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DEPARTMENT OF COMMERCE

BUREAU OF THE CENSUS

WASHINGTON

FOURTEENTH CENSUS OF THE UNITED STATES

MINES AND QUARRIES: 1919

PETROLEUM AND NATURAL GAS

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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, which did neither productive work nor development work during the entire year; or enterprises the products of which were valued at less than $500 or, in the bituminous coal-mining industry, producing less than 1,000 tons; or, if nonproducing enterprises, those doing development work amounting to less than $5,000.

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, was 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.

Geographic presentation.—The general tables at the end of the bulletin give statistics of the industry in detail for each state or group of states which can be shown without disclosure of individual operations. Other tables present statistics by mining regions, producing provinces, or fields, these divisions comprising groups of states related by features peculiar to the industry.

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 such employees 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 total 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 for the representative day. This number is not used in any other way because it is believed to be less significant than the average number. The number reported for the representative day, on account of the unavoidable variations of date, involves more or less duplication of persons working in different industries at different times; does not represent the total number employed in all industries at any one time; and gives undue weight to seasonal industries as compared with industries in continuous operation.

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 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 in which the majority belong. 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 at 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.

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.

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.

Contract work.—The amounts reported under this head include expenditures for both productive operations and those prosecuted for development only; they are in effect indirect expenditures for salaries, wages, supplies, materials, and fuel and power.

Royalties and rents.—The amounts given under this head represent the payment to fee holders or the value of the 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 taxes; 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 for 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.

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 mined in 1919 under the terms by which it was disposed of, and 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.

Lands 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.

PETROLEUM AND NATURAL GAS.

INTRODUCTION.

Scope of the report.—This report presents results of the census of mines and quarries for the year 1919, relating to the petroleum and natural-gas producing industry. It includes statistics showing: The geographic distribution of the industry by producing fields and states; the progress of the industry by comparing the results of the 1919 census with those of the three preceding censuses of mines and quarries; the character of organization and the size of operating enterprises; the persons engaged in the industry; the acreage and form of tenure of petroleum and natural-gas land operated; power equipment and fuel used; statistics in detail for the petroleum and natural-gas industry for the United States as a whole, for oil fields, and for states, as far as can be shown without disclosure of individual operations.

This report does not include statistics relating to the operation of wells by governmental institutions. Returns were received from 15 such enterprises embracing one in Kansas, one in New York, five in Ohio, three in South Dakota, one in Oklahoma, and four in Pennsylvania. These enterprises operated 68 wells, engaged the services of 14 persons of whom 11 were wage earners, and reported products—natural gas—valued at $335,900.

Statistics on the operation of plants for the extraction of gasoline from natural gas (including so-called casing-head gas) are included in the statistics in this report, for, although a considerable number of operations in 1919, including the largest natural-gas gasoline plants, were conducted as independent establishments, the greater number, comprising nearly all of the smaller plants, were conducted by natural-gas and petroleum producing companies and the data for the extraction plants were inseparably involved with those for the well operations. These statistics present all available data on natural-gas gasoline plants. They include those plants operated in conjunction with carbon-black manufacturing plants, except two establishments in Louisiana and one in West Virginia, for which satisfactory segregation of the data on gasoline extraction from data on carbon-black manufacturing could not be made.

The report contains statistics relating to unproductive operations conducted solely for exploration or development of petroleum and natural-gas properties as well as statistics relating to productive operations, but such unproductive operations as were conducted outside of or remote from the productive petroleum and natural-gas fields and by such enterprises as reported merely the drilling of test wells in unproven territory were not considered within the scope of the census, and, in so far as it was possible to make a fair discrimination, statistics on "wildcat" operations have been excluded.

The statistics in this report are based on returns from operators. They do not include data relating to fee holders or holders of fractional interests who did not participate in producing activities. In the very common case of the sharing in production by several interests, only one of which was actively concerned in the productive operations, a single report from the operator only, made out by him as covering the operation in full, was accepted. The statistics do not contain data relating to companies whose sole business was the resale or the transportation, distributing, and marketing of petroleum and natural gas, although only through such companies is it possible to secure data on the products of a large number of small enterprises of which the production in the aggregate is very large. On this account the statistics of the Bureau of the Census on the number of wells and quantity of products will differ from the statistics presented by the United States Geological Survey, which makes use of information obtained from distributors as well as producers. It was impossible to segregate from the returns of some enterprises the data relating to the natural-gas distributing business conducted by them, and there is a duplication in the quantity and value of gas reported which is the gas produced by some operators and delivered to others who were also producers and who resold it.

Classification of enterprises.—Producing enterprises in the petroleum and natural-gas industry were grouped by the Bureau of the Census in the following six classes, according to the products they reported for 1919:

(1) Enterprises operating petroleum wells only. This includes enterprises producing a small amount of natural gas not marketed but used solely on producing properties as fuel for well operation and for domestic use by residents. The quantity of such gas used for well operation is included in this report and the value given for it is for the most part estimated on the basis of the value of natural gas produced and marketed by other enterprises in the same localities. Some natural-gas gasoline is also shown as product of enterprises in this class, but this was only drip gasoline or gasoline formed by natural condensation of the vapors from gaseous oil wells in well heads and connections.

(2) Enterprises operating petroleum and natural-gas wells, either product predominating.

(3) Enterprises operating petroleum and natural-gas wells, and natural-gas gasoline extraction plants, any of the products predominating.

(4) Enterprises operating natural-gas wells only. Petroleum and natural-gas gasoline are also shown as products of enterprises in this class, but these products were only negligible amounts of oil collected incident to gas production and drip gasoline or gasoline formed by natural condensation in well heads and connections.

(5) Enterprises operating natural-gas wells and natural-gas gasoline extraction plants.

(6) Enterprises operating extraction plants and not operating wells. Some of these enterprises reported as products, in addition to natural-gas gasoline, the natural gas sold after extraction of the gasoline.

A complete segregation of enterprises according to products is not possible because many wells yield both petroleum and natural gas, and because many enterprises operated both petroleum and natural-gas wells on a single property.

Differences between the census of 1919 and preceding censuses relating to petroleum and natural gas.—At the Fourteenth Census (1919) a general canvass of operators of petroleum and natural-gas wells was made as at the Thirteenth Census, and the resulting statistics for the petroleum and natural-gas industry, similarly based on operators' or producers' reports, are presented in similar form and in general are quite comparable. At the special census for mines and quarries for 1902 statistical information was obtained chiefly through the Standard Oil Co., which furnished statistics covering the activities of 98 per cent of the petroleum producers and 95 per cent of the petroleum wells reported for the whole of the United States and which also furnished statistics for a part of the natural-gas industry. At the Eleventh Census (1889) a direct canvass of well operators was made but the scope of the inquiry was different from that of the last two censuses and in presentation the results of the canvass were supplemented by information from other sources. The statistics for 1889 and 1902 contain few items strictly comparable with those for 1909 and 1919.

Although quite comparable in general, certain differences should be noted in the detailed presentation of the statistics for these later years. First, in the classification of enterprises the census of 1919 distinguished between producing and nonproducing enterprises and did not, like the previous census, make the further distinction within the former group between those engaged in production only and those engaged in production and the development or the drilling of new wells. Further, in the classification of enterprises on the basis of products the census of 1919 made six groups, regardless of the relative value of the products, whereas the census of 1909 made three groups, two, according as petroleum or natural gas was the only or principal product and a third, unclassified group. Second, no statistics for natural-gas gasoline were separately presented at the census of 1909 because the extraction of gasoline from natural gas did not become a commercial industry until after 1909. Third, no classification and enumeration of wells and of operations or enterprises was made by the present census on the basis of wells producing petroleum only and natural gas only, as was done at the census of 1909; nor are statistics presented on number of wells drilled, abandoned, etc., or on the depth of wells, such information having been secured on the special schedule for compilation and presentation by the Geological Survey. Fourth, the quantity and value of petroleum and natural gas produced by reporting enterprises and used by them as fuel in operations on their producing properties was included in the report of products at both the census of 1909 and the census of 1919, but the former census did not include as one of the expenses of operation the value of such fuel as a cost for fuel, whereas at the census of 1919 instructions for preparation and editing of schedules required that cost of such fuel be reported as an expense of operation. However, at the census of 1919, when enterprises reported the purchase of natural gas for extraction of gasoline therefrom and used all or part of such gas in operating the extraction plant, the amount paid for such gas was reported as cost of material, and was not again reported as cost of fuel; but in the case of enterprises reporting gasoline extracted from gas of their own production no report was made of the value of gas used as cost of material, and only the value of the gas used as fuel was reported as cost of fuel. The reason for including in production and reporting as cost of fuel the petroleum and natural gas of their own production used by the enterprises was that generally the producers would have marketed such output if they had not themselves consumed it.

Enumeration of wells.—The statistics in this report include two counts of wells—the number productive December 31 and the total number operated during the census year 1919. The number of productive wells on a set date—in the census statistics December 31—is the number most suitable for statistical purposes and is the number used by the Bureau of the Census in the general statistical statements for the producing enterprises in the industry for the United States and the several states. In addition to reporting this number the returns from producers showed the number of productive wells January 1, 1919, the number of new wells completed during 1919, whether productive or dry, and the number of wells abandoned during 1919. These yielded the figures for total number of wells operated which are of especial value in combination with data on the number of wage earners employed, the number of acres operated, and number and horsepower of mechanical equipment used in the operation of the wells.

Methods of the Bureau of the Census and the Geological Survey in reporting products.—The statistics for the petroleum and natural-gas industry were collected in cooperation with the United States Geological Survey. For the purposes of the canvass supplemental

schedules were provided for the data required by the Geological Survey in addition to the general schedule of the Bureau of the Census. The supplemental schedules requested information in regard to the character, uses, and distribution of products and other special data for the Geological Survey; they also required the number of wells and gasoline plants and information as to the quantity of products and acreage of oil and gas lands operated which data were used by the Bureau of the Census. The gross quantities and values of the petroleum, natural gas, and natural-gas gasoline produced which were reported on the supplemental schedules, and which bear a direct relation to the number of persons engaged, expenditures, total value of products, and other data concerning the enterprises reported on the general schedule, are presented in the statistics compiled by the Bureau of the Census. The Geological Survey publishes statistics for each of these products separately.

The figure of the Bureau of the Census—350,112 thousands of barrels—is necessarily very different, 7.5 per cent short of the Geological Survey figure. Producers' returns as tabulated by the Geological Survey agree more closely with results of the Bureau of the Census tabulation as shown in the following statement:

STATE.	BUREAU OF THE CENSUS.	GEOLOGICAL SURVEY.	
	Producers' returns.	Producers' returns.	Based on transporting companies' returns.
	Expressed in thousands of barrels.		
United States	350,112	350,995	[1] 378,367
California	97,711	99,822	101,183
Illinois	11,622	11,639	11,960
Indiana	795	778	972
Kansas	26,526	26,126	33,048
Kentucky	7,926	7,816	9,278
Louisiana	15,834	16,017	17,188
Montana	90	90	90
New York	847	838	851
Ohio	6,911	6,254	7,736
Oklahoma	81,492	80,630	86,911
Pennsylvania	6,680	6,862	8,137
Texas	72,972	74,014	79,366
West Virginia	7,900	7,411	8,327
Wyoming	12,675	12,567	13,172
All other states	131	131	[1] 148

[1] Includes figures for Alaska.

Petroleum production as reported for 1919 by the Geological Survey was 378,367 thousands of barrels. This figure, with the exception of the part contributed by California, was compiled from reports of pipe-line and other companies which transport petroleum from producing properties and which account for approximately 98 per cent of the gross production. The remaining 2 per cent were obtained from reports by the producers and cover the quantity of petroleum consumed for fuel on the producing properties and the amount of the net changes in the producers' stocks between the beginning and end of the year. For California the figures reported by producers to the State Mining Bureau were used. Direct returns can not be secured from a large number of small producing enterprises nor from many other enterprises which control production but do not conduct field operations. Such production is important in the aggregate and, as it is covered in returns received from transporting companies, the Geological Survey bases its complete report of petroleum production on the statements made by such companies.

The differences between the Bureau of the Census and the Geological Survey results on producers' returns are due first, to the fact that the Bureau of the Census did not in all cases revise the returns by accounting for the petroleum which was drawn from or placed in storage; and, second, that the Geological Survey figures include production by enterprises for which returns were not tabulated by the Bureau of the Census. These enterprises were almost all too small to be within the scope of the census but included some larger enterprises for which the Geological Survey secured belated returns covering production but no information in regard to other census inquiries.

The quantity of natural gas produced in the United States in 1919, as reported by the Bureau of the Census, is the sum of the quantities used and the quantities sold by the producers. The Geological Survey has tabulated for 1919 the entire production of natural gas including wastage, as far as reported by operators, on producing properties and in transmission. The Geological Survey also presents, as a measure of natural-gas output, the consumption of natural gas. The difference between the two figures, production and consumption, is the wastage reported by operators. The Bureau of the Census figure for production is practically comparable with the Geological Survey figure for consumption as shown in the following statement:

	Natural gas produced: 1919.
Bureau of the Census.	*M cubic feet.*
Gross	961,095,000
Purchased for resale	233,800,000
Net	727,295,000
Geological Survey.	
Consumption	739,916,000

The Bureau of the Census statistics on natural-gas production, like those for petroleum production, are based entirely on producers' reports, whereas the Geological Survey data are supplemented by data from distributing companies which furnish more complete information on the output of natural gas. A further difference arises from the inclusion in the census report of production of the gas purchased for resale by some producers from others.

Comparison can not be made between the Bureau of the Census figures for production by states and the

Geological Survey figures for consumption by states, as the latter bureau reports consumption within the state without regard to the source of the production.

The apparently different figures presented by the Bureau of the Census and the Geological Survey for natural-gas gasoline are based on essentially identical data. The value of this product given by the Bureau of the Census is the value to the producers of the final products, both unblended, or raw, and blended natural-gas gasoline. The quantities given by the Bureau of the Census correspond to this value and are the quantities of raw gasoline made for sale as such or disposed of as such, plus the quantity of blended gasoline produced. The Geological Survey presents the total quantity and value of raw or unblended gasoline produced. The statistics of the Bureau of the Census present merely the value of the products (and a corresponding quantity) to the enterprises in the industry, whereas the Geological Survey figures present the entire production of natural-gas gasoline reduced to a uniform basis of measurement (unblended gasoline). The two sets of figures are as follows: Bureau of the Census, 454,089,466 gallons, valued at $78,760,835; Geological Survey, 351,535,026 gallons, valued at $64,196,763.

PRINCIPAL STATISTICS.

Summary for producing and nonproducing enterprises: 1919.—The principal statistics for 1919 for the petroleum and natural-gas industry in the United States are presented in Table 1, in which the statistics are given separately for two groups of enterprises: (1) Those whose operations were productive—the activities of this class were not confined to the operation of producing wells and many of these enterprises reported development work or the drilling of new wells; (2) those whose activities were not productive during the census year but were confined to the drilling of new wells and to other development work.

The total number of enterprises from which returns were received by the Bureau of the Census was 9,970, of which 9,814, or 98.4 per cent, reported production. The producing enterprises had 257,673 productive wells at the close of the census year and reported 1,115 natural-gas gasoline plants. The average number of wage earners employed by the producing enterprises was 93,205 and the total value of products reported was $931,793,423. The products during the census year were 350,112,253 barrels of petroleum, valued at $694,026,948; 961,095,000 M cubic feet of natural gas, valued at $155,910,032; 454,089,466 gallons of natural-gas gasoline, valued at $78,760,835; and, in addition, a small amount of by-product and receipts for power sold or miscellaneous services for other enterprises, valued at $3,095,608. The enterprises reporting production during 1919 also reported expenditures for development work amounting to $230,867,499.

In the total value of products for producing enterprises there is a duplication of $28,813,671, which represents the cost of approximately 233,800,000 M cubic feet of natural gas which was purchased by some producers from others and partly used as material for the extraction of gasoline, but for the most part was resold as natural gas and again reported by the purchaser as part of his products. Deducting this duplication the total net value of products was $902,979,752 and the value of the natural gas $127,096,361.

TABLE 1.—PRINCIPAL STATISTICS: 1919.

	Total.	Producing enterprises.	Nonproducing enterprises.
Number of enterprises	9,970	9,814	156
Number of petroleum and natural-gas wells:			
Total operated during the year	268,784	268,508	276
Productive Dec. 31	257,673	257,673	.....
Number of natural-gas gasoline plants	1,115	1,115	.....
Petroleum and natural-gas land operated, acres	12,431,519	12,171,388	260,131
Persons engaged in industry	125,930	125,110	820
Proprietors and firm members, total	14,319	14,223	96
Number performing manual labor	1,995	1,987	8
Salaried officers and employees	17,952	17,682	270
Wage earners (average number)	93,659	93,205	454
Power used (aggregate horsepower)	1,826,885	1,821,342	5,543
Capital	$2,446,446,795	$2,421,485,942	$24,960,853
Principal expenses	$633,124,578	$626,468,862	$6,655,716
Salaries	$33,878,724	$33,468,368	$410,356
Wages	$135,397,170	$134,521,247	$875,923
Supplies and materials	$198,089,800	$195,058,693	$3,031,107
Cost of gas purchased as material and for resale	$28,813,671	$28,813,671	.....
Fuel	$20,071,392	$19,828,776	$242,616
Purchased power	$973,027	$965,300	$7,727
Royalties and rents	$107,050,247	$106,458,518	$591,729
Taxes	$38,748,388	$38,690,630	$57,758
Contract work	$70,102,159	$68,663,659	$1,438,500
Expenditures for development (included in above items)	$236,553,420	$230,867,499	$5,685,921
Total value of all products	$931,793,423	$931,793,423	.....
Petroleum—			
Quantity (barrels, 42 gallons)	350,112,253	350,112,253	.....
Value	$694,026,948	$694,026,948	.....
Natural gas—			
Quantity (M cubic feet)	961,095,000	961,095,000	.....
Value	$155,910,032	$155,910,032	.....
Natural-gas gasoline [1]—			
Quantity (gallons)	454,089,466	454,089,466	.....
Value	$78,760,835	$78,760,835	.....
Other products,[2] value	$3,095,608	$3,095,608	.....

[1] Includes "drip gasoline."
[2] Includes a small amount of by-product and receipts for power sold or for miscellaneous services for other enterprises.

Returns were received from 156 enterprises engaged only in nonproductive operations. These enterprises represented 1.6 per cent of the total number; had invested capital amounting to $24,960,853, or 1 per cent of the aggregate for all enterprises; employed an average of 454 wage earners during the year, or only five-tenths of 1 per cent of the total average number of wage earners for all enterprises; and reported expenditures for development work amounting to $5,685,921, which was 2.4 per cent of expenditures for similar purposes by all enterprises and nine-tenths of 1 per cent of the aggregate of principal expenses of all enterprises. The activities of

nonproducing enterprises, as shown in Table 1, were of relatively little importance, but the operations for development reported by producing enterprises were, by the ratio of expenditures for development work to the total of principal expenses, a very considerable part—more than one-third—of the activities of producing enterprises.

Summary for producing enterprises, classified by products.—Table 2 presents a summary of the statistics for 1919 for producing enterprises in the petroleum and natural-gas industry, classified according to the products reported, and Table 3 gives the more important items with the per cent distribution according to this classification.

TABLE 2.—GENERAL SUMMARY FOR PRODUCING ENTERPRISES, CLASSIFIED ACCORDING TO THE PRODUCTS REPORTED: 1919.

	Total.	ENTERPRISES REPORTING AS PRODUCTS—					
		Petroleum.	Petroleum and natural gas.	Petroleum, natural gas, and natural-gas gasoline.	Natural gas.	Natural gas and natural-gas gasoline.	Natural-gas gasoline.
Number of enterprises	9,814	6,799	1,286	448	1,032	19	230
Number of petroleum and natural-gas wells:							
Total operated during the year	268,508	111,036	74,188	68,053	14,717	514	.....
Productive Dec. 31	257,673	106,926	70,901	65,589	13,758	499	.....
Number of natural-gas gasoline plants	1,115	.....	.....	730	.....	22	363
Petroleum and natural-gas land operated (total acres)	12,171,388	2,526,642	3,112,813	4,317,240	2,146,561	38,132	.....
Owned	1,172,068	383,706	288,783	229,098	256,602	13,879	.....
Held under lease	10,999,320	2,142,936	2,824,030	4,118,142	1,889,959	24,253	.....
Persons engaged	125,110	46,718	33,579	33,723	6,634	312	4,144
Proprietors and firm members (total)	14,223	10,375	1,631	675	1,463	21	58
Number performing manual labor	1,987	1,511	229	116	120	5	6
Salaried officers	2,392	1,159	497	286	301	11	138
Superintendents and managers	4,704	2,013	1,172	866	365	10	278
Technical employees	868	184	402	190	50	3	39
Clerks	9,718	3,497	2,441	2,734	742	64	240
Wage earners (average number)	93,205	29,490	27,436	28,972	3,713	203	3,391
Wage earners, by occupation, Dec. 15	100,980	33,252	29,984	30,421	3,749	195	3,379
Engineers, firemen, etc.	64,230	21,724	17,278	21,627	1,489	104	2,008
All other	36,750	11,528	12,706	8,794	2,260	91	1,371
Number of females included in wage earners reported above	118	46	17	55	.....	.....	.....
Power used (aggregate horsepower)	1,821,342	578,814	489,071	600,119	37,291	4,817	111,230
Prime movers (horsepower, total)	1,770,181	547,402	475,984	593,878	37,122	4,817	110,978
Steam engines—							
Number	23,412	8,620	5,667	8,757	217	16	135
Horsepower	[1] 532,774	[1] 182,786	127,066	207,746	11,469	438	3,269
Internal-combustion engines—							
Number	53,699	18,839	14,560	17,077	1,659	124	1,440
Horsepower	1,237,407	364,616	348,918	386,132	25,653	4,379	107,709
Equipment operated by purchased power (horsepower, total)	51,161	31,412	13,087	6,241	169	.....	252
Electric motors—							
Number	1,841	1,173	412	234	4	.....	18
Horsepower	44,638	29,424	8,560	6,241	161	.....	252
Other, horsepower	6,523	1,988	4,527	.....	8	.....	.....
Electric motors run by current generated by the enterprise reporting:							
Number	1,329	82	304	851	11	45	36
Horsepower	28,164	517	8,211	18,647	183	355	251
Capital	$2,421,485,942	$908,885,325	$728,830,444	$584,457,380	$137,252,689	$3,762,300	$58,297,804
Principal expenses:							
Salaries and wages	$167,989,615	$56,092,280	$50,828,915	$47,777,885	$6,414,799	$307,340	$6,568,396
Officers	$8,037,943	$3,340,794	$1,840,854	$1,582,676	$582,408	$10,213	$680,998
Superintendents and managers	$11,468,407	$4,464,270	$3,181,625	$2,501,304	$644,233	$26,142	$650,833
Technical employees	$1,869,022	$415,842	$796,133	$513,467	$74,643	$4,793	$64,144
Clerks	$12,092,996	$3,289,925	$3,821,485	$3,588,705	$801,728	$16,262	$574,891
Wage earners	$134,521,247	$44,581,449	$41,188,818	$39,591,733	$4,311,787	$249,930	$4,597,530
Supplies and materials	$195,058,693	$68,156,115	$69,378,719	$40,753,401	$5,112,061	$633,464	$11,024,933
Cost of gas purchased as material and for resale	$28,813,671	$1,362	$3,772,287	$10,232,155	$5,245,197	$571,708	$8,990,962
Fuel	$19,828,776	$8,870,542	$6,904,534	$3,419,972	$419,848	$39,302	$174,578
Purchased power	$965,300	$557,319	$206,567	$187,771	$6,457	.....	$7,186
Royalties and rents	$106,458,518	$37,400,704	$33,314,430	$32,728,733	$2,683,391	$51,818	$279,442
Taxes	$38,690,630	$9,561,526	$11,288,715	$13,721,198	$1,686,585	$36,149	$2,396,457
Contract work	$68,663,659	$37,243,010	$15,254,634	$13,153,868	$2,901,068	$56,853	$54,226
Expenditures for development (included in the above items)	$230,867,499	$98,259,436	$75,578,250	$51,101,745	$5,767,470	$121,831	$38,767
Total value of all products	$931,793,423	$275,450,083	$272,743,038	$297,186,256	$38,993,019	$2,823,587	$44,597,440
Petroleum—							
Quantity (barrels, 42 gallons)	350,112,253	146,249,011	111,687,539	92,174,898	805	.....	.....
Value	$694,026,948	$271,533,996	$234,415,067	$188,075,190	$2,695	.....	.....
Natural gas—							
Quantity (M cubic feet)	961,095,000	26,027,559	288,462,509	376,590,921	253,243,682	9,780,107	6,990,222
Value	$155,910,032	$2,434,155	$37,119,129	$75,485,253	$38,873,713	$1,337,488	$660,294
Natural-gas gasoline [2]—							
Quantity (gallons)	454,089,466	[3] 12,585	.....	171,068,879	[3] 40,972	8,874,078	274,092,952
Value	$78,760,835	[3] $2,770	.....	$33,344,183	[3] $8,199	$1,486,019	$43,919,664
Other products,[4] value	$3,095,608	$1,479,162	$1,208,842	$281,630	$108,412	$80	$17,482

[1] Includes 40 horsepower reported for 2 water wheels.
[2] Includes "drip gasoline."
[3] Drip gasoline only.
[4] Includes the value of a small amount of by-product and receipts for power sold or miscellaneous services for other enterprises.

