral products for 1919. The state ranked thirty-sixth also in total number of persons engaged in the mining industries and thirty-eighth in the average number of wage earners employed.

The total value of products of all mines and quarries in Massachusetts in 1919 was \$4,175,699, which was an increase of 20.4 per cent over the value reported at the census of 1909. The total amount given as value of products includes the value of a small quantity of fuller's earth produced as a by-product by an enterprise classified as a basalt-quarrying operation, and also includes small amounts received for power sold and for miscellaneous services performed for other enterprises.

Decrease in the number of enterprises, in the number of individual mines and quarries operated, in the number of persons engaged, and in the capital invested in the mining industries, as shown in Table 1, marked the decline of mining and quarrying in the state of Massachusetts. Increases in salaries, wages, cost of supplies and materials and fuel and power, and in the value of products are largely due to general price increases since 1909, and are not indicative of growth in the industries. The large increase shown in taxes is accounted for by impost of Federal income taxes since 1909.

The mining and quarrying industries reported for 1919, classified by principal products and listed in order of value of products, were granite, basalt, marble, iron ore, limestone, talc and soapstone, silica, sandstone, fuller's earth, and clay. The industries for which statistics can be shown without disclosure of individual operations are ranked by value of products in Table 2.

Granite quarrying, the leading mineral industry in Massachusetts, produced stone valued at \$2,405,165 in 1919, which amount is 57.6 per cent of the value of all mineral products in the state.

The industry next in importance, basalt quarrying, produced stone to the value of \$1,548,611, which is 37.1 per cent of the total value of products for the

state. All the stone quarrying industries combined, i. e., granite, basalt, marble, limestone, and sandstone, accounted for approximately 99 per cent of the value of all mineral products.

Table 3 shows that among the operators of mining enterprises in Massachusetts the corporation was the most common form of organization; 52.7 per cent of the total number of enterprises were corporations. They employed 78.8 per cent of all wage earners in the mining industries in the state and reported 77.2 per cent of the total value of all mineral products. The table also shows that in the granite industry ownership or control by individuals slightly exceeded that by corporations, but that the latter conducted larger and more important enterprises.

The relatively large number of small enterprises, as determined by the average number of wage earners employed, is brought out by Table 4. Of the total number of mining and quarrying enterprises, 93.2 per cent were in classes having less than 51 wage earners and such enterprises employed 62 per cent of the total number of wage earners. Enterprises employing more than 50 wage earners constituted 6.8 per cent of the total number of enterprises and employed 37.9 per cent of the total number of wage earners. Only one enterprise in this state in 1919 had more than 100 wage earners; this, in the granite industry, employed 343 wage earners, or 20.1 per cent of the total number.

Table 5 shows that in a majority of the enterprises and for approximately 60 per cent of the wage earners in all the mining industries in the state in 1919 the prevailing hours of labor were 44 to 53 per week. For more than two-thirds of the enterprises and for 86.3 per cent of the wage earners in the basalt industry the hours of labor per week were 54 to 62 and the 9-hour day was the rule.

The statistics for wage earners presented in Table 6, showing changes in the number employed month by month, reflect conditions prevailing in the industries during the census year.

Table 7 presents for 1919 statistics in detail for the state as a whole and for each industry that can be shown without disclosure of individual operations.

MINES AND QUARRIES—MASSACHUSETTS.

TABLE 1.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES: 1919 AND 1909.

	MINING INDUSTRIES.		Per cent of increase. ¹		MINING INDUSTRIES.		Per cent of increase. ¹
	1919	1909			1919	1909	
Number of enterprises.....	74	139	-46.8	Capital.....	\$1,882,574	\$5,054,093	-3.4
Number of mines and quarries.....	79	147	-46.3	Principal expenses:			
Persons engaged.....	1,910	3,588	-46.8	Salaries.....	324,002	213,358	52.1
Proprietors and firm members, total....	50	121	-58.7	Wages.....	2,008,814	1,900,007	5.2
Number performing manual labor in or about the mines and quarries.....	10	43	-----	Contract work.....	11,180	16,272	-31.3
Salaried employees.....	150	170	-11.4	Supplies and materials.....	491,240	363,608	35.9
Wage earners (average number).....	1,704	3,201	-48.2	Fuel and power.....	203,345	153,258	71.8
Power used (horsepower).....	12,408	15,031	-16.9	Royalties and rents.....	50,007	55,400	6.0
				Taxes.....	83,009	40,187	106.6
				Value of products.....	4,175,000	3,467,888	20.4

¹ A minus sign (-) denotes decrease. Percentages are omitted where base is less than 100.