TABLE 3.—CHIEF ITEMS OF PRINCIPAL STATISTICS FOR ENTERPRISES, CLASSIFIED ACCORDING TO THE PRODUCTS REPORTED, WITH PER CENT DISTRIBUTION: 1919.

	Total.	ENTERPRISES REPORTING AS PRODUCTS—											
		Petroleum.		Petroleum and natural gas.		Petroleum, natural gas, and natural-gas gasoline.		Natural gas.		Natural gas and natural-gas gasoline.		Natural-gas gasoline.	
		Number or amount.	Per cent of total.	Number or amount.	Per cent of total.	Number or amount.	Per cent of total.	Number or amount.	Per cent of total.	Number or amount.	Per cent of total.	Number or amount.	Per cent of total.
Number of enterprises	9,814	6,799	69.3	1,286	13.1	448	4.6	1,032	10.5	19	0.2	230	2.3
Number of wells productive Dec. 31	257,673	106,926	41.5	70,901	27.5	65,589	25.5	13,758	5.3	499	0.2	.....	.....
Petroleum and natural-gas land operated, acres	12,171,388	2,526,642	20.8	3,112,813	25.6	4,347,240	35.7	2,146,561	17.6	38,132	0.3	.....	.....
Wage earners (average number)	93,205	29,490	31.6	27,436	29.4	28,972	31.1	3,713	4.0	203	0.2	3,391	3.6
Power used (aggregate horsepower)	1,821,342	578,814	31.8	489,071	26.9	600,119	32.9	37,291	2.0	4,817	0.3	111,230	6.1
Products:													
Quantity—													
Petroleum (barrels, 42 gallons)	350,112,253	146,249,011	41.8	111,687,539	31.9	92,174,898	26.3	805	(1)	.....	.....	.....	.....
Natural gas (M cubic feet)	961,095,000	26,027,559	2.7	288,462,509	30.0	376,590,921	39.2	253,243,682	26.3	9,780,107	1.0	6,990,222	0.7
Natural-gas gasoline (gallons)	454,089,466	[2] 12,585	.....	.....	.....	171,068,879	37.7	[2] 40,972	.....	8,874,078	2.0	274,092,952	60.4
Value, total	$931,793,423	$275,450,083	29.6	$272,743,038	29.3	$297,186,256	31.9	$38,993,019	4.2	$2,823,587	0.3	$44,597,440	4.8
Petroleum	694,026,948	271,533,996	39.1	234,415,067	33.8	188,075,190	27.1	2,695	(1)	.....	.....	.....	.....
Natural gas	155,910,032	2,434,155	1.6	37,119,129	23.8	75,485,253	48.4	38,873,713	24.9	1,337,488	0.9	660,294	0.4
Natural-gas gasoline	78,760,835	[2] 2,770	.....	.....	.....	33,344,183	42.3	[2] 8,199	.....	1,486,019	1.9	43,919,664	55.8
Other products.[3]	3,095,608	1,479,162	47.8	1,208,842	39.0	281,630	9.1	108,412	3.5	80	(1)	17,482	0.6

[1] Less than one-tenth of 1 per cent.
[2] Drip gasoline.
[3] Includes the value of a small amount of by-product and amounts received for power sold for miscellaneous services for other enterprises.

The tables show that by far the largest number of enterprises and of wells were in the class producing petroleum only, but this class employed only a slightly greater number of wage earners than the class producing petroleum, natural gas, and natural-gas gasoline. In value of products the class producing only petroleum was nearly equaled by the class producing petroleum and natural gas, and was outranked by the class producing petroleum, natural gas, and natural-gas gasoline. The classes producing petroleum and natural gas, and petroleum, natural gas, and natural-gas gasoline (which are alike in so far as well operations are concerned) taken together numbered 1,734 enterprises, or 17.7 per cent of the total number of enterprises, had 53 per cent of the total number of productive wells, employed 60.5 per cent of the total number of wage earners, and reported products valued at $569,929,294, or 61.2 per cent of the value of products of all classes of enterprises. These two classes produced approximately 58 per cent of the total petroleum output and 69 per cent of the total natural-gas output. The class of enterprises producing only natural gas numbered 1,032, or 10.5 per cent of the total number of enterprises; had 13,758 productive wells, or 5.3 per cent of the total number of wells; employed only 4 per cent of the total number of wage earners; reported 26.3 per cent of the total output of natural gas and 4.2 per cent of the total value of all products. The class of enterprises producing natural-gas gasoline only, and having no gas wells, numbered 230 enterprises, or 2.3 per cent of the total number of enterprises. These operated 363 gasoline-extraction plants, which represented 32.6 per cent of the total number, showing that the majority of such plants were operated by enterprises which also produced natural gas. These enterprises—producing natural-gas gasoline only—employed 3,391 wage earners, or 3.6 per cent of the total number of wage earners in the petroleum and natural-gas industry, and reported products valued at $44,597,440, which was 4.8 per cent of the total value of all products. The natural-gas gasoline produced amounted to 274,092,952 gallons, valued at $43,919,664, respectively 60.4 and 55.8 per cent of the total quantity and value of natural-gas gasoline reported.

GEOGRAPHIC DISTRIBUTION.

Productive fields and states.—Petroleum and natural gas were produced in 1919 in 22 states: Arkansas, California, Colorado, Illinois, Indiana, Kansas, Kentucky, Louisiana, Michigan, Montana, New Mexico, New York, North Dakota, Ohio, Oklahoma, Pennsylvania, South Dakota, Tennessee, Texas, Washington, West Virginia, and Wyoming. Seven of these were unimportant—North Dakota, where productive operations were too small to come within the scope of the census; Michigan, New Mexico, South Dakota, and Tennessee, from each of which but one productive enterprise within the scope of the census was reported; Colorado, where the once important productive fields were approaching exhaustion in 1919; and Washington, where, although gas was obtained from wells, there was no commercial production and the enterprises reported were active in development work only.

In Table 4 the important statistical items relating to the petroleum and natural-gas industry are presented by the usual geographic divisions and by states within those divisions in order that statistics on this

industry may be compared with other census statistics distributed by these geographic divisions. However, the different features of the various occurrences of petroleum or natural gas and the consequent differences in industrial conditions affecting production are quite without relation to these geographic divisions.

TABLE 4.—STATISTICS FOR PRODUCING ENTERPRISES, BY GEOGRAPHIC DIVISIONS AND STATES: 1919.

DIVISION AND STATE.	Number of enterprises.	Number of wells productive Dec. 31.	Petroleum and natural-gas land operated (acres).	Wage earners (average number).	Power used (aggregate horsepower).	Capital.	Principal expenses.	Value of products.
UNITED STATES	9,814	257,673	12,171,388	93,205	1,821,342	$2,421,485,942	$626,468,862	$931,793,423
GEOGRAPHIC DIVISIONS:								
Middle Atlantic	3,701	91,511	2,825,609	9,933	401,463	240,985,393	49,094,564	76,172,855
East North Central	1,700	54,394	1,703,583	8,278	196,319	151,847,675	42,598,978	79,351,483
West North Central	613	12,690	468,144	6,305	95,883	237,711,466	60,858,413	68,515,158
South Atlantic	751	27,363	2,732,470	12,302	338,194	186,275,466	52,901,751	99,518,304
East South Central	196	5,214	323,015	2,119	13,795	56,788,065	15,598,795	23,329,521
West South Central	2,392	56,087	3,396,334	39,636	540,649	1,117,641,994	315,990,887	423,472,731
Mountain	55	1,183	219,787	2,285	14,851	69,379,443	11,871,641	22,371,577
Pacific	403	9,197	482,320	12,344	220,089	359,851,160	77,521,507	139,018,663
All other [1]	3	34	20,126	3	99	1,005,280	32,326	43,131
MIDDLE ATLANTIC:								
New York	561	14,186	318,730	868	30,196	39,799,123	7,104,245	9,900,894
Pennsylvania	3,140	77,325	2,506,879	9,065	371,267	201,186,270	41,990,319	66,271,961
EAST NORTH CENTRAL:								
Ohio	1,333	35,440	1,449,239	5,123	153,220	95,749,317	27,870,823	45,483,525
Indiana	131	2,456	85,319	403	7,669	9,890,964	1,670,745	2,604,395
Illinois	236	16,498	169,025	2,752	35,430	46,207,394	13,057,410	31,263,563
WEST NORTH CENTRAL:								
Kansas	613	12,690	468,144	6,305	95,883	237,711,466	60,858,413	68,515,158
SOUTH ATLANTIC:								
West Virginia	751	27,363	2,732,470	12,302	338,194	186,275,466	52,901,751	99,518,304
EAST SOUTH CENTRAL:								
Kentucky	196	5,214	323,015	2,119	13,795	56,788,065	15,598,795	23,329,521
WEST SOUTH CENTRAL:								
Arkansas	7	124	46,621	16	617	2,089,388	448,522	621,834
Louisiana	133	2,479	329,342	4,841	79,249	81,682,666	25,758,635	32,016,085
Oklahoma	1,699	44,735	1,730,661	21,180	353,234	699,663,144	159,063,170	247,497,450
Texas	553	8,749	1,289,710	13,599	107,549	334,206,796	130,720,560	143,337,362
MOUNTAIN:								
Montana	5	28	4,760	38	245	827,067	159,600	258,046
Wyoming	39	1,084	199,542	2,167	12,893	65,620,743	11,354,513	21,959,937
Colorado and New Mexico [2]	11	71	15,485	80	1,713	2,931,633	357,528	153,594
PACIFIC:								
California	403	9,197	482,320	12,344	220,089	359,851,160	77,521,507	139,018,663
All other states [1]	3	34	20,126	3	99	1,005,280	32,326	43,131

[1] Includes the states of Michigan, South Dakota, and Tennessee to avoid disclosure of individual operations.
[2] Includes 10 enterprises in Colorado and 1 in New Mexico, combined to avoid disclosure of individual operations.

For the purpose of grouping related data and in order to present the census statistics in form comparable with other presentations for the petroleum and natural-gas industry, the following groupings of states or parts of states which correspond to the commonly accepted definition of petroleum and natural-gas fields have been adopted for the general presentation of the statistics on petroleum and natural gas:

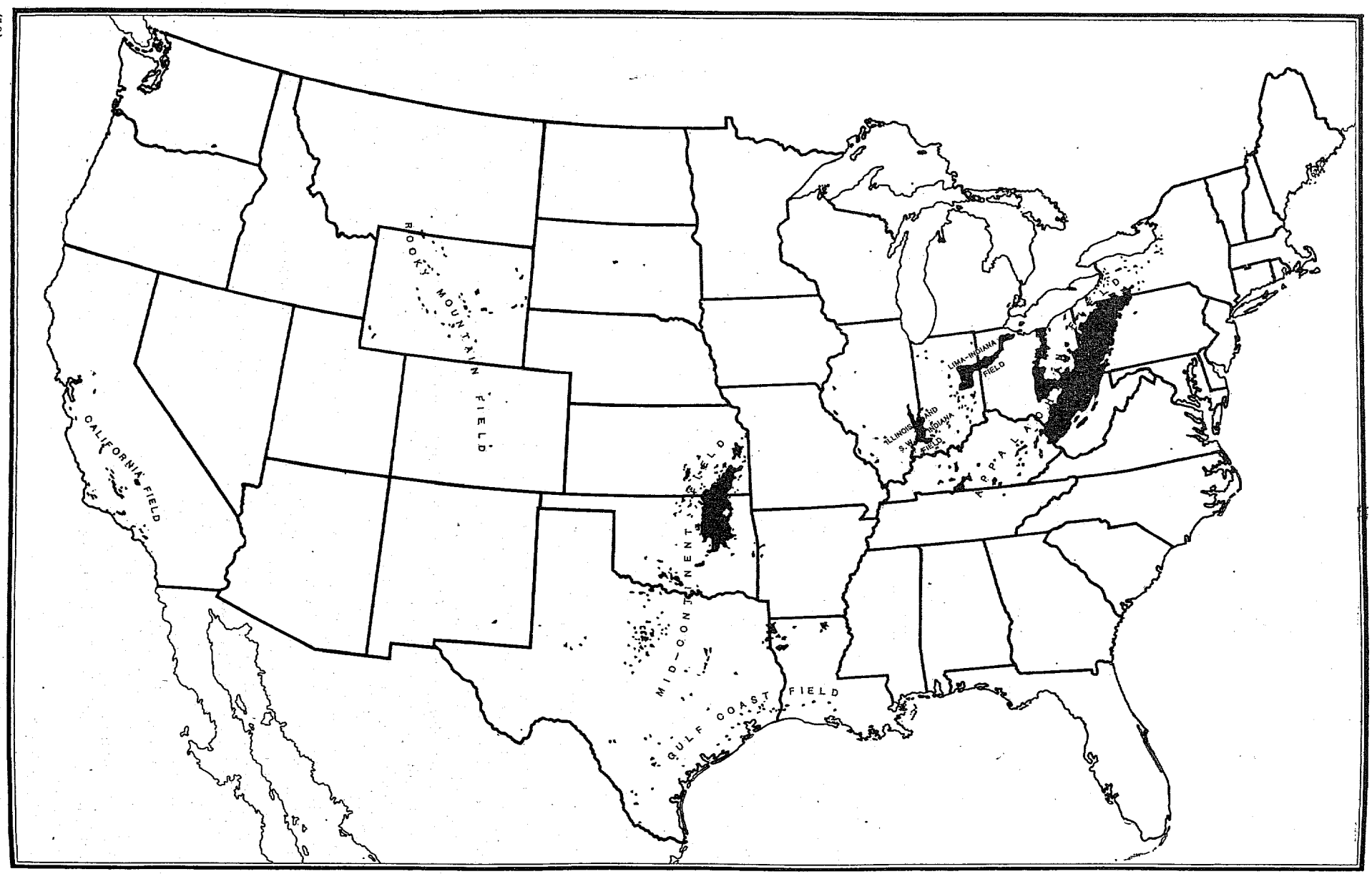
I. The Appalachian field, comprising the petroleum and natural-gas areas in the states of New York, Pennsylvania, West Virginia, Kentucky, and the following counties in eastern Ohio: Ashland, Ashtabula, Athens, Belmont, Carrol, Columbiana, Coshocton, Cuyahoga, Fairfield, Gallia, Guernsey, Harrison, Hocking, Holmes, Jackson, Jefferson, Knox, Lake, Licking, Lorain, Mahoning, Medina, Meigs, Monroe, Morgan, Muskingum, Noble, Perry, Richland, Stark, Summit, Trumbull, Tuscarawas, Vinton, Washington, and Wayne. The petroleum-producing area of Tennessee belongs to this field, but the statistics for Tennessee can not be shown separately.

II. The Lima-Indiana field, comprising counties in Ohio and Indiana as follows: In Ohio—Allen, Auglaize, Darke, Defiance, Fulton, Hancock, Hardin, Henry, Logan, Lucas, Mercer, Ottawa, Paulding, Sandusky, Seneca, Shelby, Van Wert, Williams, Wood, and Wyandot; in east central Indiana—Adams, Allen, Bartholomew, Blackford, Cass, Decatur, Delaware, Fayette, Franklin, Grant, Hamilton, Hancock, Henry, Howard, Huntington, Jay, Madison, Marion, Miami, Randolph, Rush, Shelby, Tipton, Union, Wabash, Wayne, and Wells.

III. The Illinois and Southwest Indiana field, comprising the state of Illinois and the following counties in southwest Indiana: Clay, Crawford, Daviess, Dubois, Gibson, Greene, Knox, Lawrence, Martin, Monroe, Orange, Owen, Perry, Pike, Posey, Spencer, Sullivan, Vanderburg, Vigo, and Warrick.

IV. The Mid-Continent field, comprising the states of Arkansas, Kansas, Oklahoma, and all of the oil and gas producing areas of Louisiana and Texas, except the coastal parishes and counties listed in the following definition of the Gulf Coast field.

PRINCIPAL PETROLEUM AND NATURAL-GAS FIELDS OF THE UNITED STATES.



V. The Gulf Coast field, comprising parishes in Louisiana and counties in Texas as follows: Louisana parishes—Acadia, Assumption, Calcasieu, Cameron, Iberia, Jefferson Davis, Lafayette, Lafourche, St. Martin, St. Mary, Terre Bonne, and Vermilion; Texas counties—Brazoria, Cameron, Chambers, De Witt, Duval, Fort Bend, Galveston, Goliad, Hardin, Harris, Jefferson, Liberty, Live Oak, Matagorda, Orange, San Jacinto, San Patricio, and Starr.

VI. The Rocky Mountain field, comprising the states of Colorado Montana, New Mexico, and Wyoming.

VII. The Pacific Coast field in California.

VIII. All other states, including Michigan, South Dakota, Tennessee, and Washington.

The location of these fields is indicated on the map on page 10, which shows the areas productive in 1919 and recent years.

Principal statistics, by fields: 1919.—Table 5 presents the principal statistics for producing and nonproducing petroleum and natural-gas enterprises for 1919, by fields. The Appalachian field reported more enterprises, a greater number of wells, and larger acreage operated than any other field. The 142,947 productive wells in this field represented 55.5 per cent of the total number in the United States, and the acreage operated by producing enterprises (7,120,485) was 58.5 per cent of the total for the United States. But on the basis of average number of wage earners employed and value of products the Appalachian field was outranked by the Mid-Continent field, in which 42,389 wage earners, or 45.5 per cent of the total average number in producing enterprises, were employed, and from which products to the value of $464,045,161, or approximately 50 per cent of the total value of all products, were reported. The Mid-Continent field ranked second in number of wells, the Lima-Indiana field third, and the Illinois and Southwest Indiana field fourth. The Mid-Continent field ranked second in acreage of petroleum and natural-gas land operated, the Pacific Coast field third, and the Lima-Indiana field fourth. The Appalachian field ranked second in the total value of all products, the Pacific Coast field third, and the Illinois and Southwest Indiana field fourth. The Appalachian field was second in the average number of wage earners employed, the Pacific Coast field third, and the Gulf Coast field fourth.

TABLE 5.—PRINCIPAL STATISTICS, BY FIELDS: 1919.

FIELD.	Number of enterprises.	NUMBER OF WELLS.		Number of gasoline plants.	Wage earners (average number).	Power used (aggregate horsepower).	PETROLEUM AND NATURAL-GAS LAND OPERATED (ACRES).			Capital.	Principal expenses.	Value of products.
		Total operated during year.	Productive Dec. 31.				Total.	Owned.	Held under lease.			
United States	9,970	268,784	257,673	1,115	93,659	1,826,885	12,431,519	1,175,713	11,255,806	$2,446,446,795	$633,124,578	$931,793,423
Producing enterprises	9,814	268,508	257,673	1,115	93,205	1,821,342	12,171,388	1,172,068	10,999,320	2,421,485,942	626,468,862	931,793,423
Nonproducing enterprises	156	276	.....	.....	454	5,543	260,131	3,645	256,486	24,960,853	6,655,716	.....
Appalachian field:												
Producing enterprises	5,549	147,696	142,947	615	28,303	865,257	7,120,485	572,165	6,548,320	570,005,698	142,066,351	239,244,405
Nonproducing enterprises	18	67	.....	.....	26	249	65,515	470	65,045	640,100	340,238	.....
Lima-Indiana field:												
Producing enterprises	538	18,906	18,186	.....	1,320	45,771	273,712	26,902	246,810	14,308,973	4,124,819	6,218,317
Illinois and Southwest Indiana field:												
Producing enterprises	261	17,868	17,349	72	3,009	38,743	190,480	2,629	187,851	51,581,928	14,002,918	32,909,441
Mid-Continent field:												
Producing enterprises	2,871	70,664	66,545	365	42,389	587,805	3,647,388	235,678	3,411,710	1,296,260,821	352,844,864	464,045,161
Nonproducing enterprises	102	155	.....	.....	225	3,215	171,184	236	170,948	19,342,498	4,388,913	.....
Gulf Coast field:												
Producing enterprises	134	2,559	2,232	.....	3,552	48,727	217,090	17,359	199,731	59,092,639	24,004,436	27,942,728
Nonproducing enterprises	7	6	.....	.....	31	192	11,586	505	11,081	309,660	251,035	.....
Rocky Mountain field:												
Producing enterprises	55	1,393	1,183	5	2,285	14,851	219,787	16,830	202,957	69,379,443	11,871,641	22,371,577
Nonproducing enterprises	11	21	.....	.....	67	629	6,076	.....	6,076	2,427,130	757,106	.....
Pacific Coast field:												
Producing enterprises	403	9,378	9,197	58	12,344	220,089	482,320	300,429	181,891	359,851,160	77,521,507	139,018,663
Nonproducing enterprises	13	15	.....	.....	91	1,023	4,869	2,433	2,436	2,044,447	744,083	.....
All other states:												
Producing enterprises	3	44	34	.....	3	99	20,126	76	20,050	1,005,280	32,326	43,131
Nonproducing enterprises	5	12	.....	.....	14	235	901	1	900	197,018	174,341	.....

Table 6 presents the quantity and value of products in detail by fields and states in each field. In the production of petroleum the Mid-Continent field ranked first with 49.1 per cent of the total output of the United States, the Pacific Coast field second with 27.9 per cent of the total, the Appalachian field third, and the Gulf Coast field fourth. In natural-gas production the Appalachian field ranked first with 57.2 per cent of the total output for the United States, the Mid-Continent field second with 35 per cent of the total, the Pacific Coast field third, and the Rocky Mountain field fourth. In the production of natural-gas gasoline the Mid-Continent field ranked first with 65.7 per cent of the production for the United States, the Appalachian field second with 21.2 per cent of the total, the Pacific Coast field third, and the Rocky Mountain field fourth.

TABLE 6.—PRODUCTS IN DETAIL, BY FIELDS AND STATES: 1919.

FIELD.	Number of enterprises.	Number of wells productive Dec. 31.	Number of gasoline plants.	Total value of products.	PETROLEUM. Quantity (barrels, 42 gallons).	PETROLEUM. Value.	NATURAL GAS. Quantity (M cubic feet).	NATURAL GAS. Value.	NATURAL-GAS GASOLINE. Quantity (gallons).	NATURAL-GAS GASOLINE. Value.	Value of other products.[1]
United States	9,814	257,673	1,115	$931,793,423	350,112,253	$694,026,948	961,095,000	$155,910,032	454,089,466	$78,760,835	$3,095,608
Appalachian field	5,549	142,947	615	239,244,405	28,270,079	103,436,170	549,557,285	113,393,144	96,264,348	21,799,949	615,142
Kentucky	196	5,214	7	23,329,521	7,926,199	20,990,629	9,152,172	1,468,455	3,627,941	828,840	41,597
New York[2]	561	14,186	6	9,900,894	846,860	3,480,075	19,114,349	6,142,385	1,435,996	277,774	660
Ohio, eastern	901	18,859	53	40,223,725	4,916,347	17,395,082	90,507,882	20,797,429	8,987,950	2,002,971	28,243
Pennsylvania[2]	3,140	77,325	319	66,271,961	6,680,350	27,615,663	140,687,082	32,879,813	25,677,951	5,456,535	319,950
West Virginia	751	27,363	230	99,518,304	7,900,323	33,954,721	290,095,800	52,105,062	56,534,510	13,233,829	224,692
Lima-Indiana field	538	18,186	.....	6,218,317	2,175,370	5,478,202	2,047,837	692,833	.....	.....	47,282
Indiana, east central	106	1,605	.....	958,517	181,129	469,079	1,427,588	488,774	.....	.....	664
Ohio, northwest	432	16,581	.....	5,259,800	1,994,241	5,009,123	620,249	204,059	.....	.....	46,618
Illinois and Southwest Indiana field	261	17,349	72	32,909,441	12,235,939	31,126,318	2,499,669	309,842	8,045,998	1,395,111	78,170
Illinois	236	16,498	72	31,263,563	11,621,992	29,536,676	1,743,790	258,788	8,044,198	1,394,754	73,345
Indiana, southwest	25	851	.....	1,645,878	613,947	1,589,642	755,879	51,054	1,800	357	4,825
Mid-Continent field[3]	2,871	66,545	365	464,045,161	171,801,255	378,448,161	336,717,898	36,174,768	298,400,202	47,923,282	1,498,950
Arkansas	7	124	.....	621,834	.....	.....	7,376,218	611,287	.....	.....	10,547
Kansas	613	12,690	11	68,515,158	26,526,169	60,577,413	40,183,277	6,812,632	5,482,698	1,061,662	63,451
Louisiana, northwest	114	2,332	20	29,617,206	13,823,370	23,175,689	67,521,467	4,772,203	9,302,110	1,587,420	81,894
Oklahoma[4]	1,699	44,735	311	247,497,450	81,492,433	181,448,329	200,885,108	21,813,906	273,078,962	43,180,601	1,054,614
Texas, northern and central[5]	438	6,664	23	117,793,513	49,959,283	113,246,730	20,751,828	2,164,740	10,446,432	2,093,599	288,444
Gulf Coast field[3]	134	2,232	.....	27,942,728	25,022,977	27,647,502	5,170,250	277,975	.....	.....	17,251
Louisiana, southern	19	147	.....	2,398,879	2,010,616	2,297,788	704,042	96,953	.....	.....	4,138
Texas[6]	115	2,085	.....	25,543,849	23,012,361	25,349,714	4,466,208	181,022	.....	.....	13,113
Rocky Mountain field	55	1,183	5	22,371,577	12,880,428	20,423,525	8,014,160	547,646	8,342,173	1,391,530	8,876
Colorado and New Mexico[7]	11	71	.....	153,594	115,565	153,152	6,650	442	.....	.....	.....
Montana	5	28	.....	258,046	90,193	171,598	858,728	86,448	.....	.....	.....
Wyoming	39	1,084	5	21,959,937	12,674,670	20,098,775	7,148,782	460,756	8,342,173	1,391,530	8,876
Pacific Coast field	403	9,197	58	139,018,663	97,711,350	127,429,664	57,015,822	4,508,099	43,036,745	6,250,963	829,937
California	403	9,197	58	139,018,663	97,711,350	127,429,664	57,015,822	4,508,099	43,036,745	6,250,963	829,937
All other states[8]	3	34	.....	43,131	14,855	37,406	72,079	5,725	.....	.....	.....

[1] Includes the value of a small amount of by-product and receipts for power sold or miscellaneous services for other enterprises.
[2] Statistics for Pennsylvania include those for small operations in New York, inseparably combined in the report of an enterprise which conducted the major part of its operations in Pennsylvania.
[3] Statistics for the Mid-Continent field include those for 2 small operations in Texas in the Gulf Coast field, inseparably combined in the reports of 2 enterprises which conducted the major part of their operations in northern Texas.
[4] Statistics for Oklahoma include those for small operations in Texas, inseparably combined in the report for an enterprise which conducted the major part of its operations in Oklahoma.
[5] Statistics for northern and central Texas include those for 2 small operations in Texas in the Gulf Coast field, inseparably combined in the reports of 2 enterprises which conducted the major part of their operations in northern Texas; statistics for northern and central Texas exclude the small operations of an enterprise reporting the major part of its operations in Oklahoma.
[6] Statistics for Texas in the Gulf Coast field exclude those for 2 small operations inseparably combined in the reports of 2 enterprises which conducted the major part of their operations in northern Texas.
[7] Colorado and New Mexico combined to avoid disclosure of individual operations.
[8] Includes Michigan, South Dakota, and Tennessee.

Rank of fields and states, by value of products, 1919.—Table 7 shows the fields and states in the petroleum and natural-gas industry, ranked according to gross and net value of products, and gives the per cent distribution. The net value is obtained by eliminating the value of natural gas duplicated in the returns from producers who purchased it from other producers for use as material or for resale.

TABLE 7.—FIELDS AND STATES, RANKED ACCORDING TO THE GROSS AND NET VALUE OF PRODUCTS: 1919.

FIELD AND STATE.	Rank.	Total value (gross) of products.	Gas purchased as material and for resale.	Net value of products.	PER CENT DISTRIBUTION. Total value.	PER CENT DISTRIBUTION. Net value.
United States	....	$931,793,423	$28,813,671	$902,979,752	100.0	100.0
By fields.						
Mid-Continent field	1	464,045,161	11,308,655	452,736,506	49.8	50.1
Appalachian field	2	239,244,405	16,774,073	222,470,332	25.7	24.6
Pacific Coast field	3	139,018,663	510,073	138,508,590	14.9	15.3
Illinois and Southwest Indiana field	4	32,909,441	91,659	32,817,782	3.5	3.6
Gulf Coast field	5	27,942,728	4,088	27,938,640	3.0	3.1
Rocky Mountain field	6	22,371,577	74,281	22,297,296	2.4	2.5
Lima-Indiana field	7	6,218,317	50,842	6,167,475	0.7	0.7
All other[1]	....	43,131	.....	43,131	(2)	(2)
By states.						
Oklahoma	1	247,497,450	9,758,073	237,739,377	26.6	26.3
Texas	2	143,337,362	360,637	142,976,725	15.4	15.8
By states—Continued.						
California	3	139,018,663	510,073	138,508,590	14.9	15.3
West Virginia	4	99,518,304	5,871,497	93,646,807	10.7	10.4
Kansas	5	68,515,158	287,725	68,227,433	7.3	7.6
Pennsylvania	6	66,271,961	5,077,115	61,194,846	7.1	6.8
Ohio	7	45,483,525	3,092,567	42,390,958	4.9	4.7
Louisiana	8	32,016,085	740,522	31,275,563	3.4	3.5
Illinois	9	31,263,563	91,659	31,171,904	3.4	3.5
Kentucky	10	23,329,521	41,104	23,288,417	2.5	2.6
Wyoming	11	21,959,937	74,281	21,885,656	2.4	2.4
New York	12	9,900,894	2,692,086	7,208,808	1.1	0.8
Indiana	13	2,604,395	50,546	2,553,849	0.3	0.3
Arkansas	14	621,834	165,786	456,048	0.1	0.1
Montana	15	258,046	.....	258,046	(2)	(2)
Colorado and New Mexico	....	153,594	.....	153,594	(2)	(2)
All other states[1]	....	43,131	.....	43,131	(2)	(2)

[1] Includes Michigan, South Dakota, and Tennessee.

[2] Less than one-tenth of 1 per cent.

PROGRESS OF THE INDUSTRY.

Comparative summary for producing enterprises: 1919, 1909, 1902, and 1889.—Table 8 presents, for the United States as a whole, the principal statistics reported at the Fourteenth Census relating to the petroleum and natural-gas industry, and the available comparable statistics reported at the three preceding censuses of mines and quarries, and gives the percentages of increase and decrease. The table shows marked increase at each census as compared with the preceding census. The large increases in the value of products in 1919 as compared with 1909 and in the chief items of expense are for the most part due to general price increases during the decade and the extraordinary increase in taxes shown is explained by the impost of Federal income taxes and special state taxes since 1909. The large increase in cost of fuel and power is not real as the amounts shown for this item are not entirely comparable, as explained in the introduction to this report. No explanation is available for the apparent decrease in the number of wage earners in 1902 as compared with 1889. Other decreases shown are insignificant.

TABLE 8.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES: 1919, 1909, 1902, AND 1889.

	1919	1909	1902	1889	PER CENT OF INCREASE.[1]		
					1909-1919	1902-1909	1889-1902
Number of enterprises	9,814	[2] 7,942	(3)	(3)	23.6		
Number of petroleum and natural-gas wells:							
Total operated during the year	268,508	172,191	134,477	(4)	55.9	28.0	
Productive Dec. 31	257,673	166,320	123,200	37,410	54.9	35.0	229.3
Number of natural-gas gasoline plants	1,115						
Petroleum and natural-gas land operated (acres)	12,171,388	12,694,838	(3)	(4)	−4.1		
Persons engaged	125,110	59,085			111.7		
Proprietors and firm members, total	14,223	16,213	(3)	(3)	−12.3		
Number performing manual labor	1,987	2,155	(3)	(3)	−7.8		
Salaried employees	17,682	6,128	4,956	584	188.5	23.6	748.6
Wage earners, (average number)	93,205	36,744	22,230	28,639	153.7	65.3	−22.4
Power used, (aggregate horsepower)	1,821,342	1,221,969	1,014,184	(3)	49.0	20.5	
Capital	$2,421,485,942	$683,268,497	(3)	(4)	254.4		
Principal expenses:							
Salaries	$33,468,368	$7,241,881	$4,797,105	$453,559	362.2	51.0	957.7
Wages	$134,521,247	$27,091,650	$16,178,640	$9,829,730	396.5	67.5	64.6
Supplies and materials	$195,058,693	$39,947,013	[5] $24,388,767	[5] $22,690,432	388.3		7.5
Cost of gas purchased as material and for resale	$28,813,671	$9,888,877	(4)	(4)	191.4		
Fuel and purchased power	$20,794,076	$1,444,595	(4)	(4)	1,339.4		
Royalties and rents	$106,458,518	$21,282,820	$11,463,786	(4)	400.2	85.7	
Taxes	$38,690,630	$2,576,986	(4)	(4)	1,401.4		
Contract	$68,663,659	$16,736,510	$17,415,632	(4)	310.3	−3.9	
Total value of all products	$931,793,423	$185,416,684	$102,265,602	$48,060,439	402.5	81.3	112.8
Petroleum—							
Quantity (barrels, 42 gallons)	350,112,253	171,559,394	89,275,302	35,163,513	104.1	92.2	153.9
Value	$694,026,948	$117,696,529	$71,397,739	$26,963,340	489.7	64.8	164.8
Natural gas—							
Quantity (M cubic feet)	961,095,000	559,800,490	[6] 204,244,373	[7] 552,150,000	71.7	174.1	
Value	$155,910,032	$67,605,397	$30,867,863	[8] $21,097,099	130.6	119.0	46.3
Natural-gas gasoline—							
Quantity (gallons)	454,089,466						
Value	$78,760,835						
Other products, value	$3,095,608	$114,758					

[1] A minus sign (—) denotes decrease. Percentages are omitted where figures are not comparable.
[2] See "Thirteenth Census of the United States, Mines and Quarries, Vol. XI," p. 344.
[3] Not reported.
[4] Comparable statistics not available.
[5] Includes cost of fuel.
[6] See "Thirteenth Census of the United States, Mines and Quarries, Vol. XI," p. 265.
[7] Estimated consumption of natural gas, see "Eleventh Census of the United States, 1890, Mineral Industries," p. 518.
[8] Estimated value of natural gas on basis of other fuels displaced. "Eleventh Census of the United States, 1890, Mineral Industries," p. 521.

Comparison of value of products: 1919, 1909, and 1902.—Table 9 shows the total value of all products of the petroleum and natural-gas industry, by states, for 1919, 1909, and 1902, and also shows the per cent of increase or decrease. The comparison can not be made by fields because the data for 1902 are not so segregated; states are, however, assembled in groups conforming as nearly as possible to the fields. The notable features of this table are the decreases in Indiana, which continued from 1902 to 1919, and the very large increases in Kentucky and in the states of the Mid-Continent and Gulf Coast fields.

TABLE 9.—COMPARISON OF VALUE OF PRODUCTS, BY STATES: 1919.

STATE.	VALUE OF PRODUCTS.						
	1919	1909	1902	Increase.[1]		Per cent of increase.[1]	
				1909-1919	1902-1909	1909-1919	1902-1909
United States	$931,793,423	$185,416,684	$102,265,602	$746,376,739	$83,151,082	402.5	81.3
Appalachian states:							
New York	9,900,894	2,668,996	1,877,323	7,231,898	791,673	271.0	42.2
Pennsylvania	66,271,961	39,197,475	29,618,276	27,074,486	9,579,199	69.1	32.3
Ohio	45,483,525	29,620,959	23,112,817	15,862,566	6,508,142	53.6	28.2
West Virginia	99,518,304	28,188,087	22,430,498	71,330,217	5,757,589	253.1	25.7
Kentucky	23,329,521	892,281	538,448	22,437,240	353,833	2,514.6	65.7
Indiana	2,604,395	3,224,619	13,607,966	−620,224	−10,383,347	−19.2	−76.3
Illinois	31,263,563	18,895,815	(2)	12,367,748	18,895,815	65.5	.....
Mid-Continent and Gulf states:							
Kansas	68,515,158	6,681,780	1,116,895	61,833,378	5,564,885	925.4	498.2
Oklahoma	247,497,450	17,685,092	(2)	229,812,358	17,685,092	1,299.5	.....
Arkansas	621,834	(2)	(3)	621,834	.....	.....	.....
Texas	143,337,362	6,214,538	4,189,684	137,122,824	2,024,854	2,206.5	48.3
Louisiana	32,016,085	2,177,986	(2)	29,838,099	2,177,986	1,370.0	.....
Rocky Mountain states:							
Colorado and New Mexico	[4] 153,594	[5] 313,168	[5] 486,583	−159,574	−173,415	.....	−35.6
Montana	258,046	(3)	(3)	258,046	.....	.....	.....
Wyoming	21,959,937	(2)	(2)	21,959,937	.....	.....	.....
California	139,018,663	29,310,335	4,994,265	109,708,328	24,316,070	374.3	486.9
All other states [6]	43,131	345.553	292,847	−302,422	52,706	.....	.....

[1] A minus sign (−) denotes decrease. Percentages are omitted where figures are not comparable.
[2] Included in "All other states."
[3] Not reported.
[4] For 1919, Colorado and New Mexico were combined to avoid disclosure of individual operations.
[5] Colorado only.
[6] All other states include, for 1919, Michigan, South Dakota, and Tennessee; for 1909, Arkansas, Michigan, Missouri, North Dakota, South Dakota, Tennessee, and Wyoming; for 1902, Illinois, Indian Territory, Louisiana, Missouri, Oklahoma, Tennessee, Michigan, and Wyoming.

Population and production of petroleum and natural gas.—Table 10 shows the quantities of petroleum and natural gas produced in the years 1869, 1879, 1889, 1902, 1909, and 1919, as far as figures are available, and the population for the corresponding census years.

TABLE 10.—COMPARISON OF INCREASE IN POPULATION AND IN PRODUCTION OF PETROLEUM AND NATURAL GAS, BY CENSUS PERIODS: 1869–1919.

YEAR.	Population.[1]	Per cent of increase over preceding census.	PETROLEUM.			NATURAL GAS.		
			Quantity (barrels, 42 gallons).	Per cent of increase over preceding census.	Bbls. per capita.	Quantity (M cubic feet).	Per cent of increase over preceding census.	M cu. ft. per capita.
1869	38,558,371	.....	4,215,000	.....	0.1	(2)	.....	.....
1879	50,155,783	30.1	19,914,146	372.5	0.4	(2)	.....	.....
1889	62,947,714	25.5	35,163,513	76.6	0.6	(2)	.....	.....
1902	[3] 79,365,396	26.1	89,275,302	153.9	1.1	[4] 204,244,373	.....	2.6
1909	91,972,266	17.0	171,559,394	92.2	1.9	559,800,490	174.1	6.1
1919	105,710,620	14.9	350,112,253	104.1	3.3	961,095,000	71.7	9.1

[1] Population is for the year following that covered by the statistics for petroleum and natural gas.
[2] Not reported.
[3] Estimated population, July 1, 1902.
[4] Thirteenth Census of the United States: Vol. XI, Mines and Quarries, p. 265.

It compares the growth of population with increase of output of petroleum and natural gas at each census period. This table shows very large increase in production of petroleum and natural gas as compared with increase in population. In 1869 one-tenth of a barrel of petroleum was produced per capita, whereas in 1919 the production was 3.3 barrels per capita, and whereas in 1902 the production of natural gas was 2.6 M cubic feet per capita, it had increased to 9.1 M cubic feet per capita by 1919.

CHARACTER OF ORGANIZATION.

The character of the organizations operating producing enterprises in the petroleum and natural-gas industry are shown, for the United States as a whole and by states, in Table 11. Only three-eighths of the petroleum and natural-gas enterprises in the United States were operated by corporations, but these corporations reported 89.5 per cent of the total average number of wage earners employed, and 88.9 per cent of the total value of products. In general, the corporations conducted the larger and more important enterprises. In most states firms or partnerships were more numerous as operators of petroleum and natural-gas enterprises than individuals, but both as a rule operated relatively small enterprises, employed few wage earners, and produced only a small part of the value of products. They were most numerous and of relatively greater importance in size of operations in the oldest producing regions; that is, in New York, Pennsylvania, and Ohio.

TABLE 11.—CHARACTER OF ORGANIZATION, PRODUCING ENTERPRISES: 1919.

STATE AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Wage earners (average number).	VALUE OF PRODUCTS. Total.	VALUE OF PRODUCTS. Average per enterprise.	PER CENT DISTRIBUTION. Enterprises.	PER CENT DISTRIBUTION. Wage earners.	PER CENT DISTRIBUTION. Value of products.
United States	9,814	93,205	$931,793,423	$94,945	100.0	100.0	100.0
Corporation	3,683	83,396	828,591,404	224,977	37.5	89.5	88.9
Individual	2,064	3,242	28,760,586	13,934	21.0	3.5	3.1
Firm	3,295	5,013	51,771,499	15,712	33.6	5.4	5.6
Other	772	1,554	22,669,934	29,365	7.9	1.7	2.4
Arkansas	7	16	621,834	88,833	100.0	100.0	100.0
Corporation	7	16	621,834	88,833	100.0	100.0	100.0
California	403	12,344	139,018,663	344,959	100.0	100.0	100.0
Corporation	337	12,008	135,009,248	400,621	83.6	97.3	97.1
Individual	40	196	2,239,725	55,993	9.9	1.6	1.6
Firm	21	108	1,615,931	76,949	5.2	0.9	1.2
Other	5	32	153,759	30,752	1.2	0.3	0.1
Colorado and New Mexico	11	80	153,594	13,963	100.0	100.0	100.0
Corporation	5	78	135,726	27,145	45.5	97.5	88.4
Individual[1]	6	2	17,868	2,978	54.5	2.5	11.6
Illinois	236	2,752	31,263,563	132,473	100.0	100.0	100.0
Corporation	74	2,493	28,348,300	383,085	31.4	90.6	90.7
Individual	37	42	426,988	11,540	15.7	1.5	1.4
Firm	104	172	1,958,052	18,827	44.1	6.2	6.3
Other	21	45	530,223	25,249	8.9	1.6	1.7
Indiana	131	403	2,604,395	19,881	100.0	100.0	100.0
Corporation	71	334	1,841,627	25,938	54.2	82.9	70.7
Individual	31	22	114,152	3,682	23.7	5.5	4.4
Firm	23	19	192,973	8,390	17.6	4.7	7.4
Other	6	28	455,643	75,941	4.6	6.9	17.5
Kansas	613	6,305	68,515,158	111,770	100.0	100.0	100.0
Corporation	334	5,736	61,600,996	184,434	54.5	91.0	89.9
Individual	91	160	1,609,900	18,351	14.8	2.5	2.4
Firm	165	348	4,568,914	27,690	26.9	5.5	6.7
Other	23	61	675,348	29,363	3.8	1.0	1.0
Kentucky	196	2,119	23,329,521	119,028	100.0	100.0	100.0
Corporation	169	2,018	21,507,275	127,262	86.2	95.2	92.2
Individual	7	8	81,831	11,690	3.6	0.4	0.3
Firm	15	75	1,605,475	107,032	7.7	3.5	6.9
Other	5	18	134,940	26,988	2.6	0.8	0.6
Louisiana	133	4,841	32,016,085	240,722	100.0	100.0	100.0
Corporation	109	4,754	31,375,958	287,853	82.0	98.2	98.0
Individual	7	40	202,459	28,923	5.3	0.8	0.6
Firm[2]	17	47	437,668	25,745	12.8	1.0	1.4
Montana	5	38	$258,046	$51,609	100.0	100.0	100.0
Corporation	5	38	258,046	51,609	100.0	100.0	100.0
New York	561	868	9,900,894	17,649	100.0	100.0	100.0
Corporation	61	558	7,179,452	117,696	10.9	64.3	72.5
Individual	155	77	663,741	4,282	27.6	8.9	6.7
Firm	217	153	1,334,723	6,151	38.7	17.6	13.5
Other	128	80	722,978	5,648	22.8	9.2	7.3
Ohio	1,333	5,123	45,483,525	34,121	100.0	100.0	100.0
Corporation	357	4,027	36,960,934	103,532	26.8	78.6	81.3
Individual	296	261	1,791,832	6,053	22.2	5.1	3.9
Firm	600	698	5,661,294	9,435	45.0	13.6	12.4
Other	80	137	1,069,465	13,368	6.0	2.7	2.3
Oklahoma	1,699	21,180	247,497,450	145,672	100.0	100.0	100.0
Corporation	1,197	19,313	223,366,976	186,606	70.5	91.2	90.2
Individual	147	983	10,058,632	68,426	8.7	4.6	4.1
Firm	270	629	8,776,184	32,504	15.9	3.0	3.5
Other	85	255	5,295,658	62,302	5.0	1.2	2.1
Pennsylvania	3,140	9,065	66,271,961	21,106	100.0	100.0	100.0
Corporation	295	6,220	44,016,627	149,209	9.4	68.6	66.4
Individual	1,102	1,094	7,847,083	7,121	35.1	12.1	11.8
Firm	1,485	1,425	10,685,470	7,196	47.3	15.7	16.1
Other	258	326	3,722,781	14,429	8.2	3.6	5.6
Texas	553	13,599	143,337,362	259,200	100.0	100.0	100.0
Corporation	284	12,055	120,465,905	424,176	51.4	88.6	84.0
Individual	37	160	1,883,584	50,908	6.7	1.2	1.3
Firm	100	866	11,586,622	115,866	18.1	6.4	8.1
Other	132	518	9,401,251	71,222	23.9	3.8	6.6
West Virginia	751	12,302	99,518,304	132,514	100.0	100.0	100.0
Corporation	339	11,581	93,942,563	277,117	45.1	94.1	94.4
Individual	108	197	1,762,791	16,322	14.4	1.6	1.8
Firm	278	473	3,348,193	12,044	37.0	3.8	3.4
Other	26	51	464,757	17,875	3.5	0.4	0.5
Wyoming	39	2,167	21,959,937	563,075	100.0	100.0	100.0
Corporation	39	2,167	21,959,937	563,075	100.0	100.0	100.0

[1] Includes 2 firms.

[2] Includes 1 "Other" form of organization.

SCALE OF OPERATION.

Size of enterprises according to value of products.—Table 12 shows the producing enterprises, for the United States as a whole and for fields and states, classified according to the value of products per enterprise, and gives the value of products and per cent distribution for each class. The larger enterprises, which were those producing more than $1,000,000 worth of product each, constituted only 1.4 per cent of the total number of enterprises but produced 59.7 per cent of the total value of products. Enterprises producing less than $20,000 worth of product each constituted 72.8 per cent and those producing less than $100,000 worth of product each, 90.1 per cent of the total number of enterprises. These smaller enterprises constituted more than 95 per cent of the total number in the oldest fields—the Appalachian and Lima-Indiana fields—in which they were 96 and 99.3 per cent, respectively, of the full count of enterprises. In these two fields combined there were 5,863 such small enterprises and these were about two-thirds of the total number of small enterprises in the whole industry. The largest enterprises—those reporting value of products of more than $5,000,000 each—are shown in all fields except the Lima-Indiana and in the states of California, Illinois, Kansas, Louisiana, Ohio, Oklahoma, Pennsylvania, Texas, West Virginia, and Wyoming. The size of these enterprises as shown in this table does not, however, accurately indicate the size of the individual operation because many of the large operators made consolidated returns which covered a number of operations in several localities within a single state.