TABLE 2.—PRINCIPAL INDUSTRIES, PRODUCING ENTERPRISES, RANKED BY VALUE OF PRODUCTS: 1919.

INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.		INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.	
		Average number.	Per cent distribution.	Amount.	Per cent distribution.			Average number.	Per cent distribution.	Amount.	Per cent distribution.
All industries.....	74	1,704	100.0	\$4,175,000	100.0	Basalt.....	21	547	32.1	\$1,548,011	37.1
Granite.....	42	1,034	60.7	2,405,165	57.6	All other industries ¹	11	133	7.9	221,023	5.3

¹ Includes enterprises in industries as follows: Clay, 1; fuller's earth, 1; iron ore, 1; limestone, 1; marble, 3; sandstone, 1; silica, 2; talc and soapstone, 1.

TABLE 3.—CHARACTER OF ORGANIZATION, FOR SELECTED INDUSTRIES, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprise.	Enterprises.	Wage earners.	Value of products.
ALL INDUSTRIES.....	74	1,704	\$4,175,000	\$50,428	100.0	100.0	100.0
Corporation.....	39	1,342	3,222,633	82,632	52.7	78.8	77.2
Individual.....	20	284	706,312	35,316	27.0	16.7	18.4
Firm ¹	15	78	186,754	12,450	20.3	4.0	4.5
GRANITE.....	42	1,034	2,405,165	57,260	100.0	100.0	100.0
Corporation.....	15	708	1,744,081	116,332	38.7	77.2	72.6
Individual.....	10	185	501,830	50,183	38.1	17.0	20.9
Firm.....	11	51	158,348	14,305	26.2	4.0	6.6
BASALT.....	21	547	1,548,011	73,743	100.0	100.0	100.0
Corporation.....	10	459	1,324,967	82,810	70.2	83.0	85.6
Unincorporated ²	5	88	223,044	44,729	23.8	16.1	14.4

¹ Includes 2 other forms of organization.² Includes individual, 2; firm, 1; and other, 2.

TABLE 4.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS	
	Number.	Per cent distribution.	Number.	Per cent distribution.		Number.	Per cent distribution.	Number.	Per cent distribution.
ALL INDUSTRIES.....	74	100.0	1,704	100.0	BASALT.....	21	100.0	547	100.0
1 to 5.....	21	28.4	40	2.9	1 to 5.....	2	9.5	0	1.1
6 to 20.....	26	35.1	307	18.0	6 to 20.....	0	42.0	120	23.0
21 to 50.....	22	29.7	701	41.1	21 to 50.....	8	38.1	200	47.5
51 to 100.....	4	5.4	304	17.8	51 to 100.....	2	9.5	155	28.3
101 to 500.....	1	1.4	343	20.1					
GRANITE.....	42	100.0	1,034	100.0					
1 to 5.....	14	33.3	27	2.6					
6 to 20.....	14	33.3	100	15.5					
21 to 50.....	11	26.2	355	34.3					
51 to 100.....	2	4.8	149	14.4					
101 to 500.....	1	2.4	343	33.2					

MINES AND QUARRIES—MASSACHUSETTS.

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TABLE 5.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—					
	Enter-prises.	Wage earners.	35 and under.		44 to 53.		54 to 62.	
			Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.
All industries.....	74	1,704	1	12	46	1,080	27	612
Granite.....	42	1,034	1	12	34	926	7	96
Basalt.....	21	547			6	75	15	472
All other industries.....	11	123			6	70	5	44

TABLE 6.—WAGE EARNERS, BY MONTHS, FOR SELECTED INDUSTRIES: 1919.

[The month of maximum employment for each industry is indicated by **bold-faced** figures and that of minimum employment by *italic* figures.]

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	1,704	1,037	1,017	1,236	1,757	1,880	1,940	1,978	2,032	1,956	1,997	1,913	1,690	50.0
Granite.....	1,034	643	635	743	1,050	1,161	1,198	1,212	1,201	1,117	1,201	1,174	1,067	52.4
Basalt.....	547	305	287	366	578	599	613	640	688	708	677	607	496	40.5
All other industries.....	123	<i>89</i>	<i>95</i>	127	123	129	135	126	143	131	119	132	127	62.2

TABLE 7.—DETAILED STATISTICS FOR MINING INDUSTRIES: 1919.