TABLE 12.—SIZE OF PRODUCING ENTERPRISES, BY VALUE OF PRODUCTS: 1919.

FIELD, STATE, AND VALUE OF PRODUCT PER ENTERPRISE.	ENTERPRISES.		VALUE OF PRODUCTS.	
	Number.	Per cent distribution.	Amount.	Per cent distribution.
UNITED STATES	9,814	100.0	$931,793,423	100.0
Less than $5,000	4,348	44.3	9,531,235	1.0
$5,000 to $20,000	2,797	28.5	28,919,564	3.1
$20,000 to $100,000	1,696	17.3	75,785,417	8.1
$100,000 to $500,000	684	7.0	150,748,376	16.2
$500,000 to $1,000,000	156	1.6	109,951,280	11.8
$1,000,000 to $5,000,000	96	1.0	204,187,367	21.9
$5,000,000 and over	37	0.4	352,670,184	37.8
APPALACHIAN FIELD	5,549	100.0	239,244,405	100.0
Less than $5,000	3,120	56.2	6,657,024	2.8
$5,000 to $20,000	1,586	28.6	15,832,959	6.6
$20,000 to $100,000	623	11.2	25,748,748	10.8
$100,000 to $500,000	161	2.9	33,491,746	14.0
$500,000 to $1,000,000	30	0.5	21,682,901	9.1
$1,000,000 to $5,000,000	20	0.4	43,640,916	18.2
$5,000,000 and over	9	0.2	92,190,111	38.5
Kentucky	196	100.0	23,329,521	100.0
Less than $5,000	61	31.1	162,368	0.7
$5,000 to $20,000	51	26.0	521,487	2.2
$20,000 to $100,000	44	22.4	2,198,572	9.4
$100,000 to $500,000	27	13.8	5,426,394	23.3
$500,000 to $1,000,000	5	2.6	3,873,447	16.6
$1,000,000 to $5,000,000	8	4.1	11,147,253	47.8
New York	561	100.0	9,900,894	100.0
Less than $5,000	363	64.7	734,486	7.4
$5,000 to $20,000	154	27.5	1,467,722	14.8
$20,000 to $100,000	35	6.2	1,229,300	12.4
$100,000 and over [1]	9	1.6	6,469,386	65.3
Ohio, eastern	901	100.0	40,223,725	100.0
Less than $5,000	436	48.4	956,570	2.4
$5,000 to $20,000	288	32.0	3,012,381	7.5
$20,000 to $100,000	136	15.1	5,908,979	14.7
$100,000 to $500,000	32	3.6	6,895,043	17.1
$500,000 and over [2]	9	1.0	23,450,752	58.3
Pennsylvania	3,140	100.0	66,271,961	100.0
Less than $5,000	1,935	61.6	4,103,204	6.2
$5,000 to $20,000	872	27.8	8,534,238	12.9
$20,000 to $100,000	267	8.5	10,339,074	15.6
$100,000 to $500,000	51	1.6	10,616,782	16.0
$500,000 to $1,000,000	7	0.2	5,150,347	7.8
$1,000,000 and over [3]	8	0.3	27,528,316	41.5
West Virginia	751	100.0	99,518,304	100.0
Less than $5,000	325	43.3	700,396	0.7
$5,000 to $20,000	221	29.4	2,297,131	2.3
$20,000 to $100,000	141	18.8	6,072,823	6.1
$100,000 to $500,000	44	5.9	9,113,716	9.2
$500,000 to $1,000,000	11	1.5	7,353,227	7.4
$1,000,000 to $5,000,000	4	0.5	9,633,404	9.7
$5,000,000 and over	5	0.7	64,347,607	64.7
LIMA-INDIANA FIELD	538	100.0	6,218,317	100.0
Less than $5,000	368	68.4	757,762	12.2
$5,000 to $20,000	137	25.5	1,276,618	20.5
$20,000 to $100,000	29	5.4	1,106,990	17.8
$100,000 and over [4]	4	0.7	3,076,947	49.5
Indiana, east central	106	100.0	958,517	100.0
Less than $5,000	65	61.3	121,261	12.7
$5,000 to $20,000	33	31.1	319,376	33.3
$20,000 and over [5]	8	7.5	517,880	54.0
Ohio, northwest	432	100.0	5,259,800	100.0
Less than $5,000	303	70.1	636,501	12.1
$5,000 to $20,000	104	24.1	957,242	18.2
$20,000 to $100,000	22	5.1	689,751	13.1
$100,000 and over [6]	3	0.7	2,976,306	56.6
ILLINOIS AND SOUTHWEST INDIANA FIELD	261	100.0	32,900,441	100.0
Less than $5,000	76	29.1	204,545	0.6
$5,000 to $20,000	94	36.0	1,054,842	3.2
$20,000 to $100,000	62	23.8	2,710,656	8.2
$100,000 to $500,000	21	8.0	4,364,330	13.3
$500,000 and over [2]	8	3.1	24,575,068	74.7
Illinois	236	100.0	31,263,563	100.0
Less than $5,000	67	28.4	178,686	0.6
$5,000 to $20,000	88	37.3	964,502	3.1
$20,000 to $100,000	56	23.7	2,391,390	7.6
$100,000 to $500,000	18	7.6	3,733,283	11.9
$500,000 and over [2]	7	3.0	23,995,702	76.8
Indiana, southwest	25	100.0	1,645,878	100.0
Less than $5,000	9	36.0	25,859	1.6
$5,000 to $20,000	6	24.0	90,340	5.5
$20,000 to $100,000	6	24.0	319,266	19.4
$100,000 and over [7]	4	16.0	1,210,413	73.5
MID-CONTINENT FIELD	2,871	100.0	$464,045,161	100.0
Less than $5,000	695	24.2	1,686,435	0.4
$5,000 to $20,000	863	30.1	9,359,313	2.0
$20,000 to $100,000	775	27.0	35,668,010	7.7
$100,000 to $500,000	385	13.4	87,671,796	18.9
$500,000 to $1,000,000	82	2.9	56,747,456	12.2
$1,000,000 to $5,000,000	57	2.0	123,892,115	26.7
$5,000,000 and over	14	0.5	149,020,036	32.1
Arkansas	7	100.0	621,834	100.0
Less than $100,000 [8]	3	42.9	70,729	11.4
$100,000 to $500,000	4	57.1	551,105	88.6
Kansas	613	100.0	68,515,158	100.0
Less than $5,000	196	32.0	450,124	0.7
$5,000 to $20,000	210	34.3	2,137,226	3.1
$20,000 to $100,000	143	23.3	6,308,058	9.2
$100,000 to $500,000	47	7.7	10,183,991	14.9
$500,000 to $1,000,000	11	1.8	7,519,095	11.0
$1,000,000 and over [3]	6	1.0	41,916,664	61.2
Louisiana, northwest	114	100.0	29,617,206	100.0
Less than $5,000	18	15.8	41,917	0.1
$5,000 to $20,000	31	27.2	344,182	1.2
$20,000 to $100,000	28	24.6	1,258,978	4.3
$100,000 to $500,000	29	25.4	7,208,959	24.3
$500,000 to $1,000,000	4	3.5	2,724,161	9.2
$1,000,000 and over [3]	4	3.5	18,039,009	60.9
Oklahoma	1,699	100.0	247,497,450	100.0
Less than $5,000	399	23.5	952,696	0.4
$5,000 to $20,000	513	30.2	5,661,229	2.3
$20,000 to $100,000	463	27.3	21,050,800	8.5
$100,000 to $500,000	230	13.5	52,454,544	21.2
$500,000 to $1,000,000	50	2.9	35,135,364	14.2
$1,000,000 to $5,000,000	37	2.2	76,571,285	30.9
$5,000,000 and over	7	0.4	55,671,532	22.5
Texas, northern and central	438	100.0	117,793,513	100.0
Less than $5,000	82	18.7	241,698	0.2
$5,000 to $20,000	107	24.4	1,192,463	1.0
$20,000 to $100,000	140	32.0	7,003,658	5.9
$100,000 to $500,000	75	17.1	17,273,197	14.7
$500,000 to $1,000,000	17	3.9	11,368,836	9.7
$1,000,000 to $5,000,000	12	2.7	25,681,935	21.8
$5,000,000 and over	5	1.1	55,031,726	46.7
GULF COAST FIELD	134	100.0	27,942,728	100.0
Less than $5,000	31	23.1	72,731	0.3
$5,000 to $20,000	37	27.6	421,720	1.5
$20,000 to $100,000	43	32.1	2,049,234	7.3
$100,000 to $500,000	14	10.5	3,331,363	11.9
$500,000 to $1,000,000	3	2.2	2,143,698	7.7
$1,000,000 to $5,000,000	3	2.2	8,301,976	29.7
$5,000,000 and over	3	2.2	11,622,006	41.6
Louisiana, southern	19	100.0	2,398,879	100.0
Less than $20,000 [9]	7	36.8	35,660	1.5
$20,000 to $100,000	8	42.1	371,284	15.5
$100,000 and over [4]	4	21.1	1,991,935	83.0
Texas	115	100.0	25,543,849	100.0
Less than $5,000	26	22.6	61,533	0.2
$5,000 to $20,000	35	30.4	397,258	1.6
$20,000 to $100,000	35	30.4	1,677,950	6.6
$100,000 to $500,000	11	9.6	2,528,405	9.9
$500,000 to $1,000,000	3	2.6	2,143,698	8.4
$1,000,000 and over [3]	5	4.3	18,735,005	73.3
ROCKY MOUNTAIN FIELD	55	100.0	22,371,577	100.0
Less than $5,000	18	32.7	37,841	0.2
$5,000 to $20,000	7	12.7	77,756	0.3
$20,000 to $100,000	16	29.1	798,519	3.6
$100,000 to $500,000	5	9.1	881,324	3.9
$500,000 to $1,000,000	4	7.3	2,576,389	11.5
$1,000,000 and over [3]	5	9.1	17,999,748	80.5
Colorado and New Mexico [10]	11	100.0	153,594	100.0
Less than $5,000	7	63.6	15,593	10.2
$5,000 and over [5]	4	36.4	138,001	89.8
Montana	5	100.0	258,046	100.0
$20,000 to $100,000	5	100.0	258,046	100.0
Wyoming	39	100.0	21,959,937	100.0
Less than $5,000	11	28.2	22,248	0.1
$5,000 to $20,000	4	10.3	53,909	0.2
$20,000 to $100,000	11	28.2	540,473	2.5
$100,000 to $500,000	4	10.3	767,170	3.5
$500,000 to $1,000,000	4	10.3	2,576,389	11.7
$1,000,000 and over [3]	5	12.8	17,999,748	82.0

[1] Includes the groups "$500,000 to $1,000,000" and "$1,000,000 to $5,000,000."
[2] Includes the groups "$1,000,000 to $5,000,000" and "$5,000,000 and over."
[3] Includes the group "$5,000,000 and over."
[4] Includes the group "$1,000,000 to $5,000,000."
[5] Includes the group "$100,000 to $500,000."
[6] Includes the group "$1,000,000 to $5,000,000."
[7] Includes the group "$500,000 to $1,000,000."
[8] Includes the groups "$5,000 to $20,000" and "$20,000 to $100,000."
[9] Includes the groups "Less than $5,000" and "$5,000 to $20,000."
[10] Colorado and New Mexico combined to avoid disclosure.

TABLE 12.—SIZE OF PRODUCING ENTERPRISES, BY VALUE OF PRODUCTS: 1919—Continued.

FIELD, STATE, AND VALUE OF PRODUCT PER ENTERPRISE.	ENTERPRISES.		VALUE OF PRODUCTS.	
	Number.	Per cent distribution.	Amount.	Per cent distribution.
PACIFIC COAST FIELD	403	100.0	139,018,663	100.0
Less than $5,000	38	9.4	113,317	0.1
$5,000 to $20,000	73	18.1	896,356	0.6
$20,000 to $100,000	147	36.5	7,661,709	5.5
$100,000 to $500,000	95	23.6	20,439,847	14.7
$500,000 to $1,000,000	31	7.7	22,170,668	15.9
$1,000,000 to $5,000,000	11	2.7	19,901,087	14.3
$5,000,000 and over	8	2.0	67,835,679	48.8
California	403	100.0	139,018,663	100.0
Less than $5,000	38	9.4	113,317	0.1
PACIFIC COAST FIELD—Contd.				
California—Continued.				
$5,000 to $20,000	73	18.1	896,356	0.6
$20,000 to $100,000	147	36.5	7,661,709	5.5
$100,000 to $500,000	95	23.6	20,439,847	14.7
$500,000 to $1,000,000	31	7.7	22,170,668	15.9
$1,000,000 to $5,000,000	11	2.7	19,901,087	14.3
$5,000,000 and over	8	2.0	67,835,679	48.8
ALL OTHER STATES [11]	3	100.0	43,131	100.0
Less than $100,000 [12]	3	100.0	43,131	100.0

[11] Includes Michigan, South Dakota, and Tennessee.

[12] Includes the groups "Less than $5,000" and "$20,000 to $100,000."

Size of enterprises according to average number of wage earners.—Table 13 on page 18 presents for the United States as a whole and for fields and states a classification of producing enterprises according to the average number of wage earners per enterprise, and shows the number of wage earners in each class and the per cent distribution by classes. A preponderance of small enterprises, as measured by the average number of wage earners, is characteristic of the petroleum and natural-gas industry and is shown by the table for each field and state. In the United States as a whole, 3,292 enterprises, or more than one-third of the total number, did not regularly employ wage earners; of these 1,397 employed none at any time and 1,895 employed only occasional or part-time help. About one-half of the enterprises—4,925—employed from 1 to 5 wage earners. Enterprises employing more than 5 wage earners numbered 1,597 and constituted one-sixth of the total number, and 134 enterprises, having more than 100 wage earners each, constituted 1.3 per cent of the total number but employed 57.8 per cent of the total average number of wage earners. The size of the actual individual operation, however, was not as large as indicated by the number of wage earners employed by the larger enterprises because, as noted in the preceding section, most of these larger enterprises made consolidated returns for several operations within a state.

Size of enterprises according to acreage of land operated.—Table 14 on page 19 presents the producing enterprises in the petroleum and natural-gas industry, for the United States and for fields and states, classified according to the number of acres of petroleum and natural-gas land operated, and gives the acres of land operated, together with the per cent distribution for the items by classes. For the United States as a whole, the largest number of enterprises were the class operating from "1 to 50 acres," and the next largest classes were those operating from "50 to 100 acres" and from "100 to 200 acres." More than two-thirds of the enterprises were in these three classes, but the acreage operated by them was a relatively small part of the total acreage. With reference to the classes operating the largest holdings it should be noted, just as for the preceding paragraphs and tables, that some enterprises made consolidated returns for several operations within a state and therefore the number of acres per enterprise as shown in this table for these classes is greater than the actual number of acres pertaining to the individual operations.

TABLE 13.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS: 1919.

FIELD AND STATE.	TOTAL.		ENTERPRISES EMPLOYING—													
			No wage earners.		1 to 5 wage earners.				6 to 20 wage earners.				21 to 50 wage earners.			
			Enterprises.		Enterprises.		Wage earners.		Enterprises.		Wage earners.		Enterprises.		Wage earners.	
	Number of enterprises.	Wage earners (average number).	Number.	Per cent of total.	Number.	Per cent of total.	Average number.	Per cent of total.	Number.	Per cent of total.	Average number.	Per cent of total.	Number.	Per cent of total.	Average number.	Per cent of total.
United States	9,814	93,205	3,292	33.5	4,925	50.2	8,852	9.5	1,034	10.5	11,036	11.8	296	3.0	9,874	10.6
Mid-Continent field	2,871	42,389	463	16.1	1,631	56.8	3,058	7.2	498	17.3	5,167	12.2	148	5.2	4,545	10.7
Oklahoma	1,699	21,180	253	14.9	963	56.7	1,878	8.9	307	18.1	3,160	14.9	99	5.8	3,051	14.4
Texas, northern and central	438	10,415	61	13.9	240	54.8	447	4.3	86	19.6	887	8.5	23	5.3	682	6.5
Kansas	613	6,305	132	21.5	381	62.2	624	9.9	75	12.2	816	12.9	15	2.4	485	7.7
Louisiana, northwest	114	4,473	13	11.4	45	39.5	100	2.2	29	25.4	297	6.6	11	9.6	327	7.3
Arkansas	7	16	4	57.1	2	28.6	9	56.3	1	14.3	7	43.8				
Appalachian field	5,549	28,303	2,444	44.0	2,651	47.8	4,274	15.1	319	5.7	3,115	11.0	68	1.2	2,141	7.6
West Virginia	751	12,302	276	36.8	355	47.3	669	5.4	80	10.7	827	6.7	16	2.1	451	3.7
Pennsylvania	3,140	9,065	1,487	47.4	1,492	47.5	2,264	25.0	122	3.9	1,157	12.8	23	0.7	749	8.3
Ohio, eastern	901	3,949	339	37.6	478	53.1	808	20.5	58	6.4	574	14.5	13	1.4	435	11.0
Kentucky	196	2,119	32	16.3	90	45.9	182	8.6	49	25.0	464	21.9	14	7.1	436	20.6
New York	561	868	310	55.2	236	42.1	351	40.4	10	1.8	93	10.7	2	0.4	70	8.1
Pacific Coast field	403	12,344	39	9.7	154	38.2	636	5.2	123	30.5	1,804	14.6	48	11.9	2,120	17.2
California	403	12,344	39		154		636		123		1,804		48		2,120	
Gulf Coast field	134	3,552	11	8.2	62	46.3	162	4.6	39	29.1	424	11.9	10	7.5	360	10.1
Texas	115	3,184	9	7.8	54	47.0	141	4.4	34	29.6	369	11.6	7	6.1	251	7.9
Louisiana, southern	19	368	2	10.5	8	42.1	21	5.7	5	26.3	55	14.9	3	15.8	109	29.6
Illinois and Southwest Indiana field	261	3,009	36	13.8	179	68.6	303	10.1	25	9.6	261	8.7	14	5.4	414	13.8
Illinois	236	2,752	35	14.8	162	68.6	267	9.7	22	9.3	233	8.5	11	4.7	324	11.8
Indiana, southwest	25	257	1	4.0	17	68.0	36	14.0	3	12.0	28	10.9	3	12.0	90	35.0
Rocky Mountain field	55	2,285	7	12.7	20	36.4	49	2.1	13	23.6	120	5.3	6	10.9	219	9.6
Wyoming	39	2,167	2	5.1	13	33.3	32	1.5	11	28.2	92	4.2	4	10.3	146	6.7
Colorado and New Mexico	11	80	5	45.5	4	36.4	7	8.8					2	18.2	73	91.3
Montana	5	38			3	60.0	10	26.3	2	40.0	28	73.7				
Lima-Indiana field	538	1,320	291	54.1	226	42.0	367	27.8	17	3.2	145	11.0	2	0.4	75	5.7
Ohio, northwest	432	1,174	233	53.9	182	42.1	288	24.5	14	3.3	111	9.5	1	0.2	42	3.6
Indiana, east central	106	146	58	54.7	44	41.5	79	54.1	3	2.8	34	23.3	1	0.9	33	22.6
All other states	3	3	1	33.3	2	66.7	3	100.0								

FIELD AND STATE.	ENTERPRISES EMPLOYING—															
	51 to 100 wage earners.				101 to 500 wage earners.				501 to 1,000 wage earners.				Over 1,000 wage earners.			
	Enterprises.		Wage earners.		Enterprises.		Wage earners.		Enterprises.		Wage earners.		Enterprises.		Wage earners.	
	Number.	Per cent of total.	Average number.	Per cent of total.	Number.	Per cent of total.	Average number.	Per cent of total.	Number.	Per cent of total.	Average number.	Per cent of total.	Number.	Per cent of total.	Average number.	Per cent of total.
United States	133	1.4	9,592	10.3	102	1.0	21,978	23.6	24	0.2	17,358	18.6	8	0.1	14,515	15.6
Mid-Continent field	64	2.2	4,645	11.0	55	1.9	12,526	29.6	8	0.3	5,940	14.0	4	0.1	6,508	15.4
Oklahoma	39	2.3	2,810	13.3	33	1.9	6,617	31.2	5	0.3	3,664	17.3				
Texas, northern and central	12	2.7	914	8.8	12	2.7	3,384	32.5	2	0.5	1,524	14.6	2	0.5	2,577	24.7
Kansas	3	0.5	194	3.1	6	1.0	1,292	20.5					1	0.2	2,894	45.9
Louisiana, northwest	10	8.8	727	16.3	4	3.5	1,233	27.6	1	0.9	752	16.8	1	0.9	1,037	23.2
Arkansas																
Appalachian field	36	0.6	2,650	9.4	21	0.4	4,115	14.5	7	0.1	5,449	19.3	3	0.1	6,559	23.2
West Virginia	10	1.3	728	5.9	9	1.2	1,768	14.4	2	0.3	1,300	10.6	3	0.4	6,559	53.3
Pennsylvania	7	0.2	554	6.1	5	0.2	1,070	11.8	4	0.1	3,271	36.1				
Ohio, eastern	10	1.1	736	18.6	2	0.2	518	13.1	1	0.1	878	22.2				
Kentucky	7	3.6	500	23.6	4	2.0	537	25.3								
New York	2	0.4	132	15.2	1	0.2	222	25.6								
Pacific Coast field	21	5.2	1,439	11.7	12	3.0	2,453	19.9	6	1.5	3,892	31.5				
California	21		1,439		12		2,453		6		3,892					
Gulf Coast field	5	3.7	394	11.1	6	4.5	1,543	43.4	1	0.7	669	18.8				
Texas	5	4.3	394	12.4	5	4.3	1,360	42.7	1	0.9	669	21.0				
Louisiana, southern					1	5.3	183	49.7								
Illinois and Southwest Indiana field	2	0.8	114	3.8	4	1.5	469	15.6					1	0.4	1,448	48.1
Illinois	2	0.8	114	4.1	3	1.3	366	13.3					1	0.4	1,448	52.6
Indiana, southwest					1	4.0	103	40.1								
Rocky Mountain field	5	9.1	350	15.3	3	5.5	760	33.3	1	1.8	787	34.4				
Wyoming	5	12.8	350	16.2	3	7.7	760	35.1	1	2.6	787	36.3				
Colorado and New Mexico																
Montana																
Lima-Indiana field					1	0.2	112	8.5	1	0.2	621	47.0				
Ohio, northwest					1	0.2	112	9.5	1	0.2	621	52.9				
Indiana, east central																
All other states																

TABLE 14.—SIZE OF PRODUCING ENTERPRISES, BY NUMBER OF ACRES OF PETROLEUM AND NATURAL-GAS LAND OPERATED: 1919.

FIELD AND STATE.	Total.		ENTERPRISES OPERATING— 1 to 50 acres.				50 to 100 acres.				100 to 200 acres.			
	Number of enterprises.	Number of acres.	Number of enterprises.	Per cent of total.	Number of acres.	Per cent of total.	Number of enterprises.	Per cent of total.	Number of acres.	Per cent of total.	Number of enterprises.	Per cent of total.	Number of acres.	Per cent of total.
United States	[1] 9,584	12,171,388	2,689	28.1	66,824	0.5	1,904	19.9	150,157	1.2	1,857	19.4	277,694	2.3
Appalachian field	5,507	7,120,485	1,691	30.7	42,453	0.6	1,187	21.6	93,637	1.3	1,047	19.0	154,307	2.2
Kentucky	195	323,015	28	14.4	658	0.2	38	19.5	3,053	0.9	28	14.4	4,072	1.3
New York	557	318,730	227	40.8	6,768	2.1	118	21.2	8,929	2.8	105	18.9	14,935	4.7
Ohio, eastern	895	1,239,391	190	21.2	3,786	0.3	165	18.4	12,685	1.0	192	21.5	29,251	2.4
Pennsylvania	3,121	2,506,879	1,065	34.1	26,854	1.1	745	23.9	59,333	2.4	593	19.0	86,712	3.5
West Virginia	739	2,732,470	181	24.5	4,387	0.2	121	16.4	9,637	0.4	129	17.5	19,337	0.7
Lima-Indiana field	538	273,712	89	16.5	2,216	0.8	129	24.0	10,130	3.7	131	24.3	19,896	7.3
Indiana, east central	106	63,864	28	26.4	435	0.7	14	13.2	1,120	1.8	5	4.7	769	1.2
Ohio, northwest	432	209,848	61	14.1	1,781	0.8	115	26.6	9,010	4.3	126	29.2	19,127	9.1
Illinois and Southwest Indiana field	255	190,480	61	23.9	1,694	0.9	68	26.7	5,405	2.8	47	18.4	6,540	3.4
Illinois	230	169,025	58	25.2	1,612	1.0	62	27.0	4,945	2.9	44	19.1	6,085	3.6
Indiana, southwest	25	21,455	3	12.0	82	0.4	6	24.0	460	2.1	3	12.0	455	2.1
Mid-Continent field	2,709	3,647,388	595	22.0	15,294	0.4	451	16.6	35,806	1.0	558	20.6	86,027	2.4
Arkansas	7	46,621	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kansas	607	468,144	52	8.6	1,551	0.3	85	14.0	6,792	1.5	137	22.6	21,574	4.6
Louisiana, northwest	108	260,986	40	37.0	1,054	0.4	8	7.4	630	0.2	12	11.1	1,727	0.7
Oklahoma	1,557	1,730,661	276	17.7	9,016	0.5	312	20.0	24,771	1.4	372	23.9	57,107	3.3
Texas, northern and central	430	1,140,976	227	52.8	3,673	0.3	46	10.7	3,613	0.3	37	8.6	5,619	0.5
Gulf Coast field	134	217,090	90	67.2	1,096	0.5	12	9.0	829	0.4	6	4.5	842	0.4
Louisiana, southern	19	68,356	11	57.9	81	0.1	2	10.5	134	0.2	.....	.....	.....	.....
Texas	115	148,734	79	68.7	1,015	0.7	10	8.7	695	0.5	6	5.2	842	0.6
Rocky Mountain field	53	219,787	2	3.8	11	([2])	3	5.7	242	0.1	8	15.1	1,272	0.6
Colorado and New Mexico	11	15,485	2	18.2	11	0.1	.....	.....	.....	.....	1	9.1	193	1.2
Montana	5	4,760	.....	.....	.....	.....	.....	.....	.....	.....	1	20.0	160	3.4
Wyoming	37	199,542	.....	.....	.....	.....	3	8.1	242	0.1	6	16.2	920	0.5
Pacific Coast field	385	482,320	160	41.6	4,050	0.8	54	14.0	4,108	0.9	59	15.3	8,693	1.8
California	385	482,320	160	41.6	4,050	0.8	54	14.0	4,108	0.9	59	15.3	8,693	1.8
All other states	3	20,126	1	33.3	10	([2])	.....	.....	.....	.....	1	33.3	116	0.6

FIELD AND STATE.	ENTERPRISES OPERATING— 200 to 500 acres.				500 to 1,000 acres.				1,000 acres and over.			
	Number of enterprises.	Per cent of total.	Number of acres.	Per cent of total.	Number of enterprises.	Per cent of total.	Number of acres.	Per cent of total.	Number of enterprises.	Per cent of total.	Number of acres.	Per cent of total.
United States	1,557	16.2	507,197	4.2	666	6.9	485,695	4.0	911	9.5	10,683,821	87.8
Appalachian field	858	15.6	278,834	3.9	307	5.6	229,402	3.2	417	7.6	6,321,852	88.8
Kentucky	46	23.6	14,888	4.6	10	5.1	7,411	2.3	45	23.1	292,933	90.7
New York	66	11.8	21,494	6.7	19	3.4	13,633	4.3	22	3.9	252,971	79.4
Ohio, eastern	189	21.1	62,894	5.1	74	8.3	51,007	4.1	85	9.5	1,079,768	87.1
Pennsylvania	429	13.7	138,261	5.5	137	4.4	109,999	4.4	152	4.9	2,085,720	83.2
West Virginia	128	17.3	41,297	1.5	67	9.1	47,352	1.7	113	15.3	2,610,460	95.5
Lima-Indiana field	116	21.6	37,745	13.8	47	8.7	33,872	12.4	26	4.8	169,853	62.1
Indiana, east central	25	23.6	8,329	13.0	20	18.9	15,196	23.8	14	13.2	38,015	59.5
Ohio, northwest	91	21.1	29,416	14.0	27	6.2	18,676	8.9	12	2.8	131,838	62.8
Illinois and Southwest Indiana field	39	15.3	13,543	7.1	15	5.9	10,138	5.3	25	9.8	153,160	80.4
Illinois	34	14.8	11,896	7.0	14	6.1	9,283	5.5	18	7.8	135,204	80.0
Indiana, southwest	5	20.0	1,647	7.7	1	4.0	855	4.0	7	28.0	17,956	83.7
Mid-Continent field	485	17.9	158,739	4.4	261	9.6	185,416	5.1	359	13.3	3,166,106	86.8
Arkansas	.....	.....	.....	.....	1	14.3	600	1.3	6	85.7	46,021	98.7
Kansas	157	25.9	52,398	11.2	87	14.3	62,294	13.3	89	14.7	323,535	69.1
Louisiana, northwest	18	16.7	6,194	2.4	7	6.5	5,413	2.1	23	21.3	245,968	94.2
Oklahoma	267	17.1	86,311	5.0	145	9.3	102,667	5.9	185	11.9	1,450,789	83.8
Texas, northern and central	43	10.0	13,836	1.2	21	4.9	14,442	1.3	56	13.0	1,099,793	96.4
Gulf Coast field	6	4.5	1,516	0.7	11	8.2	8,445	3.9	9	6.7	204,362	94.1
Louisiana, southern	1	5.3	274	0.4	2	10.5	1,480	2.2	3	15.8	66,387	97.1
Texas	5	4.3	1,242	0.8	9	7.8	6,965	4.7	6	5.2	137,975	92.8
Rocky Mountain field	8	15.1	2,774	1.3	8	15.1	5,713	2.6	24	45.3	209,774	95.4
Colorado and New Mexico	2	18.2	800	5.2	3	27.3	1,997	12.9	3	27.3	12,484	80.6
Montana	1	20.0	400	8.4	.....	.....	.....	.....	3	60.0	4,200	88.2
Wyoming	5	13.5	1,574	0.8	5	13.5	3,716	1.9	18	48.6	193,090	96.8
Pacific Coast field	45	11.7	14,046	2.9	17	4.4	12,709	2.6	50	13.0	438,714	91.0
California	45	11.7	14,046	2.9	17	4.4	12,709	2.6	50	13.0	438,714	91.0
All other states	.....	.....	.....	.....	.....	.....	.....	.....	1	33.3	20,000	99.4

[1] Exclusive of 230 enterprises engaged only in the extraction of gasoline from natural gas.

[2] Less than one-tenth of 1 per cent.

PERSONS ENGAGED IN THE INDUSTRY.

Persons according to class and sex.—Table 15 shows, by classes, the number of persons engaged in producing and nonproducing enterprises in the petroleum and natural-gas industry for the United States as a whole and for producing fields, and gives the number of males and females in each class, and the per cent distribution of persons by classes. Females constituted only slightly more than 4 per cent of the total of all classes of persons engaged and nearly three-fourths of them were employed as clerks or other subordinate salaried employees. The other females were chiefly proprietors and firm members. A small but appreciable number (123 on the representative day) were also reported as wage earners, probably being for the most part employed as cooks by drilling outfits. The number of proprietors and officials, including salaried employees of higher grades, was 17.8 per cent of the total number of persons in all petroleum and natural-gas enterprises in the United States as a whole, but ranged from 5.5 in the Rocky Mountain field to 29.1 per cent in the Appalachian field and 44.2 per cent in the Lima-Indiana field. The ratio of wage earners to other persons was notably low as compared with the ratio in mining and quarrying, and, correspondingly, the proportions in the various grades of salaried employees was high.

Table 15 shows that wage earners constituted 74.4 per cent of the total number of persons in all petroleum and natural-gas enterprises in the United States. In the producing enterprises the wage earners formed 74.5 per cent of the total number of persons and this proportion ranged from 53.6 in the Lima-Indiana field and 64.5 per cent in the Appalachian field to 91.1 per cent in the Rocky Mountain field. In the nonproducing enterprises wage earners constituted 55.4 per cent of the total number of persons and this proportion ranged from 25.2 per cent in the Appalachian field to 79.8 per cent in the Pacific Coast field. Wage earners were relatively fewer in the older fields where the corporate form of operating organizations was relatively least important and where new developments and drilling activities were far subordinate to the operation of old enterprises. It is chiefly in the development stages and the early period of production that labor is required in the petroleum and natural-gas industry. Later stages of operation under some conditions require practically no wage earners.

TABLE 15.—PERSONS ENGAGED, PRODUCING AND NONPRODUCING ENTERPRISES: 1919.

FIELD.	Total.	PROPRIETORS AND FIRM MEMBERS.			SALARIED OFFICERS OF CORPORATIONS.			SUPERINTENDENTS AND MANAGERS.			TECHNICAL EMPLOYEES.			CLERKS AND OTHER SUBORDINATE SALARIED EMPLOYEES.			WAGE EARNERS.		WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.			PROPRIETORS PER FORMING MANUAL LABOR.	
		Number.			Number.			Number.			Number.			Number.									
		Male.	Female.	Per cent of total.	Male.	Female.	Per cent of total.	Male.	Female.	Per cent of total.	Male.	Female.	Per cent of total.	Male.	Female.	Per cent of total.	Average number.	Per cent of total.	Engineers, drillers, mechanics, etc.	All other.	Females included in "All other."	Number.	Per cent of total number of proprietors.
United States	125,930	12,953	1,366	11.4	2,374	65	1.9	4,774	20	3.8	890	7	0.7	6,102	3,720	7.8	93,659	74.4	64,750	36,992	123	1,995	13.9
Producing enterprises	125,110	12,860	1,363	11.4	2,329	63	1.9	4,684	20	3.8	861	7	0.7	6,046	3,672	7.8	93,205	74.5	64,230	36,750	118	1,987	14.0
Nonproducing enterprises	820	93	3	11.7	45	2	5.7	90	....	11.0	29	....	3.5	56	48	12.7	454	55.4	520	242	5	8	8.3
Appalachian field	43,969	9,506	1,071	24.1	753	14	1.7	1,266	5	2.9	161	2	0.4	1,925	937	6.5	28,329	64.4	19,985	9,188	.....	1,737	16.4
Producing enterprises	43,866	9,451	1,069	24.0	749	14	1.7	1,257	5	2.9	161	2	0.4	1,921	934	6.5	28,303	64.5	19,968	9,161	.....	1,737	16.5
Nonproducing enterprises	103	55	2	55.3	4	....	3.9	9	....	8.7	....	....	.....	4	3	6.8	26	25.2	17	27	.....	.....	.....
Lima-Indiana field	2,464	832	136	39.3	38	....	1.5	82	....	3.3	2	....	0.1	28	26	2.2	1,320	53.6	1,081	229	.....	119	12.3
Producing enterprises	2,464	832	136	39.3	38	....	1.5	82	....	3.3	2	....	0.1	28	26	2.2	1,320	53.6	1,081	229	.....	119	12.3
Illinois and Southwest Indiana field	3,827	434	31	12.2	51	2	1.4	129	....	3.4	1	....	(1)	126	44	4.4	3,009	78.6	2,570	453	.....	2	0.4
Producing enterprises	3,827	434	31	12.2	51	2	1.4	129	....	3.4	1	....	(1)	126	44	4.4	3,009	78.6	2,570	453	.....	2	0.4
Mid-Continent field	54,214	1,963	103	3.8	1,145	36	2.2	2,525	9	4.7	622	5	1.2	2,857	2,335	9.6	42,614	78.6	26,092	22,610	31	93	4.5
Producing enterprises	53,795	1,939	102	3.8	1,118	34	2.1	2,464	9	4.6	614	5	1.2	2,822	2,299	9.5	42,389	78.8	25,820	22,499	29	86	4.2
Nonproducing enterprises	419	24	1	6.0	27	2	6.9	61	....	14.6	8	....	1.9	35	36	16.9	225	53.7	272	111	2	7	28.0
Gulf Coast field	4,378	85	4	2.0	76	2	1.8	198	1	4.5	28	....	0.6	322	79	9.2	3,583	81.8	2,368	1,707	9	19	21.3
Producing enterprises	4,327	85	4	2.1	73	2	1.7	194	1	4.5	26	....	0.6	314	76	9.0	3,552	82.1	2,333	1,680	9	19	21.3
Nonproducing enterprises	51	.....	.....	.....	3	....	5.9	4	....	7.8	2	....	3.9	8	3	21.6	31	60.8	35	27	.....	.....	.....
Rocky Mountain field	2,610	8	.....	0.3	41	1	1.6	70	....	2.7	24	....	0.9	79	35	4.4	2,352	90.1	2,090	389	69	2	25.0
Producing enterprises	2,507	8	.....	0.3	35	1	1.4	63	....	2.5	8	....	0.3	73	34	4.3	2,285	91.1	2,028	345	66	2	25.0
Nonproducing enterprises	103	.....	.....	.....	6	....	5.8	7	....	6.8	16	....	15.5	6	1	6.8	67	65.0	62	44	3	.....	.....
Pacific Coast field	14,431	110	21	0.9	269	10	1.9	503	5	3.5	50	....	0.3	765	263	7.1	12,435	86.2	10,551	2,414	14	22	16.8
Producing enterprises	14,317	110	21	0.9	264	10	1.9	494	5	3.5	49	....	0.3	762	258	7.1	12,344	86.2	10,427	2,383	14	22	16.8
Nonproducing enterprises	114	.....	.....	.....	5	....	4.4	9	....	7.9	1	....	0.9	3	5	7.0	91	79.8	124	31	.....	.....	.....
All other states	37	15	.....	40.5	1	....	2.7	1	....	2.7	2	....	5.4	.....	1	2.7	17	45.9	13	2	.....	1	6.7
Producing enterprises	7	1	.....	14.3	1	....	14.3	1	....	14.3	....	....	.....	.....	1	14.3	3	42.9	3	.....	.....	.....	.....
Nonproducing enterprises	30	14	.....	46.7	.....	....	.....	.....	....	.....	2	....	6.7	.....	.....	.....	14	46.7	10	2	.....	1	7.1

[1] Less than one-tenth of 1 per cent.

Persons not counted.—The number of wage earners and other persons engaged in the petroleum and natural-gas industry reported at the census of 1919 (and at the census of 1909) is the number employed directly by the operators of producing and nonproducing enterprises. This number is considerably short of the total number of those in supervisory classes and the wage earners employed in connection with the petroleum and natural-gas industry. The reason for this is twofold: First, the drilling of new wells is done very largely by contractors whose employees can not be reported accurately by the operators, and the operators were not required to attempt to make such reports. The total amount paid for contract work is an indication of the number of employees not counted, and in 1919 was $70,102,159, a large part of which was cost of labor and is to be compared with $135,397,170 paid to wage earners employed directly by operators. Second, the operation of petroleum and natural-gas wells does not always require the constant attendance of regular employees. Many small enterprises dispense with the services of regular wage earners by hiring mechanics, "pumpers," or "lease attendants," etc., for a few hours per week. To meet this demand many mechanics and laborers in the oil fields work by the job for a number of operators. Returns from 1,895 operators showing occasional or part-time employment of wage earners have been tabulated as enterprises employing no wage earners. These enterprises were distributed in states as follows:

Pennsylvania	747	Illinois	22
Ohio	380	Kentucky	20
New York	225	Texas	19
West Virginia	194	California	15
Oklahoma	158	Louisiana	5
Kansas	73	Colorado	2
Indiana	34	Arkansas	1

Many operators, moreover, run their wells and gasoline-extraction plants without hired labor of any kind, performing the manual labor themselves. The number of proprietors performing all the labor themselves or employing very few or only occasional helpers and the percentage these were of the total number of proprietors is shown in Table 15, and should be taken into account in the consideration of the wage earners employed. In the oil fields in which proprietors and firm members were relatively important among the persons engaged in the industry—that is, in the Appalachian and Lima-Indiana fields—about one-sixth and one-eighth, respectively, of the proprietors performed manual labor in the operation of petroleum and natural-gas wells or natural-gas gasoline plants.

Wage earners, by months.—Table 16 shows for producing and nonproducing enterprises, by fields and by states, the number of wage earners employed on the 15th day of each month or the nearest representative day, the average number employed during the year, the months of maximum and minimum employment, and the ratio of the maximum to the minimum number. The changes in the number employed from month to month reflect conditions prevailing in the petroleum and natural-gas industry during the year.

It will be noted that the number of wage earners reported for all enterprises on a representative day, which is presented in several tables, aggregated 101,742 and is larger than the number shown for any month in Table 16. The representative day and month selected for reporting wage earners in detail varied with the individual enterprises, therefore the aggregate for the representative day differs from the total of the numbers reported by the several enterprises in any month.

TABLE 16.—WAGE EARNERS, BY MONTHS, BY FIELDS AND STATES: 1919.

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

FIELD AND STATE.	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.	
United States	93,659	85,485	*85,393*	87,455	88,472	90,439	91,606	94,850	99,101	100,108	99,909	100,163	**100,927**	84.6
Producing enterprises	93,205	85,225	*85,119*	87,130	88,120	90,015	91,156	94,389	98,570	99,570	99,332	99,541	**100,293**	84.9
Nonproducing enterprises	454	*260*	274	325	352	424	450	461	531	538	577	622	**634**	41.0
Producing enterprises.														
Mid-Continent field	42,389	*36,748*	36,767	38,245	39,030	40,142	40,481	42,627	45,601	46,688	46,894	47,425	**48,020**	76.5
Oklahoma	21,180	*19,544*	19,572	20,290	20,425	20,783	20,828	21,555	22,082	22,080	22,169	22,364	**22,468**	87.0
Texas, northern and central	10,415	*7,162*	7,455	8,138	8,831	9,443	9,618	10,656	12,358	12,891	12,906	12,645	12,877	55.5
Kansas	6,305	6,347	6,196	5,987	*5,879*	6,159	6,056	6,323	6,591	**6,656**	6,591	6,452	6,423	88.3
Louisiana, northwest	4,473	3,679	*3,528*	3,814	3,879	3,744	3,966	4,080	4,557	5,044	5,210	5,945	**6,230**	56.6
Arkansas	16	16	16	16	16	*13*	13	13	13	17	18	19	**22**	59.1
Appalachian field	28,303	26,816	*26,436*	26,733	27,180	27,607	28,389	29,414	**30,197**	29,888	29,304	28,837	28,835	87.5
West Virginia	12,302	11,833	*11,625*	11,693	12,007	12,199	12,378	12,857	**12,886**	12,667	12,637	12,425	12,417	90.2
Pennsylvania	9,065	8,495	*8,368*	8,526	8,537	8,642	9,152	9,321	9,831	**9,843**	9,477	9,283	9,310	85.0
Ohio, eastern	3,949	3,787	*3,691*	3,767	3,761	3,908	3,900	4,077	**4,226**	4,150	4,037	4,030	4,054	87.3
Kentucky	2,119	*1,874*	1,955	1,955	1,984	2,032	2,096	2,225	**2,337**	2,309	2,248	2,218	2,195	80.2
New York	868	827	802	*792*	891	826	863	934	917	919	905	881	859	84.8
Pacific Coast field	12,344	*12,060*	12,313	12,224	12,139	12,420	12,231	12,187	12,140	12,378	12,550	12,685	**12,801**	94.2
California	12,344	*12,060*	12,313	12,224	12,139	12,420	12,231	12,187	12,140	12,378	12,550	12,685	**12,801**	94.2
Gulf Coast field	3,552	*3,069*	3,224	3,425	3,335	3,294	3,302	3,474	3,796	3,851	3,898	**3,981**	3,975	77.1
Texas	3,184	*2,718*	2,870	3,057	2,990	2,943	2,936	3,101	3,409	3,460	3,523	3,595	**3,606**	75.4
Louisiana, southern	368	351	354	368	*345*	351	366	373	387	**391**	375	386	369	88.2
Illinois and Southwest Indiana field	3,009	3,018	2,983	2,997	2,940	*2,913*	2,975	3,046	3,128	3,085	3,018	2,988	3,017	93.1
Illinois	2,752	2,753	2,695	2,735	2,709	*2,663*	2,728	2,780	**2,874**	2,827	2,767	2,736	2,757	92.7
Indiana, southwest	257	265	**288**	262	*231*	250	247	266	254	258	251	252	260	80.2
Rocky Mountain field	2,285	2,180	*2,081*	2,205	2,163	2,325	**2,420**	2,318	2,370	2,349	2,330	2,325	2,354	86.0
Wyoming	2,167	2,062	*1,959*	2,087	2,048	2,201	2,306	2,195	2,248	2,233	2,210	2,212	2,243	85.0
Colorado and New Mexico	80	83	**87**	83	79	84	74	83	81	76	80	77	*73*	83.9
Montana	38	*35*	35	35	36	40	40	40	41	40	40	36	38	85.4
Lima-Indiana field	1,320	1,331	1,312	1,298	1,330	1,311	**1,355**	1,320	1,335	1,328	1,335	1,297	*1,288*	95.1
Ohio, northwest	1,174	1,195	1,169	1,168	1,191	1,174	**1,208**	1,171	1,181	1,181	1,174	1,141	*1,136*	94.0
Indiana, east central	146	136	143	*130*	139	137	147	149	154	147	**161**	156	153	80.7
All other states	3	*3*	3	3	3	3	3	3	3	3	3	3	3	.....
Nonproducing enterprises.														
Mid-Continent field	225	*133*	140	145	170	178	204	229	261	287	318	312	**323**	41.2
Texas, northern and central	148	*78*	80	86	108	118	146	153	178	196	210	208	**215**	36.3
Arkansas and Oklahoma	42	*34*	38	37	34	37	37	40	48	**54**	52	46	47	63.0
Louisiana, northwest	32	*19*	20	20	26	21	19	33	32	34	51	53	**56**	33.9
Kansas	3	*2*	2	2	2	2	2	3	3	3	5	5	**5**	40.0
Pacific Coast field	91	85	74	89	89	77	*59*	68	83	83	115	124	**146**	40.4
California	91	85	74	89	89	77	*59*	68	83	83	115	124	**146**	40.4
Rocky Mountain field	67	*25*	28	41	49	95	95	93	**104**	75	69	68	62	24.0
Wyoming	67	*25*	28	41	49	95	95	93	**104**	75	69	68	62	24.0
Gulf Coast field	31	*7*	11	20	14	23	37	26	35	38	39	58	**64**	10.9
Texas	31	*7*	11	20	14	23	37	26	35	38	39	58	**64**	10.9
Appalachian field	26	*9*	20	29	27	23	24	22	28	36	21	**46**	27	19.6
Kentucky	12	*2*	13	**22**	19	10	12	11	7	17	8	17	6	9.1
Ohio	9	*7*	7	7	8	8	7	10	8	**12**	12	12	10	58.3
West Virginia	5	.....	.....	.....	.....	5	5	*1*	13	7	1	**17**	11	5.9
All other states	14	*1*	1	1	3	28	**31**	23	20	19	15	14	12	3.2

Prevailing hours of labor.—Table 17 presents for producing and nonproducing enterprises in the petroleum and natural-gas industry, by fields and by states, a classification of enterprises according to the prevailing hours of labor per week reported by each enterprise, and shows the number of enterprises and wage earners for each class, with the per cent distribution. The table shows that the prevailing hours of labor were quite generally more than 54 per week, about 60 per cent of the enterprises employing wage earners reporting 54 or more hours per week. The hours per day in the petroleum and natural-gas industry were commonly 9 or 10, and very frequently longer. Furthermore, the 7-day week was the rule in many enterprises. The reason for prevalence of long hours in this industry is that drilling operations are usually conducted continuously, 24 hours per day and 7 days per week, and also because where there is large volume of production uninterrupted attendance is required.