PRODUCING ENTERPRISES.					PRODUCING ENTERPRISES.				
	Total.	Granite.	Basalt.	All other. ¹		Total.	Granite.	Basalt.	All other. ¹
Number of enterprises.....	74	42	21	11	Persons engaged in industry—Contd.				
Number of mines and quarries.....	70	43	23	13	Wage earners, etc.—Continued.				
Capital.....	\$4,882,574	\$3,146,126	\$1,020,570	\$709,878	Muckers, loaders, laborers, and others not classified—				
Principal expenses:					Above ground.....	545	193	340	12
Salaries and wages—					Below ground.....	4			4
Officers.....	\$150,000	\$70,751	\$31,215	\$4,100	Wage earners employed in mills and beneficiating plants—				
Superintendents and managers.....	\$86,492	\$52,536	\$23,145	\$8,811	Above ground.....	350	316		43
Technical employees.....	\$9,600	\$3,700	\$5,800		Mineral land operated.....acres..	5,223	3,384	690	1,149
Clerks, etc.....	\$72,544	\$48,557	\$20,245	\$3,742	Land controlled, total.....acres..	6,354	3,960	690	1,704
Wage earners.....	\$2,038,844	\$1,237,888	\$719,590	\$111,366	Mineral land owned.....	4,701	3,262	525	914
Supplies and materials.....	\$404,249	\$237,897	\$229,244	\$27,108	Mineral land leased.....	522	122	165	235
Fuel.....	\$186,604	\$110,504	\$65,117	\$11,073	Timber and other lands owned and leased.....	1,131	576		555
Power.....	\$70,651	\$20,215	\$40,849	\$9,587	Power used: Aggregate horsepower.....	12,498	6,580	4,721	1,197
Royalties and rents.....	\$50,007	\$12,450	\$44,183	\$2,434	Primemovers (horsepower, total)....	7,736	4,737	2,165	834
Taxes.....	\$23,000	\$18,204	\$30,822	\$3,983	Steam engines—				
Contract work.....	\$11,180	\$4,136		\$7,050	Number.....	194	149	31	14
Expenditures for development (included in the above items).....	\$23,813	\$9,441	\$10,750	\$3,622	Horsepower.....	7,406	4,707	2,165	534
Value of products.....	\$4,175,090	\$2,405,165	\$1,548,611	\$221,923	Internal-combustion engines—				
Persons engaged in industry.....	1,910	1,167	601	142	Number.....	3	2		1
Proprietors and firm members (total).....	50	42	4	4	Horsepower.....	45	30		15
Number performing manual labor.....	10	10			Water wheels, turbines, and motors—				
Salaried officers.....	43	23	10	4	Number.....	2			2
Superintendents and managers.....	40	22	13	5	Horsepower.....	285			285
Technical employees.....	7	4	3		Purchased power (horsepower, total).....	4,702	1,843	2,556	303
Clerks, etc.....	60	42	18	6	Electric motors operated by purchased current—				
Wage earners (average number).....	1,704	1,034	547	123	Number.....	101	49	30	13
Wage earners by occupation (Dec. 15):					Horsepower.....	4,757	1,838	2,556	303
Above ground (total).....	1,880	1,181	586	113	Other equipment operated by purchased power—				
Below ground (total).....	21			21	Horsepower.....	5	5		
Foremen, shift bosses, etc.—					Electric motors run by current generated by enterprise using:				
Above ground.....	70	52	17	7	Number.....	1		1	
Below ground.....	2			2	Horsepower.....	10		10	
Enginemen, hoistmen, electricians, mechanics, etc.—					Fuel used:				
Above ground.....	204	133	57	14	Coal, anthracite, tons, 2,240 pounds..	60	37	32	
Miners, quarrymen, and drillmen, including their helpers—					Coal, bituminous, tons, 2,000 pounds..	22,871	14,602	6,710	1,559
Above ground.....	570	387	148	35	Coke.....tons, 2,000 pounds..	50	50		
Below ground.....	13			13	Wood.....cords..	200	100		100
Timbermen, trackmen, and men engaged in hauling, tramming, etc.—					Fuel oils.....barrels..	29	5	24	
Above ground.....	126	100	24	2	Gasoline and other volatile oils.....barrels..	57	56		1
Below ground.....	2			2					

¹ Includes enterprises as follows: Clay, 1; fuller's earth, 1; iron ore, 1; limestone, 1; marble, 3; sandstone, 1; silica, 2; talc and soapstone, 1.