TABLE 17.—NUMBER OF ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR PRODUCING AND NONPRODUCING ENTERPRISES: 1919.

FIELD AND STATE.	TOTAL.		NUMBER WHERE THE HOURS OF LABOR PER WEEK WERE—													
	Wage earners (average number).	Enterprises.	No wage earners.	35 and under.		36 to 43.		44 to 53.		54 to 62.		63 to 71.		72 to 84.	
			Number of enterprises.	Number of enterprises.	Wage earners (average number).	Number of enterprises.	Wage earners (average number).	Number of enterprises.	Wage earners (average number).	Number of enterprises.	Wage earners (average number).	Number of enterprises.	Wage earners (average number).	Number of enterprises.	Wage earners (average number).
United States	93,659	9,970	3,344	852	1,295	226	329	1,630	13,286	2,398	44,258	733	21,805	787	12,686
Producing enterprises	93,205	9,814	3,292	852	1,295	225	327	1,623	13,227	2,356	44,068	714	21,726	752	12,562
Nonproducing enterprises	454	156	52			1	2	7	59	42	190	19	79	35	124
Producing enterprises.															
Appalachian field	28,303	5,549	2,462	615	787	141	195	1,032	7,049	1,022	17,228	114	1,928	163	1,116
Kentucky	2,119	196	32	2	3	1	5	25	531	103	1,267	17	86	16	227
New York	868	561	310	56	58	13	16	77	207	89	558	12	20	4	9
Ohio, eastern	3,949	901	357	112	149	21	37	131	416	232	2,844	25	381	23	122
Pennsylvania	9,065	3,140	1.487	388	503	94	121	659	2,814	387	4,923	22	80	103	624
West Virginia	12,302	751	276	57	74	12	16	140	3,081	211	7,636	38	1,361	17	134
Lima-Indiana field	1,320	538	273	66	54	10	17	84	162	89	1,033	8	30	8	24
Indiana, east central	146	106	58	5	7	5	9	13	16	16	84	4	17	5	13
Ohio, northwest	1174	432	215	61	47	5	8	71	146	73	949	4	13	3	11
Illinois and Southwest Indiana field	3,009	261	36	6	8	6	6	31	279	72	2,144	38	219	72	353
Illinois	2,752	236	35	5	7	6	6	26	242	65	1,999	30	187	69	311
Indiana, southwest	257	25	1	1	1			5	37	7	145	8	32	3	42
Mid-Continent field	42,389	2,871	467	156	338	65	104	404	2,670	848	12,320	446	16,458	485	10,499
Arkansas	16	7	4			1	5			2	11				
Kansas	6,305	613	132	52	59	22	43	148	376	163	1,624	47	680	49	3,523
Louisiana, northwest	4,473	114	14	2	77			4	20	19	717	58	3,527	17	132
Oklahoma	21,180	1,699	253	91	185	38	51	218	2,004	573	8,029	266	8,267	260	2,844
Texas, northern and central	10,415	438	64	11	17	4	5	34	270	91	1,939	75	3,984	159	4,200
Gulf Coast field	3,552	134	7	2	9	2	4	3	6	14	158	93	2,867	13	508
Louisiana, southern	368	19	1			1	3			2	1	12	351	3	13
Texas	3,184	115	6	2	9	1	1	3	6	12	157	81	2,516	10	495
Rocky Mountain field	2,285	55	7					10	263	20	1,757	9	206	9	59
Colorado and New Mexico	80	11	5					2	39	2	39	2	2		
Montana	38	5						1	3	4	35				
Wyoming	2,167	39	2					7	221	14	1,683	7	204	9	59
Pacific Coast field	12,344	403	39	7	99	1	1	58	2,796	290	9,427	6	18	2	3
California	12,344	403	39	7	99	1	1	58	2,796	290	9,427	6	18	2	3
All other states [1]	3	3	1					1	2	1	1				
Nonproducing enterprises.															
Appalachian field	26	18	11							6	21			1	5
Kentucky	12	8	6							2	12				
Ohio, eastern	9	5	3							1	4			1	5
West Virginia	5	5	2							3	5				
Mid-Continent field	225	102	35			1	2	1	3	25	111	11	30	29	79
Arkansas and Oklahoma	42	29	8							5	10	3	1	13	31
Kansas	3	10	8							1	2			1	1
Louisiana, northwest	32	6	1							2	15	3	17		
Texas, northern and central	148	57	18			1	2	1	3	17	84	5	12	15	47
Gulf Coast field	31	7										5	26	2	5
Texas	31	7										5	26	2	5
Rocky Mountain field	67	11	2					1	2	3	11	3	23	2	31
Wyoming	67	11	2					1	2	3	11	3	23	2	31
Pacific Coast field	91	13	1					4	41	7	46			1	4
California	91	13	1					4	41	7	46			1	4
All other states [2]	14	5	3					1	13	1	1				

[1] Includes Michigan, South Dakota, and Tennessee.

[2] Includes Pennsylvania and Washington.

LAND TENURE AND ROYALTIES.

Acreage and form of tenure.—Table 18 shows by fields for producing and nonproducing enterprises the total acreage of petroleum and natural-gas land operated and the acreage held by ownership or under lease, and also shows the per cent the land owned by the operators is of the total land operated. In this table and in others relating to acreage in the petroleum and natural-gas industry the number of acres given is only the acreage represented as operated by the reporting enterprises. It is notable that only in one field, the Pacific Coast field (California), is a large part of the land owned by the operators—five-eighths for producing enterprises and one-half for nonproducing enterprises. Except in the Pacific Coast field, less than 10 per cent of the land operated by producing enterprises was owned by them, and for nonproducing enterprises less than 5 per cent and commonly less than 1 per cent was owned by the operators. Approximately 60 per cent of the total acreage controlled by producing enterprises was in the Appalachian field, 30 per cent in the Mid-Continent field, and 4 per cent in the Pacific Coast field. Of the acreage controlled by nonproducing enterprises, approximately 25 per cent was in the Appalachian field, 65 per cent in the Mid-Continent field, and 4 per cent in the Gulf Coast field.

TABLE 18.—ACREAGE OPERATED, ACCORDING TO FORM OF TENURE: 1919.

FIELD.	ACREAGE OPERATED.			
	Total.	Owned.	Held under lease.	Per cent owned is of total.
United States	12,431,519	1,175,713	11,255,806	9.5
Producing enterprises	12,171,388	1,172,068	10,999,320	9.6
Nonproducing enterprises	260,131	3,645	256,486	1.4
Appalachian field:				
Producing enterprises	7,120,485	572,165	6,548,320	8.0
Nonproducing enterprises	65,515	470	65,045	0.7
Lima-Indiana field:				
Producing enterprises	273,712	26,902	246,810	9.8
Illinois and Southwest Indiana field:				
Producing enterprises	190,480	2,629	187,851	1.4
Mid-Continent field:				
Producing enterprises	3,647,388	235,678	3,411,710	6.5
Nonproducing enterprises	171,184	236	170,948	0.1
Gulf Coast field:				
Producing enterprises	217,090	17,359	199,731	8.0
Nonproducing enterprises	11,586	505	11,081	4.4
Rocky Mountain field:				
Producing enterprises	219,787	16,830	202,957	7.7
Nonproducing enterprises	6,076	.....	6,076	.....
Pacific Coast field:				
Producing enterprises	482,320	300,429	181,891	62.3
Nonproducing enterprises	4,869	2,433	2,436	50.0
All other states:				
Producing enterprises [1]	20,126	76	20,050	0.4
Nonproducing enterprises [2]	901	1	900	0.1

[1] Includes Michigan, South Dakota, and Tennessee.
[2] Includes Pennsylvania and Washington.

Table 19 presents for producing enterprises by fields and by states, and for nonproducing enterprises by fields, the acreage of petroleum and natural-gas land operated in 1919 and 1909.

TABLE 19.—ACREAGE OPERATED, BY FIELDS AND STATES: 1919 AND 1909.

FIELD AND STATE.	ACREAGE.		
	1919	1909	Per cent of increase.[1]
United States	12,431,519	13,809,939	−10.0
Producing enterprises	12,171,388	12,694,838	−4.1
Nonproducing enterprises	260,131	1,115,101	−76.7
Producing enterprises.			
Appalachian field	7,120,485	9,206,885	−22.7
Kentucky	323,015	289,236	11.7
New York	318,730	222,503	43.2
Ohio, eastern	1,239,391	1,483,392	−16.4
Pennsylvania	2,506,879	2,824,122	−11.2
West Virginia	2,732,470	4,387,632	−37.7
Lima-Indiana field	295,167	520,889	−43.3
Indiana [2]	85,319	353,205	−75.8
Ohio, northwest	209,848	167,684	25.1
Illinois field	169,025	396,135	−57.3
Illinois [3]	169,025	396,135	−57.3
Mid-Continent field	3,647,388	1,857,024	96.4
Arkansas	46,621	46,048	1.2
Kansas	468,144	502,206	−6.8
Louisiana, northwest	260,986	(4)	.....
Oklahoma	1,730,661	1,119,238	54.6
Texas, northern and central	1,140,976	189,532	502.0
Gulf Coast field	217,090	183,140	18.5
Louisiana, southern	68,356	[4] 96,316	.....
Texas	148,734	86,824	71.3
Rocky Mountain field	219,787	37,373	488.1
Colorado and New Mexico [5]	15,485	31,223	−50.4
Montana	4,760	.....	.....
Wyoming	199,542	6,150	3,144.6

[1] A minus sign (−) denotes decrease. Percentages are omitted where figures are not comparable.
[2] Includes the whole state of Indiana, for comparison with 1909 data.
[3] Includes only the state of Illinois for comparison with 1909 data.
[4] For 1909 the entire state of Louisiana was included in "Gulf Coast field."
[5] Combined to avoid disclosure.

TABLE 19.—ACREAGE OPERATED, BY FIELDS AND STATES: 1919 AND 1909—Continued.

FIELD AND STATE.	ACREAGE.		
	1919	1909	Per cent of increase.
Producing enterprises—Continued.			
Pacific Coast field	482,320	455,444	5.9
California	482,320	455,444	5.9
All other states	[6] 20,126	[7] 37,948	.....
Nonproducing enterprises.			
Appalachian field	65,515	23,906	174.1
Lima-Indiana field	.....	3,298	.....
Illinois field	.....	9,100	.....
Mid-Continent field	171,184	35,552	381.5
Gulf Coast field	11,586	714,072	−98.4
Rocky Mountain field	6,076	.....	.....
Pacific Coast field	4,869	103,281	−95.3
All other [8]	901	225,292	−99.6

[6] Includes Michigan, South Dakota, and Tennessee.
[7] Includes Michigan, Missouri, North Dakota, and Tennessee.
[8] Included Pennsylvania and Washington in 1919. States not specified for 1909.

The table shows for the United States a small decrease in the acreage operated by producing enterprises and a very large decrease in the acreage operated by nonproducing enterprises. In the Appalachian, Lima-Indiana, and Illinois fields there was considerable decrease in the acreage operated by producing enterprises. In the Gulf Coast and Pacific fields there was a small increase in the acreage operated by producing enterprises; in the Mid-Continent field the increase was large and in the Rocky Mountain field it was very large. These changes reflect the stage of development of the fields, the first-named being the oldest, almost completely developed, and in part approaching exhaustion, whereas the two last-named fields are less thoroughly developed and have been the most extensively exploited in recent years.

In Table 20 producing and nonproducing enterprises in the petroleum and natural-gas industry are grouped according to form of tenure of land; that is, whether held by ownership, under lease, or partly by ownership and partly under lease, and there is shown for the United States and for fields and states the number of enterprises and the number of acres in each group under each form of tenure. For the United States as a whole 70 per cent of all enterprises were in the class operating only leased land which amounted to 45.7 per cent of the total acreage of land operated; 11.9 per cent of all enterprises were in the class operating land partly owned and partly held under lease, the land in this class forming 50.4 per cent of the total acreage; the remaining 18.1 per cent of the enterprises operated only land which they themselves owned and which amounted to about 4 per cent of the total acreage. Although in several states a considerable number of enterprises operated only land which they themselves owned, California was the only important state where the amount of such acreage was more than a small part of the total for the state.

TABLE 20.—NUMBER OF PRODUCING AND OF NONPRODUCING ENTERPRISES AND ACRES OF PETROLEUM AND NATURAL-GAS LAND CONTROLLED, CLASSIFIED ACCORDING TO FORM OF TENURE: 1919.

FIELD AND STATE.	ALL CLASSES.					ENTERPRISES OPERATING ONLY OWNED LAND.			ENTERPRISES OPERATING ONLY LAND HELD UNDER LEASE.			ENTERPRISES OPERATING LAND PARTLY OWNED AND PARTLY HELD UNDER LEASE.				
	Number of enterprises.	Acres controlled.				Number.	Acres controlled.		Number.	Acres controlled.		Number.	Acres controlled.			
		Aggregate.	By ownership.	By lease.	Per cent owned is of aggregate.		By ownership.	Per cent of aggregate.		By lease.	Per cent of aggregate.		Total.	By ownership.	By lease.	Per cent of aggregate.
United States	[1] 9,740	12,431,519	1,175,713	11,255,806	9.5	1,765	479,834	3.9	6,815	5,685,170	45.7	1,160	6,266,515	695,879	5,570,636	50.4
Producing enterprises	[1] 9,584	12,171,388	1,172,068	10,999,320	9.6	1,756	477,164	3.9	6,673	5,440,589	44.7	1,155	6,253,635	694,904	5,558,731	51.4
Nonproducing enterprises	156	260,131	3,645	256,486	1.4	9	2,670	1.0	142	244,581	94.0	5	12,880	975	11,905	5.0
Producing enterprises.																
Appalachian field	5,507	7,120,485	572,165	6,548,320	8.0	1,282	231,996	3.3	3,490	3,062,393	43.0	735	3,826,096	340,169	3,485,927	53.7
Kentucky	195	323,015	20,213	302,802	6.3	20	14,255	4.4	162	222,068	68.7	13	86,692	5,958	80,734	26.8
New York	557	318,730	58,913	259,817	18.5	241	35,381	11.1	233	207,668	65.2	83	75,681	23,532	52,149	23.7
Ohio, eastern	895	1,239,391	30,662	1,208,729	2.5	110	15,028	1.2	719	1,110,914	89.6	66	113,449	15,634	97,815	9.2
Pennsylvania	3,121	2,506,879	396,700	2,110,179	15.8	856	151,401	6.0	1,753	607,060	24.2	512	1,748,418	245,299	1,503,119	69.7
West Virginia	739	2,732,470	65,677	2,666,793	2.4	55	15,931	0.6	623	914,683	33.5	61	1,801,856	49,746	1,752,110	65.9
Lima-Indiana field	538	273,712	26,902	246,810	9.8	82	12,092	4.4	397	122,170	44.6	59	139,450	14,810	124,640	50.9
Indiana, east central	106	63,864	7,909	55,955	12.4	16	3,041	4.8	73	42,582	66.7	17	18,241	4,868	13,373	28.6
Ohio, northwest	432	209,848	18,993	190,855	9.1	66	9,051	4.3	324	79,588	37.9	42	121,209	9,942	111,267	57.8
Illinois and Southwest Indiana field	255	190,480	2,629	187,851	1.4	12	2,313	1.2	232	75,618	39.7	11	112,549	316	112,233	59.1
Illinois	230	169,025	2,434	166,591	1.4	9	2,159	1.3	212	63,764	37.7	9	103,102	275	102,827	61.0
Indiana, southwest	25	21,455	195	21,260	0.9	3	154	0.7	20	11,854	55.3	2	9,447	41	9,406	44.0
Mid-Continent field	2,709	3,647,388	235,678	3,411,710	6.5	199	144,286	4.0	2,259	1,818,021	49.8	251	1,685,081	91,392	1,593,689	46.2
Arkansas	7	46,621	2,700	43,921	5.8	1	2,500	5.4	5	41,747	89.5	1	2,374	200	2,174	5.1
Kansas	607	468,144	34,727	433,417	7.4	40	12,632	2.7	520	325,921	69.6	47	129,591	22,095	107,496	27.7
Louisana, northwest	108	260,986	16,743	244,243	6.4	12	1,920	0.7	81	64,723	24.8	15	194,343	14,823	179,520	74.5
Oklahoma	1,557	1,730,661	163,546	1,567,115	9.4	102	120,106	6.9	1,303	898,646	51.9	152	711,909	43,440	668,469	41.1
Texas, northern and central	430	1,140,976	17,962	1,123,014	1.6	44	7,128	0.6	350	486,984	42.7	36	646,864	10,834	636,030	56.7
Gulf Coast field	134	217,090	17,359	199,731	8.0	11	1,699	0.8	98	82,232	37.9	25	133,159	15,660	117,499	61.3
Louisiana, southern	19	68,356	76	68,280	0.1	2	66	0.1	16	67,083	98.1	1	1,207	10	1,197	1.8
Texas	115	148,734	17,283	131,451	11.6	9	1,633	1.1	82	15,149	10.2	24	131,952	15,650	116,302	88.7
Rocky Mountain field	53	219,787	16,830	202,957	7.7	6	7,200	3.3	38	194,010	88.3	9	18,577	9,630	8,947	8.5
Colorado and New Mexico	11	15,485	6,660	8,825	43.0	3	5,800	37.5	5	7,164	46.3	3	2,521	860	1,661	16.3
Montana	5	4,760	1,960	2,800	41.2	1	1,160	24.4	3	2,160	45.4	1	1,440	800	640	30.3
Wyoming	37	199,542	8,210	191,332	4.1	2	240	0.1	30	184,686	92.6	5	14,616	7,970	6,646	7.3
Pacific Coast field	385	482,320	300,429	181,891	62.3	163	77,568	16.1	158	66,145	13.7	64	338,607	222,861	115,746	70.2
California	385	482,320	300,429	181,891	62.3	163	77,568	16.1	158	66,145	13.7	64	338,607	222,861	115,746	70.2
All other [2]	3	20,126	76	20,050	0.4	1	10	(3)	1	20,000	99.4	1	116	66	50	0.6
Nonproducing enterprises.																
Appalachian field	18	65,515	470	65,045	0.7	1	400	0.6	16	64,975	99.2	1	140	70	70	0.2
Kentucky	8	21,109	70	21,039	0.3				7	20,969	99.3	1	140	70	70	0.7
Ohio, eastern	5	32,839	400	32,439	1.2	1	400	1.2	4	32,439	98.8					
West Virginia	5	11,567		11,567					5	11,567	100.0					
Mid-Continent field	102	171,184	236	170,948	0.1	3	195	0.1	98	167,513	97.9	1	3,476	41	3,435	2.0
Arkansas and Oklahoma	29	5,604	150	5,454	2.7	1	150	2.7	28	5,454	97.3					
Kansas	10	2,975	15	2,960	0.5	1	15	0.5	9	2,960	99.5					
Louisiana, northwest	6	20,970	30	20,940	0.1	1	30	0.1	5	20,940	99.9					
Texas, northern and central	57	141,635	41	141,594	(3)				56	138,159	97.5	1	3,476	41	3,435	2.5
Gulf Coast field	7	11,586	505	11,081	4.4	1	5	(3)	5	3,721	32.1	1	7,860	500	7,360	67.8
Texas	7	11,586	505	11,081	4.4	1	5	(3)	5	3,721	32.1	1	7,860	500	7,360	67.8
Rocky Mountain field	11	6,076		6,076					11	6,076	100.0					
Wyoming	11	6,076		6,076					11	6,076	100.0					
Pacific Coast field	13	4,869	2,433	2,436	50.0	4	2,070	42.5	8	1,595	32.8	1	1,204	363	841	24.7
California	13	4,869	2,433	2,436	50.0	4	2,070	42.5	8	1,595	32.8	1	1,204	363	841	24.7
All other [4]	5	901	1	900	0.1				4	701	77.8	1	200	1	199	22.2

[1] Exclusive of 230 enterprises operating only plants for the extraction of gasoline from natural gas. [2] Includes Michigan, South Dakota, and Tennessee.
[3] Less than one-tenth of 1 per cent. [4] Includes enterprises in states as follows: Pennsylvania, 3; Washington, 2.

Royalties.—The census of 1919 did not distinguish between royalties or rents paid for mineral land or rents of other kinds; however, as these other rents are generally insignificant in the petroleum and natural-gas industry, statistics presented for royalties and rents may, where lands are leased, be interpreted as royalty. This is a compensation for the privilege of obtaining petroleum and natural gas from leased land and is either a fixed share of the product or a percentage of the value of the product.

Table 21 presents, by fields and states, for the producing enterprises, exclusive of those operating natural-gas gasoline plants only, the value of products and the royalties and rents classified according to form of land tenure. Enterprises operating only leased acreage reported nearly 50 per cent of the total value of products and paid approximately 60 per cent of all royalties and rents. The amount so paid was 14 per cent of the value of products for this class. Enterprises operating both owned and leased land produced approximately 45 per cent of the total value of products and reported royalties and rents amounting to 42 per cent of all rents and royalties and to 11.1 per cent of the value of products for the class.

TABLE 21.—VALUE OF PRODUCTS AND ROYALTIES AND RENTS FOR PRODUCING ENTERPRISES, CLASSIFIED ACCORDING TO TENURE OF PETROLEUM AND NATURAL-GAS LAND: 1919.[1]

FIELD AND STATE.	ENTERPRISES OPERATING ONLY OWNED LAND.			ENTERPRISES OPERATING ONLY LAND HELD UNDER LEASE.			ENTERPRISES OPERATING LAND PARTLY OWNED AND PARTLY HELD UNDER LEASE.		
	Value of products.	Royalties and rents.		Value of products.	Royalties and rents.		Value of products.	Royalties and rents.	
		Amount.	Per cent of value of products.		Amount.	Per cent of value of products.		Amount.	Per cent of value of products.
United States	$48,247,296	$474,353	1.0	$436,433,736	$61,124,295	14.0	$402,514,951	$44,580,428	11.1
Appalachian field	9,156,263	140,919	1.5	113,657,766	12,974,222	11.4	113,084,023	10,206,777	9.0
Kentucky	650,214	47,257	7.3	20,495,137	3,634,871	17.7	2,178,928	288,782	13.3
New York	1,643,493	5,600	0.3	1,819,820	216,383	11.9	6,240,501	173,683	2.8
Ohio, eastern	574,672	29,638	5.2	35,503,553	3,480,578	9.8	4,025,757	475,109	11.8
Pennsylvania	5,197,795	49,003	0.9	23,189,672	2,447,298	10.6	36,444,929	3,673,068	10.1
West Virginia	1,090,089	9,421	0.9	32,649,584	3,195,092	9.8	64,193,908	5,596,135	8.7
Lima-Indiana field	221,916	8,238	3.7	2,487,689	335,886	13.5	3,508,712	577,887	16.5
Indiana, east central	35,887	1,631	4.5	625,086	52,585	8.4	297,544	39,256	13.2
Ohio, northwest	186,029	6,607	3.6	1,862,603	283,301	15.2	3,211,168	538,631	16.8
Illinois and Southwest Indiana field	86,855	4,777	5.5	10,812,605	1,486,946	13.8	21,780,745	3,499,790	16.1
Illinois	64,863	3,276	5.1	10,073,242	1,374,214	13.6	20,896,222	3,363,431	16.1
Indiana, southwest	21,992	1,501	6.8	739,363	112,732	15.2	884,523	136,359	15.4
Mid-Continent field	9,955,996	202,000	2.0	234,601,329	34,115,913	14.5	182,483,877	24,925,942	13.7
Arkansas	46,516	1,182	2.5	564,610	43,409	7.7	10,708	180	1.7
Kansas	576,498	18,453	3.2	31,175,087	4,890,956	15.7	35,749,786	4,596,841	12.9
Louisiana, northwest	670,591	10,660	1.6	9,879,831	1,082,248	11.0	18,177,250	2,701,117	14.9
Oklahoma	6,618,447	66,421	1.0	125,535,836	17,257,607	13.7	81,677,928	9,780,940	12.0
Texas, northern and central	2,043,944	105,284	5.2	67,445,965	10,841,693	16.1	46,868,205	7,846,864	16.7
Gulf Coast field	1,380,314	14,782	1.1	13,564,457	3,492,954	25.8	12,997,957	1,967,490	15.1
Louisiana, southern	53,431	8,956	16.8	1,156,471	156,119	13.5	1,188,977	353,150	29.7
Texas	1,326,883	5,826	0.4	12,407,986	3,336,835	26.9	11,808,980	1,614,340	13.7
Rocky Mountain field	116,287	1,434	1.2	12,180,174	1,135,361	9.3	8,681,655	386,628	4.5
Colorado and New Mexico	5,262	.....	.....	28,128	4,115	14.6	120,204	6,634	5.5
Montana	36,939	1,251	3.4	197,201	14,217	7.2	23,906	100	0.4
Wyoming	74,086	183	0.2	11,954,845	1,117,029	9.3	8,537,545	379,894	4.4
Pacific Coast field	27,328,935	102,203	0.4	49,088,165	7,578,403	15.4	59,977,132	3,015,750	5.0
California	27,328,935	102,203	0.4	49,088,165	7,578,403	15.4	59,977,132	3,015,750	5.0
All other states [2]	730	.....	.....	41,551	4,610	11.1	850	164	19.3

[1] Exclusive of data for those enterprises operating gasoline-extraction plants only and operating no petroleum and natural-gas land.
[2] Includes Michigan, South Dakota, and Tennessee.