² Includes 1 wage earner under 16 years of age.

RHODE ISLAND.

Rhode Island, which ranks forty-eighth among the states in size (land area 1,067 square miles) and thirty-eighth in population (604,397 in 1920), ranked forty-fifth in value of mineral products in 1919. The state also ranked forty-fifth in the total number of persons engaged in the mining industries and in the average number of wage earners employed.

The total value of products of all mines and quarries in Rhode Island in 1919 was \$952,204, which was an increase of 6.1 per cent over the corresponding amount for 1909. Nevertheless, a decline in the quarrying industries in Rhode Island is indicated by Table 1. The decreases therein shown in the number of enterprises and individual quarries and mines operated and in the number of wage earners employed are more significant than the increases in cost of supplies and materials and fuel and power, and in value of products, which are largely due to general price increases. The large increase in taxes shown is accounted for by the incidence of new taxes since 1909.

The mining and quarrying industries reported for 1919, classified by principal products and listed in order of value of products, were granite, basalt or trap rock, and graphite.

Production of granite was the leading mineral industry in Rhode Island. This industry included 8 out of a total of 14 mineral enterprises reported in the state, employed 71 per cent of the total number of wage earners, and produced stone to the value of

\$733,683, or 77.1 per cent of the total value of products of all mines and quarries in the state.

Table 2 shows that among operators of quarrying and mining enterprises in Rhode Island corporations were in the majority. This form of organization conducted 57.1 per cent of the number of enterprises, employed 75.1 per cent of the total number of wage earners, and reported 81.5 per cent of the total value of products.

The relative importance of enterprises, as determined by the average number of wage earners employed is shown in Table 3. The small enterprises, employing less than 101 wage earners each, included 13 out of a total of 14, and only 1 of the 13 employed more than 50 wage earners. The 12 smaller enterprises, each having less than 50 wage earners, together employed 51 per cent of the total number of wage earners, whereas the two larger enterprises employed 49 per cent.

The prevailing hours of labor, as shown in Table 4, were 44 to 53 per week in the majority of enterprises and for 75.6 per cent of the wage earners.

The statistics for wage earners given in Table 5, showing changes in the number employed month by month, reflect conditions prevailing in the industries during the census year.

Table 6 presents for 1919 statistics in detail for the state as a whole and for granite, the only industry that can be shown without disclosing individual operations.

MINES AND QUARRIES—RHODE ISLAND.

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TABLE 1.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES: 1919 AND 1909.

	MINING INDUSTRIES.		Per cent of increase. ¹		MINING INDUSTRIES.		Per cent of increase. ¹
	1919	1909			1919	1909	
Number of enterprises.....	14	21		Capital.....	\$810,000	\$567,015	42.9
Number of mines and quarries.....	15	27		Principal expenses:			
Persons engaged.....	421	725	—41.9	Salaries.....	82,681	57,889	42.8
Proprietors and firm members, total.....	6	18		Wages.....	399,648	409,883	—2.5
Number performing manual labor in or about the mines and quarries.....		7		Contract work.....	1,000		
Salaried employees.....	46	42		Supplies and materials.....	146,637	130,947	12.0
Wage earners (average number).....	309	605	—44.5	Fuel and power.....	55,075	26,991	104.0
Power used (horsepower).....	3,000	2,350	27.7	Royalties and rents.....	5,755	8,552	—32.7
				Taxes.....	9,279	3,343	177.6
				Value of products.....	952,204	897,606	6.1

¹ A minus sign (—) denotes decrease. Percentages are omitted where base is less than 100.