POWER.

Comparative summary for power used.—Table 22 presents, for the producing and nonproducing enterprises in the petroleum and natural-gas industry, the number and horsepower of the engines, motors, and other power equipment used in 1919 and 1909. The aggregate horsepower used increased considerably during the period from 1909 to 1919, but the particularly noteworthy change is the large decrease in the number and horsepower of steam engines and the very large increase in the number and horsepower of the internal-combustion engines used. An extraordinary increase in the use of electric motors operated by purchased current is also shown.

TABLE 22.—COMPARATIVE STATISTICS, POWER USED: 1919 AND 1909.

	ALL ENTERPRISES.			PRODUCING ENTERPRISES.			NONPRODUCING ENTERPRISES.		
	1919	1909	Per cent of increase.[1]	1919	1909	Per cent of increase.[1]	1919	1909	Per cent of increase.[1]
Power used: Aggregate horsepower	1,826,885	1,230,546	48.5	1,821,342	1,221,969	49.0	5,543	8,577	−35.4
Prime movers (horsepower, total)	1,775,228	1,230,386	44.3	1,770,181	1,221,809	44.9	5,047	8,577	−41.2
Steam engines—									
Number	23,515	37,231	−36.8	23,412	36,928	−36.6	103	303	−66.0
Horsepower [2]	[2] 536,469	754,720	−28.9	[2] 532,774	746,658	−28.6	3,695	8,062	−54.2
Internal-combustion engines:									
Number	53,766	21,794	146.7	53,699	21,762	146.8	67	32	109.4
Horsepower	1,238,759	475,666	160.4	1,237,407	475,151	160.4	1,352	515	162.5
Equipment operated by purchased power	51,657	160	.....	51,161	160	.....	496	.....	.....
Electric motors—									
Number	1,849	6	.....	1,841	6	.....	8	.....	.....
Horsepower	45,134	160	.....	44,638	160	.....	496	.....	.....
Other—									
Horsepower	6,523	(3)	.....	6,523	(3)	.....	.....	.....	.....
Electric motors run by current generated by the enterprise reporting:									
Number	1,330	454	193.0	1,329	454	192.7	1	.....	.....
Horsepower	28,166	8,589	227.9	28,164	8,589	227.9	2	.....	.....

[1] A minus sign (−) denotes decrease. [2] Includes 40 horsepower reported for 2 water wheels. [3] None reported.

Power used according to class of enterprises.—Table 23 presents by fields, for producing enterprises classified according to the products reported, the horsepower used per enterprise.

TABLE 23.—POWER USED BY PRODUCING ENTERPRISES, CLASSIFIED ACCORDING TO THE PRODUCTS REPORTED: 1919.

FIELD AND CLASS OF ENTERPRISE.	Number of enterprises.	Number of wells (total operated) or gasoline plants.	Average number of wage earners.	POWER USED (AGGREGATE HORSEPOWER). Total.	Per enterprise.	Per well or gasoline plant.	Per wage earner.
UNITED STATES	9,814	(1)	93,205	1,821,342	185.6	.....	19.5
Enterprises reporting as products:							
Petroleum	6,799	111,036	29,490	578,814	85.1	5.2	19.6
Petroleum and natural gas	1,286	74,188	27,436	489,071	380.3	6.6	17.8
Petroleum, natural gas, and natural-gas gasoline	448	(1)	28,972	600,119	1,339.6	.....	20.7
Natural gas	1,032	14,717	3,713	37,291	36.1	2.5	10.0
Natural gas and natural-gas gasoline	19	(1)	203	4,817	253.5	.....	23.7
Natural-gas gasoline	230	363	3,391	111,230	483.6	306.4	32.8
APPALACHIAN FIELD	5,549	(1)	28,303	865,257	155.9	.....	30.6
Enterprises reporting as products:							
Petroleum	3,834	64,497	6,010	233,708	61.0	3.6	38.9
Petroleum and natural gas	654	27,527	3,918	147,473	225.5	5.4	37.6
Petroleum, natural gas, and natural-gas gasoline	328	(1)	15,139	440,269	1,342.3	.....	29.1
Natural gas	676	11,536	2,890	30,237	44.7	2.6	10.5
Natural gas and natural-gas gasoline	15	(1)	91	2,852	190.1	.....	31.3
Natural-gas gasoline	42	63	255	10,718	255.2	170.1	42.0
LIMA-INDIANA FIELD	538	(1)	1,320	45,771	85.1	.....	34.7
Enterprises reporting as products:							
Petroleum	437	9,636	615	22,703	52.0	2.4	36.9
Petroleum and natural gas	22	8,332	653	22,062	1,002.8	2.6	33.8
Natural gas	79	938	52	1,006	12.7	1.1	19.3
ILLINOIS AND SOUTHWEST INDIANA FIELD	261	(1)	3,009	38,743	148.4	.....	12.9
Enterprises reporting as products:							
Petroleum	196	4,218	677	11,139	56.8	2.6	16.5
Petroleum and natural gas	6	422	96	1,945	324.2	4.6	20.3
Petroleum, natural gas, and natural-gas gasoline	37	(1)	2,195	24,424	660.1	.....	11.1
Natural gas	15	89	10	194	12.9	2.2	19.4
Natural gas and natural-gas gasoline	1	(1)	1	35	35.0	.....	35.0
Natural-gas gasoline	6	8	30	1,006	167.7	125.8	33.5
MID-CONTINENT FIELD	2,871	(1)	42,389	587,805	204.7	.....	13.9
Enterprises reporting as products:							
Petroleum	1,833	24,249	12,127	153,225	83.6	6.3	12.6
Petroleum and natural gas	563	35,154	19,381	273,388	485.6	7.8	14.1
Petroleum, natural gas, and natural-gas gasoline	61	(1)	7,354	71,721	1,175.8	.....	9.8
Natural gas	249	2,104	728	5,625	22.6	2.7	7.7
Natural gas and natural-gas gasoline	3	(1)	111	1,930	643.3	.....	17.4
Natural-gas gasoline	162	260	2,688	81,916	505.7	315.1	30.5
GULF COAST FIELD	134	(1)	3,552	48,727	363.6	.....	13.7
Enterprises reporting as products:							
Petroleum	131	2,040	3,081	40,107	306.2	19.7	13.0
Petroleum and natural gas	1	513	459	8,600	8,600.0	16.8	18.7
Natural gas	2	6	12	20	10.0	3.3	1.7
ROCKY MOUNTAIN FIELD	55	(1)	2,285	14,851	270.0	.....	6.5
Enterprises reporting as products:							
Petroleum	39	607	834	8,156	209.1	13.4	9.8
Petroleum and natural gas	6	284	437	1,375	229.2	4.8	3.1
Petroleum, natural gas, and natural-gas gasoline	2	(1)	800	2,410	1,205.0	.....	3.0
Natural gas	6	25	15	185	30.8	7.4	12.3
Natural-gas gasoline	2	3	199	2,725	1,362.5	908.3	13.7

[1] Number not shown for enterprises operating both wells and extraction plants.
[2] Includes Michigan, South Dakota, and Tennessee.

TABLE 23.—POWER USED BY PRODUCING ENTERPRISES, CLASSIFIED ACCORDING TO THE PRODUCTS REPORTED: 1919—Contd.

FIELD AND CLASS OF ENTERPRISE.	Number of enterprises.	Number of wells (total operated) or gasoline plants.	Average number of wage earners.	POWER USED (AGGREGATE HORSEPOWER). Total.	Per enterprise.	Per well or gasoline plant.	Per wage earner.
PACIFIC COAST FIELD	403	(1)	12,344	220,089	546.1	.....	17.8
Enterprises reporting as products:							
Petroleum	328	5,703	6,145	109,756	334.6	19.0	17.9
Petroleum and natural gas	33	1,939	2,490	34,149	1,034.8	17.6	13.7
Petroleum, natural gas, and natural-gas gasoline	20	(1)	3,484	61,295	3,064.8	.....	17.6
Natural gas	4	18	6	24	6.0	1.3	4.0
Natural-gas gasoline	18	29	219	14,865	825.8	512.6	67.9
ALL OTHER STATES [2]	3	(1)	3	99	33.0	.....	33.0
Enterprises reporting as products:							
Petroleum	1	26	1	20	20.0	0.8	20.0
Petroleum and natural gas	1	17	2	79	79.0	4.6	39.5
Natural gas	1	1	.....	.....	.....	.....	.....

The table shows that the power requirements of enterprises producing petroleum were greater than of those producing natural gas, but the relatively greatest requirements were for enterprises operating natural-gas gasoline plants. The table also shows that in general the horsepower per well was less in the Appalachian, Lima-Indiana, and Illinois fields than in the Mid-Continent, Gulf Coast, Rocky Mountain, and Pacific Coast fields.

FUEL USED.

Table 24 shows the quantities of the various kinds of fuel used for the enterprises in the petroleum and natural-gas industry grouped according to the products reported. The detailed table for the industry, Table 25, shows the quantities of fuel used by fields and states.

TABLE 24.—FUEL USED BY PRODUCING ENTERPRISES, CLASSIFIED ACCORDING TO THE PRODUCTS REPORTED: 1919.

CLASS OF ENTERPRISE.	Coal, bituminous (tons, 2,000 pounds).	Wood (cords).	Fuel oils (barrels).	Gasoline and other volatile oils (barrels).	Natural gas (1,000 cubic feet).
Total	67,216	2,852	5,898,610	45,654	99,967,358
Enterprises reporting as products:					
Petroleum	37,069	731	3,852,643	29,123	27,577,375
Petroleum and natural gas	4,554	632	1,751,600	3,793	31,879,694
Petroleum, natural gas, and natural-gas gasoline	5,209	262	282,514	160	29,346,797
Natural gas	20,334	1,227	11,163	322	3,199,622
Natural gas and natural-gas gasoline	.....	.....	.....	.....	250,915
Natural-gas gasoline	50	.....	600	12,256	7,712,955

GENERAL TABLE.

Table 25 presents in detail for 1919 the statistics for producing and nonproducing petroleum and natural-gas enterprises in the United States as a whole and for fields and for each state in which the industry can be shown without disclosure of individual operations. The table gives the number of enterprises and wells and gasoline-extraction plants, the acreage and form of tenure of petroleum and natural-gas land, the capital invested, the principal expenses of operation and development, the quantity and value of products, persons engaged in the industry by classes, the number and horsepower of power equipment, and the fuel used.

TABLE 25.—DETAILED STATISTICS FOR THE PETROLEUM AND NATURAL-GAS INDUSTRY, BY FIELDS AND STATES: 1919.

FIELD AND STATE.	Number of enterprises.	NUMBER OF WELLS.		Gasoline plants.	PETROLEUM AND NATURAL-GAS LAND OPERATED (ACRES).			PERSONS ENGAGED IN THE INDUSTRY.						
		Total operated during year.	Productive Dec. 31.		Total.	Owned.	Leased.	Aggregate.	Proprietors and officials.					
									Total.	Proprietors and firm members.		Salaried officers.	Superintendents and managers.	Technical employees.
										Total.	Performing manual labor.			
United States	**9,970**	**268,784**	**257,673**	**1,115**	**12,431,519**	**1,175,713**	**11,255,806**	**125,930**	**22,449**	**14,319**	**1,995**	**2,439**	**4,794**	**897**
Producing enterprises	**9,814**	**268,508**	**257,673**	**1,115**	**12,171,388**	**1,172,068**	**10,999,320**	**125,110**	**22,187**	**14,223**	**1,987**	**2,292**	**4,704**	**868**
Appalachian field	5,549	147,696	142,947	615	7,120,485	572,165	6,548,320	43,866	12,708	10,520	1,737	763	1,262	163
Kentucky	196	5,696	5,214	7	323,015	20,213	302,802	2,634	357	59	9	102	180	16
New York [1]	561	14,396	14,186	6	318,730	58,913	259,817	2,014	910	810	173	49	40	11
Ohio, eastern	901	20,130	18,859	53	1,239,391	30,662	1,208,729	6,931	2,192	1,727	69	174	256	35
Pennsylvania [1]	3,140	78,966	77,325	319	2,506,879	396,700	2,110,179	17,255	7,280	6,548	1,429	227	451	54
West Virginia	751	28,508	27,363	230	2,732,470	65,677	2,666,793	15,032	1,969	1,376	57	211	335	47
Lima-Indiana field	538	18,906	18,186	.....	273,712	26,902	246,810	2,464	1,090	968	119	38	82	2
Indiana, east central	106	1,786	1,605	.....	63,864	7,909	55,955	323	156	107	25	19	28	2
Ohio, northwest	432	17,120	16,581	.....	209,848	18,993	190,855	2,141	934	861	94	19	54	.....
Illinois and Southwest Indiana field	261	17,868	17,349	72	190,480	2,629	187,851	3,827	648	465	2	53	129	1
Illinois	236	16,931	16,498	72	169,025	2,434	166,591	3,506	605	449	2	44	112	.....
Indiana, southwest	25	937	851	.....	21,455	195	21,260	321	43	16	.....	9	17	1
Mid-Continent field [2]	2,871	70,664	66,545	365	3,647,388	235,678	3,411,710	53,795	6,285	2,041	86	1,152	2,473	619
Arkansas	7	138	124	.....	46,621	2,700	43,921	40	19	.....	.....	8	4	7
Kansas	613	13,613	12,690	11	468,144	34,727	433,417	8,131	1,211	639	32	187	259	126
Louisiana, northwest	114	2,580	2,332	20	260,986	16,743	244,243	5,232	330	39	.....	63	189	39
Oklahoma [3]	1,699	47,066	44,735	311	1,730,661	163,546	1,567,115	26,378	3,309	980	24	701	1,340	288
Texas, northern and central [4]	438	7,267	6,664	23	1,140,976	17,962	1,123,014	14,014	1,416	383	30	193	681	159
Gulf Coast field [2]	134	2,559	2,232	.....	217,090	17,359	199,731	4,327	385	89	19	75	195	26
Louisiana, southern	19	212	147	.....	68,356	76	68,280	437	51	19	2	6	24	2
Texas [5]	115	2,347	2,085	.....	148,734	17,283	131,451	3,890	334	70	17	69	171	24
Rocky Mountain field	55	1,393	1,183	5	219,787	16,830	202,957	2,507	115	8	2	36	63	8
Colorado and New Mexico [6]	11	83	71	.....	15,485	6,660	8,825	101	17	8	2	2	7	.....
Montana	5	31	28	.....	4,760	1,960	2,800	48	6	.....	.....	2	3	1
Wyoming	39	1,279	1,084	5	199,542	8,210	191,332	2,358	92	.....	.....	32	53	7
Pacific Coast field	403	9,378	9,197	58	482,320	300,429	181,891	14,317	953	131	22	274	499	49
California	403	9,378	9,197	58	482,320	300,429	181,891	14,317	953	131	22	274	499	49
All other states [7]	3	44	34	.....	20,126	76	20,050	7	3	1	.....	1	1	.....
Nonproducing enterprises	**156**	**276**	.....	.....	**260,131**	**3,645**	**256,485**	**820**	**262**	**96**	**8**	**47**	**90**	**29**
Appalachian field	18	67	.....	.....	65,515	470	65,045	103	70	57	.....	4	9	.....
Kentucky	8	36	.....	.....	21,109	70	21,039	70	56	48	.....	2	6	.....
Ohio, eastern	5	17	.....	.....	32,839	400	32,439	16	4	.....	.....	2	2	.....
West Virginia	5	14	.....	.....	11,567	.....	11,567	17	10	9	.....	.....	1	.....
Mid-Continent field	102	155	.....	.....	171,184	236	170,948	419	123	25	7	29	61	8
Arkansas and Oklahoma [8]	29	56	.....	.....	5,604	150	5,454	68	24	1	.....	9	13	1
Kansas	10	25	.....	.....	2,975	15	2,960	20	16	14	1	.....	2	.....
Louisiana, northwest	6	11	.....	.....	20,970	30	20,940	50	13	.....	.....	.....	11	2
Texas, northern and central	57	63	.....	.....	141,635	41	141,594	281	70	10	6	20	35	5
Gulf Coast field	7	6	.....	.....	11,586	505	11,081	51	9	.....	.....	3	4	2
Texas	7	6	.....	.....	11,586	505	11,081	51	9	.....	.....	3	4	2
Rocky Mountain field	11	21	.....	.....	6,076	.....	6,076	103	29	.....	.....	6	7	16
Wyoming	11	21	.....	.....	6,076	.....	6,076	103	29	.....	.....	6	7	16
Pacific Coast field	13	15	.....	.....	4,869	2,433	2,436	114	15	.....	.....	5	9	1
California	13	15	.....	.....	4,869	2,433	2,436	114	15	.....	.....	5	9	1
All other states [9]	5	12	.....	.....	901	1	900	30	16	14	1	.....	.....	2

[1] Statistics for Pennsylvania include those for small operations in New York, inseparably combined in the report of an enterprise which conducted the major part of its operations in Pennsylvania.

[2] Statistics for the Mid-Continent field include those for 2 small operations in Texas in the Gulf Coast field, inseparably combined in the reports of 2 enterprises which conducted the major part of their operations in northern Texas.

[3] Statistics for Oklahoma include those for small operations in Texas, inseparably combined in the report of an enterprise which conducted the major part of its operations in Oklahoma.

[4] Statistics for northern and central Texas include those for 2 small operations in Texas in the Gulf Coast field, inseparably combined in the reports of 2 enterprises which conducted the major part of their operations in northern Texas; statistics for northern and central Texas exclude the small operations of an enterprise reporting the major part of its operations in Oklahoma.

[5] Statistics for Texas in the Gulf Coast field exclude those for 2 small operations inseparably combined in the reports of 2 enterprises which conducted the major part of their operations in northern Texas.

[6] Includes 10 enterprises in Colorado and 1 enterprise in New Mexico in order to avoid disclosure of individual operations.

[7] Includes enterprises in the states of Michigan, South Dakota, and Tennessee.

[8] Includes 1 enterprise in Arkansas and 28 enterprises in Oklahoma in order to avoid disclosure of individual operations.

[9] Includes 3 enterprises in Pennsylvania and 2 enterprises in Washington.

TABLE 25.—DETAILED STATISTICS FOR THE PETROLEUM AND NATURAL-GAS INDUSTRY, BY FIELDS AND STATES: 1919—Continued.

FIELD AND STATE.	PERSONS ENGAGED IN THE INDUSTRY—continued.										Capital.	Expenditures for development (included in principal expenses).	Value of products.
	Clerks and other subordinate salaried employees.		Wage earners.				Wage earners Dec. 15 or nearest representative day.						
				Number 15th day of—									
	Male.	Female.	Average number.	Maximum month.		Minimum month.		Total.	Engineers.	All other.	Females included in "All other."		
United States	6,102	3,720	93,659	De	100,927	Fe	85,393	101,742	64,750	36,992	123	$2,446,446,795	$236,553,420	$331,793,423
Producing enterprises	6,046	3,672	93,205	De	100,293	Fe	85,119	100,980	64,230	36,750	118	2,421,485,942	230,867,499	321,733,423
Appalachian field	1,921	934	28,303	Au	30,197	Fe	26,436	29,129	19,968	9,161	.....	570,005,698	37,294,715	239,244,405
Kentucky	90	68	2,119	Au	2,337	Ja	1,874	2,297	1,491	806	.....	56,758,065	6,829,041	23,329,521
New York [1]	181	55	868	Jy	934	Mh	792	889	612	277	.....	39,799,123	1,219,835	9,900,894
Ohio, eastern	484	306	3,949	Au	4,226	Fe	3,691	4,096	3,211	885	.....	85,956,774	6,270,941	40,223,725
Pennsylvania [1]	649	261	9,065	Se	9,843	Fe	8,363	9,417	6,453	2,964	.....	201,186,270	9,704,215	66,271,961
West Virginia	517	244	12,302	Au	12,886	Fe	11,625	12,430	8,201	4,229	.....	186,275,466	13,270,683	99,518,304
Lima-Indiana field	28	26	1,320	Ju	1,355	De	1,288	1,310	1,081	229	.....	14,308,973	658,653	6,218,317
Indiana, east central	6	15	146	Oc	161	Mh	130	157	115	42	.....	4,516,430	184,588	958,517
Ohio, northwest	22	11	1,174	Ju	1,208	De	1,135	1,153	966	187	.....	9,792,543	474,065	5,259,800
Illinois and Southwest Indiana field	126	44	3,009	Au	3,128	Ma	2,913	3,023	2,570	453	.....	51,581,928	1,397,832	32,909,441
Illinois	115	34	2,752	Au	2,874	Ma	2,663	2,758	2,391	367	.....	46,207,394	1,133,165	31,263,563
Indiana, southwest	11	10	257	Fe	288	Ap	231	265	179	86	.....	5,374,534	264,667	1,645,878
Mid-Continent field [2]	2,822	2,299	42,389	De	48,020	Ja	36,748	48,319	25,820	22,499	29	1,296,260,821	150,535,785	464,045,161
Arkansas	2	3	16	De	22	Ma [3]	13	19	15	4	.....	2,089,388	144,134	621,834
Kansas	381	234	6,305	Se	6,656	Ap	5,879	6,502	3,544	2,958	.....	237,711,466	23,127,585	68,515,178
Louisiana, northwest	320	109	4,473	De	6,230	Fe	3,528	6,237	2,517	3,720	1	77,439,322	10,272,445	29,617,2 6
Oklahoma [4]	1,113	776	21,180	De	22,468	Ja	19,544	22,615	12,534	10,081	2	699,663,144	54,346,776	247,497,450
Texas, northern and central [5]	1,006	1,177	10,415	Oc	12,906	Ja	7,162	12,946	7,210	5,736	26	279,357,501	62,644,845	117,793,513
Gulf Coast field [2]	314	76	3,552	No	3,981	Ja	3,069	4,013	2,333	1,680	9	59,092,639	9,343,522	27,942,728
Louisiana, southern	14	4	368	Se	391	Ap	345	371	186	185	.....	4,243,344	729,197	2,398,879
Texas [6]	300	72	3,184	De	3,606	Ja	2,718	3,642	2,147	1,495	9	54,849,295	8,614,325	25,543,849
Rocky Mountain field	73	34	2,285	Ju	2,420	Fe	2,081	2,373	2,028	345	66	69,379,443	5,988,186	22,371,577
Colorado and New Mexico [7]	3	1	80	Fe	87	De	73	73	50	23	4	2,931,633	205,887	153,594
Montana	3	1	38	Au	41	Ja [3]	35	38	29	9	.....	827,067	60,261	258,046
Wyoming	67	32	2,167	Ju	2,306	Fe	1,959	2,262	1,949	313	62	65,620,743	5,722,038	21,959,937
Pacific Coast field	762	258	12,344	De	12,801	Ja	12,060	12,810	10,427	2,383	14	359,851,160	25,633,823	139,018,663
California	762	258	12,344	De	12,801	Ja	12,060	12,810	10,427	2,383	14	359,851,160	25,633,823	139,018,663
All other states [8]	.....	1	3	.....		.....		3	3	.....	.....	1,005,280	14,983	43,131
Nonproducing enterprises	56	48	454	De	634	Ja	260	762	520	242	5	24,960,853	5,685,921	.....
Appalachian field	4	3	26	No	46	Ja	9	44	17	27	.....	640,100	304,779	.....
Kentucky	.....	2	12	Mh	22	Ja	2	19	6	13	.....	332,326	147,371	.....
Ohio, eastern	2	1	9	Se [3]	12	Ja [3]	7	10	10	.....	.....	86,011	59,319	.....
West Virginia	2	.....	5	No	17	Jy [3]	1	15	1	14	.....	221,763	98,089	.....
Mid-Continent field	35	36	225	De	323	Ja	133	383	272	111	2	19,342,498	3,571,819	.....
Arkansas and Oklahoma [9]	.....	2	42	Se	54	Ja	34	71	50	21	.....	1,644,963	593,696	.....
Kansas	.....	1	3	De [3]	5	Ja [3]	2	7	7	.....	.....	245,028	104,472	.....
Louisiana, northwest	1	4	32	De	56	Ja [3]	19	57	54	3	2	656,487	209,977	.....
Texas, northern and central	34	29	148	De	215	Ja	78	248	161	87	.....	16,796,020	2,663,674	.....
Gulf Coast field	8	3	31	De	64	Ja	7	62	35	27	.....	309,660	207,582	.....
Texas	8	3	31	De	64	Ja	7	62	35	27	.....	309,660	207,582	.....
Rocky Mountain field	6	1	67	Au	104	Ja	25	106	62	44	3	2,427,130	724,203	.....
Wyoming	6	1	67	Au	104	Ja	25	106	62	44	3	2,427,130	724,203	.....
Pacific Coast field	3	5	91	De	146	Ju	59	155	124	31	.....	2,044,447	704,684	.....
California	3	5	91	De	146	Ju	59	155	124	31	.....	2,044,447	704,684	.....
All other states [10]	.....	.....	14	Ju	31	Ja [3]	1	12	10	2	.....	197,018	172,854	.....