TABLE 2.—CHARACTER OF ORGANIZATION, FOR SELECTED INDUSTRIES, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprise.	Enterprises.	Wage earners.	Value of products.
ALL INDUSTRIES.....	14	300	\$952,204	\$68,015	100.0	100.0	100.0
Corporation.....	8	277	775,855	96,982	57.1	75.1	81.5
Individual.....	6	92	176,349	29,392	42.9	24.9	18.5
GRANITE.....	8	202	733,083	91,710	100.0	100.0	100.0
Corporation.....	4	238	687,510	171,878	50.0	90.8	93.7
Individual.....	4	24	40,173	11,543	50.0	9.2	6.3

TABLE 3.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Number.	Per cent distribution.	Number.	Per cent distribution.		Number.	Per cent distribution.	Number.	Per cent distribution.
ALL INDUSTRIES.....	14	100.0	309	100.0	GRANITE.....	8	100.0	202	100.0
1 to 5.....	5	35.7	21	5.7	1 to 5.....	3	37.5	15	5.7
6 to 20.....	3	21.4	32	8.7	6 to 20.....	2	25.0	20	7.6
21 to 50.....	4	28.0	135	36.6	21 to 50.....	1	12.5	46	17.6
51 to 100.....	1	7.1	74	20.1	51 to 100.....	1	12.5	74	28.2
101 to 500.....	1	7.1	107	29.0	101 to 500.....	1	12.5	107	40.8

TABLE 4.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—					
	Enterprises.	Wage earners.	35 and under.		44 to 53.		54 to 62.	
			Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.
All industries.....	14	369	1	5	8	279	5	85
Granite.....	8	202	1	5	6	247	1	10
All other industries.....	6	107			2	32	4	75

MINES AND QUARRIES—RHODE ISLAND.

TABLE 5.—WAGE EARNERS, BY MONTHS, FOR SELECTED INDUSTRIES: 1919.

[The month of maximum employment for each industry is indicated by **bold-faced** figures and that of minimum employment by *italic* figures.]

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	369	246	281	303	349	389	393	427	424	438	395	404	379	56.2
Granite.....	282	192	202	209	235	272	275	304	302	310	278	287	272	60.8
All other industries.....	107	54	79	94	114	117	118	123	122	122	117	117	107	43.9

TABLE 6.—DETAILED STATISTICS FOR MINING INDUSTRIES: 1919.

	PRODUCING ENTERPRISES.				PRODUCING ENTERPRISES.		
	Total.	Granite.	All other. ¹		Total.	Granite.	All other. ¹
Number of enterprises.....	14	8	6	Persons engaged in industry—Continued.			
Number of mines and quarries.....	15	8	7	Wage earners by occupation (Dec. 15):			
Capital.....	\$310,066	\$553,806	\$258,200	Miners, quarrymen, and drillmen, including their helpers—			
Principal expenses:				Above ground.....	100	114	52
Salaries and wages—				Below ground.....	2		2
Officers.....	\$22,435	\$18,335	\$4,100	Timbermen, trackmen, and men engaged in hauling, tramming, etc.—			
Superintendents and managers.....	\$34,185	\$17,321	\$16,864	Above ground.....	11	5	6
Technical employees.....	\$11,073	\$11,073		Muckers, loaders, laborers, and others not classified—			
Clerks, etc.....	\$14,988	\$10,846	\$4,142	Above ground.....	100	63	37
Wage earners.....	\$309,648	\$280,227	\$119,421	Wage earners employed in mills and beneficiating plants—			
Supplies and materials.....	\$146,637	\$122,500	\$24,137	Above ground.....	70	70	
Fuel.....	\$45,526	\$30,009	\$14,517	Mineral land operated.....acres..	570	433	137
Power.....	\$9,540	\$7,293	\$2,246	Land controlled, total.....acres..	1,334	1,197	137
Royalties and rents.....	\$5,755	\$5,645	\$110	Mineral land owned.....	512	377	135
Taxes.....	\$9,270	\$7,754	\$1,515	Mineral land leased.....	58	50	2
Contract work.....	\$1,000		\$4,000	Timber and other lands owned and leased..	764	764	
Expenditures for development (included in the above items).....	\$14,200	\$11,200	\$3,000	Power used: Aggregate horsepower.....	3,000	2,400	540
Value of products.....	\$952,204	\$733,083	\$218,521	Prime movers (horsepower, total).....	1,814	1,520	324
Persons engaged in industry.....	421	200	125	Steam engines—			
Proprietors and firm members (total).....	6	4	2	Number.....	58	49	9
Salaried officers.....	6	3	2	Horsepower.....	1,810	1,520	320
Superintendents and managers.....	20	11	9	Internal-combustion engines—			
Technical employees.....	6	6		Number.....	1		1
Clerks, etc.....	15	10	5	Horsepower.....	4		4
Wage earners (average number).....	369	202	107	Purchased power (horsepower, total).....	1,156	940	216
Wage earners by occupation (Dec. 15):				Electric motors operated by purchased current—			
Above ground (total).....	420	307	113	Number.....	29	21	8
Below ground (total).....	2		2	Horsepower.....	1,156	940	216
Foremen, shift bosses, etc.—				Fuel used:			
Above ground.....	20	17	3	Coal, anthracite.....tons, 2,240 pounds..	118	18	100
Enginemen, holstmen, electricians, mechanics, etc.—				Coal, bituminous.....tons, 2,000 pounds..	6,316	5,098	1,218
Above ground.....	53	38	15	Wood.....cords..	6		6
				Gasoline and other volatile oils....barrels..	187	125	62

¹Includes enterprises as follows: Basalt, 4; graphite, 2.

CONNECTICUT.

Connecticut, which is one of the smaller states—forty-sixth in size (land area 4,820 square miles) and twenty-ninth in population (1,380,631 in 1920)—ranked forty-second in value of mineral products in 1919. It ranked forty-fourth in total number of persons engaged in the mining and quarrying industries and in the average number of wage earners employed.

The total value of products of all mines and quarries in Connecticut in 1919 was \$1,649,003, which was an increase of 19.9 per cent over the corresponding value for 1909. This increase and the increases in salaries, cost of supplies and materials and fuel and power, as shown in Table 1, are due to general price increases and are not indicative of progress in the mining industries. On the other hand, the changes in number of enterprises and mines and quarries operated, in the number of wage earners, and wages paid are significant and indicate a decline of the industries.

The mining industries reported for 1919, classified by principal products and listed in order of value of products, were basalt or traprock, granite, feldspar, iron ore, limestone, silica, and sandstone. The industries for which statistics can be shown without disclosure of individual operations are ranked by value of products in Table 2.

The leading mineral industry, basalt or trap-rock quarrying, produced stone to the value of \$1,262,579, which amount was 76.6 per cent of the value of all mineral products for the state in 1919. The quarrying industries—that is, basalt, granite, limestone,

and sandstone combined—reported 91.1 per cent of the value of all products.

Table 3 shows that corporations outclassed other forms of organization among operators of mining enterprises and that they conducted 58.5 per cent of the total number of enterprises, employed 76.4 per cent of the total number of wage earners, and reported 84.3 per cent of the total value of all products.

The relatively large number of small enterprises, as determined by the average number of wage earners employed, is shown in Table 4. In 1919 only 1 out of a total of 41 enterprises in Connecticut employed more than 100 wage earners. This enterprise, in the basalt or trap-rock industry, employed 104 wage earners, or 19.2 per cent of the total number. The 40 other enterprises in the state were in classes having no wage earners or less than 51, and these enterprises employed 80.8 per cent of the total number of wage earners.

Table 5 shows that in 72.5 per cent of the enterprises employing wage earners and for approximately 85 per cent of the wage earners the prevailing hours of labor per week were 54 to 62.

The statistics for wage earners presented in Table 6, showing the changes in the number employed month by month, reflect conditions in the industries during the census year.

Table 7 presents for 1919 statistics in detail for the state as a whole and for each industry that can be shown without disclosure of individual operations.

MINES AND QUARRIES—CONNECTICUT.

TABLE 1.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES: 1919 AND 1909.

	MINING INDUSTRIES.		Per cent of increase. ¹		MINING INDUSTRIES.		Per cent of increase. ¹
	1919	1909			1919	1909	
Number of enterprises.....	41	71	.....	Principal expenses:			
Number of mines and quarries.....	47	75	.....	Salaries.....	\$144,470	\$82,684	74.7
Persons engaged.....	642	1,546	-58.5	Wages.....	646,624	729,377	-11.3
Proprietors and firm members, total.....	27	76	.....	Contract work.....	27,038	13,761	96.5
Number performing manual labor in or about the mines and quarries.....	5	29	.....	Supplies and materials.....	304,080	127,424	138.6
Salaried employees.....	72	85	.....	Fuel and power.....	120,374	71,917	67.4
Wage earners (average number).....	543	1,385	-60.8	Royalties and rents.....	10,004	16,771	-36.8
Power used (horsepower).....	5,520	6,208	35.3	Taxes.....	45,057	17,657	155.2
Capital.....	\$3,567,208	\$2,004,442	20.0	Value of products.....	1,649,003	1,375,765	19.9

¹ A minus sign (-) denotes decrease. Percentages are omitted where base is less than 100.

TABLE 2.—PRINCIPAL INDUSTRIES, PRODUCING ENTERPRISES, RANKED BY VALUE OF PRODUCTS: 1919.

INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.		INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.	
		Average number.	Per cent distribution.	Amount.	Per cent distribution.			Average number.	Per cent distribution.	Amount.	Per cent distribution.
All industries.....	41	543	100.0	\$1,649,003	100.0	Granite.....	11	92	16.9	\$200,546	12.5
Basalt.....	20	363	66.9	1,262,579	76.6	All other industries.....	10	88	16.2	179,878	10.9

¹ Includes enterprises in industries as follows: Feldspar, 4; iron ore, 1; limestone, 1; sandstone, 3; silica, 1.

TABLE 3.—CHARACTER OF ORGANIZATION, FOR SELECTED INDUSTRIES, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprise.	Enterprises.	Wage earners.	Value of products.
ALL INDUSTRIES.....	41	543	\$1,649,003	\$40,220	100.0	100.0	100.0
Corporation.....	24	415	1,390,101	57,921	58.5	76.4	84.3
Individual.....	9	72	125,992	13,989	22.0	13.3	7.6
Firm.....	8	56	133,000	16,625	19.5	10.3	8.1
BASALT.....	20	363	1,262,579	63,129	100.0	100.0	100.0
Corporation.....	13	313	1,134,685	87,283	65.0	86.2	89.0
Individual.....	3	12	20,096	6,699	15.0	3.3	2.3
Firm.....	4	38	98,228	24,557	20.0	10.5	7.8
GRANITE.....	11	92	200,546	18,777	100.0	100.0	100.0
Corporation.....	6	50	135,533	22,589	54.5	54.3	65.6
Individual.....	5	42	71,013	14,203	45.5	45.7	34.4

¹ Includes 2 firms.

TABLE 4.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Number.	Per cent distribution.	Number.	Per cent distribution.		Number.	Per cent distribution.	Number.	Per cent distribution.
ALL INDUSTRIES.....	41	100.0	543	100.0	GRANITE.....	11	100.0	92	100.0
No wage earners.....	1	2.4	.....	.....	1 to 5.....	3	27.3	6	6.5
1 to 5.....	11	26.8	23	4.2	6 to 20.....	7	63.6	62	67.4
6 to 20.....	21	51.2	227	41.8	21 to 50.....	1	9.1	24	26.1
21 to 50.....	7	17.1	189	34.8					
101 to 500.....	1	2.4	104	19.2					
BASALT.....	20	100.0	363	100.0					
No wage earners.....	1	5.0	.....	.....			
1 to 5.....	3	15.0	7	1.9					
6 to 20.....	10	50.0	119	32.8					
21 to 50.....	5	25.0	133	36.6					
101 to 500.....	1	5.0	104	28.7					

MINES AND QUARRIES—CONNECTICUT.

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TABLE 5.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR SELECTED INDUSTRIES: 1919.

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—			
	Enterprises.	Wage earners.	44 to 53.		54 to 62.	
			Enterprises.	Wage earners.	Enterprises.	Wage earners.
All industries.....	140	543	11	87	29	456
Basalt.....	119	363	10	86	19	363
Granite.....	11	92	1	1	1	6
All other industries.....	10	88	1	1	9	87

¹ Exclusive of 1 enterprise employing no wage earners.

TABLE 6.—WAGE EARNERS, BY MONTHS, FOR SELECTED INDUSTRIES: 1919.

[The month of maximum employment for each industry is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY,												Percent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	543	447	427	491	535	590	591	598	583	558	565	578	553	71.4
Basalt.....	363	281	277	338	350	380	380	408	405	377	393	395	368	68.2
Granite.....	92	79	67	68	89	108	111	108	97	94	94	95	94	60.4
All other industries.....	88	87	83	85	90	102	94	84	81	87	78	88	91	70.5

TABLE 7.—DETAILED STATISTICS FOR MINING INDUSTRIES: 1919.

	PRODUCING ENTERPRISES.					PRODUCING ENTERPRISES.			
	Total.	Basalt.	Granite.	All other. ¹		Total.	Basalt.	Granite.	All other. ¹
Number of enterprises.....	41	20	11	10	Persons engaged in industry—Contd. Wage earners by occupation (Dec. 15)—Continued.				
Number of mines and quarries.....	47	22	11	14					
Capital.....	\$3,557,208	\$2,076,330	\$367,209	\$213,660	Timbermen, trackmen, and men engaged in hauling, tramming, etc.—				
Principal expenses:					Above ground.....	51	20	23	8
Salaries and wages—					Muckers, loaders, laborers, and others not classified—				
Officers.....	\$80,023	\$44,015	\$17,500	\$7,208	Above ground.....	214	190	7	17
Superintendents and managers.....	\$41,843	\$25,200	\$15,134	\$1,600	Wage earners employed in mills and beneficiating plants—				
Technical employees.....	\$7,350	\$0,000	\$750	.....	Above ground.....	40	2	21	17
Clerks, etc.....	\$25,000	\$15,788	\$5,115	\$4,757	Mineral land operated.....acres..	2,995	2,317	410	268
Wage earners.....	\$46,024	\$450,000	\$102,821	\$92,843	Land controlled, total.....acres..	3,200	2,352	540	308
Supplies and materials.....	\$304,000	\$231,885	\$18,819	\$53,392	Mineral land owned.....	2,815	2,221	434	100
Fuel.....	\$75,778	\$45,778	\$14,153	\$15,857	Mineral land leased.....	225	90	21	108
Power.....	\$44,580	\$41,595	.....	\$3,021	Timber and other lands owned and leased.....	160	35	85	40
Royalties and rents.....	\$10,004	\$2,817	\$3,813	\$4,474	Power used: Aggregate horsepower.....	8,520	6,254	1,165	1,101
Taxes.....	\$45,037	\$38,400	\$5,200	\$1,442	Prime movers (horsepower, total).....	4,831	2,720	1,165	946
Contract work.....	\$27,038	\$19,337	\$3,000	\$4,701	Steam engines—				
Expenditures or development (included in the above items).....	\$10,747	\$6,256	.....	\$4,491	Number.....	64	26	30	8
Value of products.....	\$1,040,003	\$1,202,579	\$206,546	\$170,878	Horsepower.....	4,075	2,705	1,150	820
Persons engaged in industry.....	642	425	116	101	Internal-combustion engines—				
Proprietors and firm members (total).....	27	11	9	7	Number.....	7	2	1	4
Number performing manual labor.....	5	1	3	1	Horsepower.....	80	15	15	50
Salaried officers.....	10	15	2	2	Water wheels, turbines, and motors—				
Superintendents and managers.....	22	14	7	1	Number.....	2	.....	.....	2
Technical employees.....	4	3	1	.....	Horsepower.....	76	.....	.....	70
Clerks, etc.....	27	19	5	3	Purchased power (horsepower, total).....	3,689	3,534	.....	155
Wage earners (average number).....	543	363	92	88	Electric motors operated by purchased current—				
Wage earners by occupation (Dec. 15):					Number.....	46	41	.....	5
Above ground (total).....	616	408	117	91	Horsepower.....	3,689	3,534	.....	155
Below ground (total).....	14	.....	.....	14	Electric motors run by current generated by enterprise using:				
Foremen, shift bosses, etc.—					Number.....	8	3	5	.....
Above ground.....	32	17	9	6	Horsepower.....	44	4	40	.....
Below ground.....	2	.....	.....	2	Fuel used:				
Engineers, hoistmen, electricians, mechanics, etc.—					Coal, anthracite, tons, 2,240 pounds..	78	26	22	30
Above ground.....	81	55	18	8	Coal, bituminous, tons, 2,000 pounds..	11,691	7,455	2,345	1,891
Miners, quarrymen, and drillmen, including their helpers—					Wood.....cords..	335	35	100	200
Above ground.....	108	124	30	35	Gasoline and other volatile oils.....barrels..	118	4	100	14
Below ground.....	12	.....	.....	12					

¹ Includes enterprises as follows: Feldspar, 4; iron ore, 1; limestone, 1; sandstone, 3; silica, 1.