[1] Statistics for Pennsylvania include those for small operations in New York, inseparably combined in the report of an enterprise which conducted the major part of its operations in Pennsylvania.

[2] Statistics for the Mid-Continent field include those for 2 small operations in Texas in the Gulf Coast field, inseparably combined in the reports of 2 enterprises which conducted the major part of their operations in northern Texas.

[3] Same number reported for one or more other months.

[4] Statistics for Oklahoma include those for small operations in Texas, inseparably combined in the report of an enterprise which conducted the major part of its operations in Oklahoma.

[5] Statistics for northern and central Texas include those for 2 small operations in Texas in the Gulf Coast field, inseparably combined in the reports of 2 enterprises which conducted the major part of their operations in northern Texas; statistics for northern and central Texas exclude the small operations of an enterprise reporting the major part of its operations in Oklahoma.

[6] Statistics for Texas in the Gulf Coast field exclude those for 2 small operations inseparably combined in the reports of 2 enterprises which conducted the major part of their operations in northern Texas.

[7] Includes 10 enterprises in Colorado and 1 enterprise in New Mexico in order to avoid disclosure of individual operations.

[8] Includes enterprises in the states of Michigan, South Dakota, and Tennessee.

[9] Includes 1 enterprise in Arkansas and 28 enterprises in Oklahoma in order to avoid disclosure of individual operations.

[10] Includes 3 enterprises in Pennsylvania and 2 enterprises in Washington.

TABLE 25.—DETAILED STATISTICS FOR THE PETROLEUM AND NATURAL-GAS INDUSTRY, BY FIELDS AND STATES: 1919—Continued.

FIELD AND STATE.	PRINCIPAL EXPENSES.										
	Total.	Salaries and wages.			Cost of gas purchased as material and for resale.	Supplies and materials.	Cost of fuel.	Cost of purchased power.	Royalties and rents.	Taxes—Federal, state, county, and local.	Contract work.
		Salaried officers, superintendents, managers, and technical employees.	Clerks and other subordinate salaried employees.	Wage earners.							
United States	$633,124,578	$21,680,600	$12,198,124	$135,397,170	$28,813,671	$198,089,800	$20,071,392	$973,027	$107,050,247	$38,748,388	$70,102,159
Producing enterprises	626,468,862	21,375,372	12,092,996	134,521,247	28,813,671	195,058,693	19,828,776	965,300	106,458,518	38,690,630	68,663,659
Appalachian field	142,066,351	5,069,189	3,207,262	31,317,862	16,774,073	32,998,383	3,782,432	62,828	23,425,503	9,685,654	15,743,165
Kentucky	15,598,795	678,346	147,994	2,645,512	41,104	4,006,774	233,411	.....	3,970,910	961,974	2,912,770
New York [1]	7,104,245	183,796	265,792	1,087,232	2,692,086	1,215,807	191,476	.....	395,666	455,307	617,083
Ohio, eastern	24,471,241	1,034,720	937,829	4,949,251	3,092,271	4,584,987	707,611	10,603	3,986,230	1,961,609	3,206,130
Pennsylvania [1]	41,990,319	1,547,369	966,580	10,219,433	5,077,115	8,962,963	1,566,224	21,825	6,170,090	1,935,648	5,523,072
West Virginia	52,901,751	1,624,958	889,067	12,416,434	5,871,497	14,227,852	1,083,710	30,400	8,902,607	4,371,116	3,484,110
Lima-Indiana field	4,124,819	166,412	43,194	1,607,934	50,842	724,008	179,183	4,460	922,011	129,858	296,917
Indiana, east central	725,237	65,060	12,177	213,906	50,546	111,493	38,583	3,380	93,472	46,031	90,589
Ohio, northwest	3,399,582	101,352	31,017	1,394,028	296	612,515	140,600	1,080	828,539	83,827	206,328
Illinois and Southwest Indiana field	14,002,918	609,390	218,534	3,539,397	91,659	1,852,654	174,283	3,947	5,019,463	2,011,562	482,029
Illinois	13,057,410	546,547	195,921	3,277,515	91,659	1,692,172	151,570	3,079	4,768,871	1,970,994	359,082
Indiana, southwest	945,508	62,843	22,613	261,882	.....	160,482	22,713	868	250,592	40,568	122,947
Mid-Continent field [2]	352,844,864	11,889,564	6,779,793	65,979,085	11,308,655	123,463,599	9,214,233	197,046	59,391,762	15,917,896	48,703,231
Arkansas	448,522	26,140	3,280	26,563	165,786	75,691	9,816	.....	44,771	14,475	82,000
Kansas	60,858,413	1,393,209	805,539	9,615,375	287,725	30,046,473	3,269,151	61,983	9,547,568	1,943,568	3,887,822
Louisiana, northwest	23,797,186	810,789	523,449	6,446,492	736,434	7,253,989	1,162,867	924	3,794,147	1,061,598	2,006,497
Oklahoma [3]	159,063,170	6,858,049	3,927,418	30,749,438	9,758,073	49,598,967	2,373,833	107,765	27,211,429	9,782,360	18,695,838
Texas, northern and central [4]	108,677,573	2,801,377	1,520,107	19,141,217	360,637	36,488,479	2,398,566	26,374	18,793,847	3,115,895	24,031,074
Gulf Coast field [2]	24,004,436	814,156	426,191	6,016,934	4,088	6,690,174	2,238,625	29,281	5,475,226	549,107	1,760,654
Louisiana, southern	1,961,449	83,871	23,370	589,022	4,088	398,565	264,996	.....	518,225	53,741	25,571
Texas [5]	22,042,987	730,285	402,821	5,427,912	.....	6,291,609	1,973,629	29,281	4,957,001	495,366	1,735,083
Rocky Mountain field	11,871,641	331,945	135,490	3,686,778	74,281	3,929,660	308,452	4,489	1,523,423	1,198,226	678,897
Colorado and New Mexico [6]	357,528	17,313	5,065	141,986	.....	128,414	20,369	4,489	10,749	29,143	.....
Montana	159,600	11,006	3,354	58,057	.....	43,492	14,989	.....	15,568	10,862	2,272
Wyoming	11,354,513	303,626	127,071	3,486,735	74,281	3,757,754	273,094	.....	1,497,106	1,158,221	676,625
Pacific Coast field	77,521,507	2,491,691	1,281,957	22,367,544	510,073	25,385,586	3,931,081	663,249	10,696,356	9,195,204	998,766
California	77,521,507	2,491,691	1,281,957	22,367,544	510,073	25,385,586	3,931,081	663,249	10,696,356	9,195,204	998,766
All other states [7]	32,326	3,025	575	5,713	.....	14,629	487	.....	4,774	3,123	.....
Nonproducing enterprises	6,655,716	305,228	105,128	875,923	.....	3,031,107	242,616	7,727	591,729	57,758	1,438,500
Appalachian field	340,238	17,913	4,815	31,525	.....	130,009	4,389	.....	11,334	4,294	135,959
Kentucky	156,590	10,113	930	13,291	.....	56,785	2,355	.....	6,274	928	65,914
Ohio, eastern	65,193	6,800	2,920	13,470	.....	18,957	1,966	.....	3,570	2,334	15,176
West Virginia	118,455	1,000	965	4,764	.....	54,267	68	.....	1,490	1,032	54,869
Mid-Continent field	4,388,913	183,618	68,353	452,459	.....	1,781,063	156,502	503	552,629	46,830	1,146,956
Arkansas and Oklahoma [8]	651,928	19,615	4,685	85,892	.....	275,111	29,364	.....	45,526	2,363	189,372
Kansas	111,236	2,328	1,625	8,783	.....	28,208	2,375	503	2,376	98	64,940
Louisiana, northwest	685,420	19,763	4,246	47,318	.....	103,387	10,672	.....	400,503	40,590	58,941
Texas, northern and central	2,940,329	141,912	57,797	310,466	.....	1,374,357	114,091	.....	104,224	3,779	833,703
Gulf Coast field	251,035	16,353	13,333	55,166	.....	145,386	15,523	.....	.....	514	4,760
Texas	251,035	16,353	13,333	55,166	.....	145,386	15,523	.....	.....	514	4,760
Rocky Mountain field	757,106	48,843	7,492	114,513	.....	434,058	40,009	.....	15,699	2,849	93,643
Wyoming	757,106	48,843	7,492	114,513	.....	434,058	40,009	.....	15,699	2,849	93,643
Pacific Coast field	744,083	35,486	10,585	190,072	.....	444,036	22,405	7,164	10,827	3,205	20,303
California	744,083	35,486	10,585	190,072	.....	444,036	22,405	7,164	10,827	3,205	20,303
All other states [9]	174,341	3,015	550	32,188	.....	96,555	3,788	60	1,240	66	36,879

[1] Statistics for Pennsylvania include those for small operations in New York, inseparably combined in the report of an enterprise which conducted the major part of its operations in Pennsylvania.

[2] Statistics for the Mid-Continent field include those for 2 small operations in Texas in the Gulf Coast field, inseparably combined in the reports of 2 enterprises which conducted the major part of their operations in northern Texas.

[3] Statistics for Oklahoma include those for small operations in Texas, inseparably combined in the report of an enterprise which conducted the major part of its operations in Oklahoma.

[4] Statistics for northern and central Texas include those for 2 small operations in Texas in the Gulf Coast field, inseparably combined in the reports of 2 enterprises which conducted the major part of their operations in northern Texas; statistics for northern and central Texas exclude the small operations of an enterprise reporting the major part of its operations in Oklahoma.

[5] Statistics for Texas in the Gulf Coast field exclude those for 2 small operations inseparably combined in the reports of 2 enterprises which conducted the major part of their operations in northern Texas.

[6] Includes 10 enterprises in Colorado and 1 enterprise in New Mexico in order to avoid disclosure of individual operations.

[7] Includes enterprises in the states of Michigan, South Dakota, and Tennessee.

[8] Includes 1 enterprise in Arkansas and 28 enterprises in Oklahoma in order to avoid disclosure of individual operations.

[9] Includes 3 enterprises in Pennsylvania and 2 enterprises in Washington.

TABLE 25.—DETAILED STATISTICS FOR THE PETROLEUM AND NATURAL-GAS INDUSTRY, BY FIELDS AND STATES: 1919—Continued.

FIELD AND STATE.	POWER USED.											FUEL USED.				
	Aggregate horsepower.	Prime movers.					Equipment operated by purchased power.			Electric motors run by current generated by the enterprise reporting.		Coal, bituminous (tons, 2,000 lbs.).	Wood (cords).	Fuel oils (barrels).	Gasoline and other volatile oils (barrels).	Natural gas (1,000 cubic feet).
		Total horsepower.	Steam engines.		Internal-combustion engines.		Electric motors.		Other.							
			Number.	Horsepower.[1]	Number.	Horsepower.	Number.	Horsepower.	Horsepower.	Number.	Horsepower.					
United States	**1,826,885**	**1,775,228**	**23,515**	**1,536,469**	**53,766**	**1,238,759**	**1,849**	**45,134**	**6,523**	**1,330**	**28,166**	**73,438**	**4,108**	**6,079,647**	**48,011**	**100,591,471**
Producing enterprises	**1,821.342**	**1,770,181**	**23,412**	**1532,774**	**53,699**	**1,237,407**	**1,841**	**44,638**	**6,523**	**1,329**	**28,164**	**67,216**	**2,852**	**5,898,610**	**45,654**	**99,967,358**
Appalachian field	865,257	857,625	13,774	277,734	30,798	579,891	108	2,084	5,548	565	10,004	30,300	1,582	38,884	12,696	28,136,208
Kentucky	13,795	13,795	151	2,738	659	11,057				1	1	8,406		37,639	9,437	751,455
New York[2]	30,196	30,196	652	8,907	1,509	21,289				4	10	1,243			1	1,097,257
Ohio, eastern	111,805	111,733	1,044	21,397	4,337	90,336	6	72		2	37	6,549		892	703	4,938,113
Pennsylvania[2]	371,267	365,082	8,511	[1]156,530	13,910	208,552	41	637	5,548	203	2,341	6,602	1,582	168	2,447	9,488,454
West Virginia	338,194	336,819	3,416	88,162	10,383	248,657	61	1,375		355	7,615	7,500		185	108	11,860,929
Lima-Indiana field	45,771	45,598	176	4,071	1,955	41,527	23	173				7,975		916	141	709,490
Indiana, east central	4,356	4,248	48	1,194	158	3,054	18	108				7,159		678	114	212,287
Ohio, northwest	41,415	41,350	128	2,877	1,797	38,473	5	65				816		238	27	497,203
Illinois and Southwest Indiana field	38,743	38,624	187	3,999	1,839	34,625	9	89	30	2	25	4,025		6,777	1,617	1,927,463
Illinois	35,430	35,326	170	3,588	1,723	31,738	8	74	30	2	25	3,385		6,777	1,581	1,809,962
Indiana, southwest	3,313	3,298	17	411	116	2,887	1	15				640			36	117,501
Mid-Continent field[3]	587,805	578,998	4,203	115,039	15,663	463,959	343	7,907	900	389	10,388	20,768	1,270	1,654,652	29,349	46,511,273
Arkansas	617	617	3	210	4	407				1	12		1,200			52,080
Kansas	95,883	91,971	482	13,346	3,057	78,625	163	3,912		249	7,440	5,470		672,021	3,369	7,769,509
Louisiana, northwest	71,770	71,736	694	17,865	1,863	53,871	2	34		4	110			192,560	230	13,546,074
Oklahoma[4]	353,234	349,243	2,209	57,826	9,328	291,417	139	3,091	900	41	394	7,209	70	186,922	17,336	15,134,427
Texas, northern and central[5]	66,301	65,431	815	25,792	1,411	39,639	39	870		94	2,432	8,089		603,119	8,514	10,009,183
Gulf Coast field[3]	48,727	48,222	1,654	40,331	329	7,891	25	505		22	210			1,951,942	1,228	277,630
Louisiana, southern	7,479	7,479	295	7,135	6	344				21	200			222,412	215	880
Texas[6]	41,248	40,743	1,359	33,196	323	7,547	25	505		1	10			1,729,530	1,013	276,750
Rocky Mountain field	14,851	14,721	332	7,097	244	7,624	15	130		1	75	4,148		120,949	181	2,422,165
Colorado and New Mexico[7]	1,713	1,583	116	1,428	11	155	15	130				2,059		1,739	30	6,820
Montana	245	245	4	138	5	107						197				671,621
Wyoming	12,893	12,893	212	5,531	228	7,362				1	75	1,892		119,210	151	1,743,724
Pacific Coast field	220,089	186,294	3,084	84,471	2,866	101,823	1,318	33,750	45	350	7,462			2,124,490	442	19,981,454
California	220,089	186,294	3,084	84,471	2,866	101,823	1,318	33,750	45	350	7,462			2,124,490	442	19,981,454
All other states[8]	99	99	2	32	5	67										1,675
Nonproducing enterprises	**5,543**	**5,047**	**103**	**3,695**	**67**	**1,352**	**8**	**469**		**1**	**2**	**6,222**	**1,256**	**181,037**	**2,357**	**624,113**
Appalachian field	249	249	6	112	7	137						650			8	4,240
Kentucky	106	106	4	66	3	40						176			8	690
Ohio, eastern	96	96	2	46	2	50						474				2,200
West Virginia	47	47			2	47										1,350
Mid-Continent field	3,215	3,195	58	2,356	40	839	1	20				3,824	1,256	83,979	956	423,619
Arkansas and Oklahoma[9]	891	891	16	607	14	284						2,385		2,186		38,500
Kansas	151	131	2	58	4	73	1	20				125		430	56	2,000
Louisiana, northwest	181	181	6	181									1,256	3,045		5,250
Texas, northern and central	1,992	1,992	34	1,510	22	482						1,314		78,268	900	377,869
Gulf Coast field	192	192	6	178	3	14				1	2			81,523		
Texas	192	192	6	178	3	14				1	2			81,523		
Rocky Mountain field	629	629	16	561	5	68						1,326		12,526		80,400
Wyoming	629	629	16	561	5	68						1,326		12,526		80,400
Pacific Coast field	1,023	548	13	383	7	165	6	475				4		3,009	1,253	110,854
California	1,023	548	13	383	7	165	6	475				4		3,009	1,253	110,854
All other states[10]	235	234	4	105	5	129	1	1				418			140	5,000

[1] Includes 40 horsepower reported for 2 water wheels in Pennsylvania.
[2] Statistics for Pennsylvania include those for small operations in New York, inseparably combined in the report of an enterprise which conducted the major part of its operations in Pennsylvania.
[3] Statistics for the Mid-Continent field include those for 2 small operations in Texas in the Gulf Coast field, inseparably combined in the reports of 2 enterprises which conducted the major part of their operations in northern Texas.
[4] Statistics for Oklahoma include those for small operations in Texas, inseparably combined in the report of an enterprise which conducted the major part of its operations in Oklahoma.
[5] Statistics for northern and central Texas include those for 2 small operations in Texas in the Gulf Coast field, inseparably combined in the reports of 2 enterprises which conducted the major part of their operations in northern Texas; statistics for northern and central Texas exclude the small operations of an enterprise reporting the major part of its operations in Oklahoma.
[6] Statistics for Texas in the Gulf Coast field exclude those for 2 small operations inseparably combined in the reports of 2 enterprises which conducted the major part of their operations in northern Texas.
[7] Includes 10 enterprises in Colorado and 1 enterprise in New Mexico in order to avoid disclosure of individual operations.
[8] Includes enterprises in the states of Michigan, South Dakota, and Tennessee.
[9] Includes 1 enterprise in Arkansas and 28 enterprises in Oklahoma in order to avoid disclosure of individual operations.
[10] Includes 3 enterprises in Pennsylvania and 2 enterprises in Washington.

DEPARTMENT OF COMMERCE

BUREAU OF THE CENSUS

WASHINGTON

FOURTEENTH CENSUS OF THE UNITED STATES

MINES AND QUARRIES: 1919

PHOSPHATE ROCK

Prepared under the supervision of EUGENE F. HARTLEY, Chief Statistician for Manufactures
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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, which did neither productive work nor development work during the entire year; or enterprises the products of which were valued at less than $500 or, in the bituminous coal-mining industry, producing less than 1,000 tons; or, if nonproducing enterprises, those doing development work amounting to less than $5,000.

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, was 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.

Geographic presentation.—The general tables at the end of the bulletin give statistics of the industry in detail for each state or group of states which can be shown without disclosure of individual operations. Other tables present statistics by mining regions, producing provinces, or fields, these divisions comprising groups of states related by features peculiar to the industry.

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 such employees 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 total 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 for the representative day. This number is not used in any other way because it is believed to be less significant than the average number. The number reported for the representative day, on account of the unavoidable variations of date, involves more or less duplication of persons working in different industries at different times; does not represent the total number employed in all industries at any one time; and gives undue weight to seasonal industries as compared with industries in continuous operation.

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 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 in which the majority belong. 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 at 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.

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.

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.

Contract work.—The amounts reported under this head include expenditures for both productive operations and those prosecuted for development only; they are in effect indirect expenditures for salaries, wages, supplies, materials, and fuel and power.

Royalties and rents.—The amounts given under this head represent the payment to fee holders or the value of the 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 taxes; 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 for 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.

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 mined in 1919 under the terms by which it was disposed of, and 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.

Lands 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.

PHOSPHATE ROCK.

INTRODUCTION.

This report presents the results of the census of mines and quarries for the year 1919 relating to the phosphate-rock mining industry. It includes statistics showing the progress of the industry by comparison of results of the 1919 census with those of the preceding censuses of mines and quarries; also, for 1919, statistics showing character of organization of operating enterprises, scale of operation, persons engaged in the industry, acreage of mineral and other lands controlled, power equipment used, and a general table presenting statistics in detail for the United States and for such states as can be shown without disclosure of individual operations.

Definitions and explanations.—Phosphate rock is a natural phosphate of lime which occurs in several forms known in Florida and South Carolina as "hard rock," or "land pebble," and by other names; in Kentucky and Tennessee as "brown rock" and "blue rock;" and also simply as rock phosphate. Phosphate rock is mined principally for use as fertilizer and as an ingredient of manufactured fertilizers. Other uses in metallurgical and chemical industries are relatively unimportant. It is disposed of by the producers, either as crude rock as it is mined, or as washed or otherwise cleaned and selected material, or ground. Some enterprises producing phosphate rock are engaged simply in mining or digging the rock, others operate beneficiating plants also. The statistics herein presented cover both the mining proper and the cleaning or other beneficiation practiced by the operators.

Phosphate rock is obtained by hand digging, by steam-shovel operation, by open-cut quarrying, by dredging, by hydraulic mining, and by underground mining. Underground mining and quarrying are practiced chiefly in the Central and Western states; and the other methods of operation, only in the South Atlantic states.

The phosphate-rock resources of the United States include deposits in the coastal region of South Carolina; the central counties of Florida; western Kentucky and Tennessee; and very extensive bedded deposits in Montana, Idaho, Utah, and Wyoming. The principal sources of production of phosphate rock in the United States have been Florida, South Carolina, and Tennessee. Much of the production has been for export trade, which prior to the war amounted to nearly half of the total annual domestic output. On account of the war and the discovery or development of foreign phosphate-rock resources, the export trade and the production in the United States have decreased very largely since the preceding census. European demand for phosphate rock was renewed in 1919 and the phosphate-rock mining industry recovered somewhat from the depression of the years 1914 to 1918. In Florida, the leading producing state, long-continued labor troubles during 1919 resulted in decreased production as compared with the preceding year. For the reasons herein set forth the statistics covering the phosphate-rock mining industry during the year 1919 are not fairly representative of that industry.

Method of reporting quantity and value of products.—The statistics on production of phosphate rock were collected in cooperation with the United States Geological Survey, and there was provided, in addition to the general schedule of the Bureau of the Census, a supplemental schedule requesting special information for the Geological Survey. The latter desired the quantity of phosphate rock mined and the quantity and selling value f. o. b. mines of the phosphate rock shipped, that is, sold or used. The Bureau of the Census required only the value of the products mined during the year, and the value of products reported by this bureau is estimated on the basis of the average selling value of the rock shipped. The Geological Survey has tabulated as the value of phosphate rock produced in 1919 the value of the material shipped, that is, the marketed production, which includes considerable phosphate rock from stock previously mined. This largely accounts for the difference in value of products as reported by the Bureau of the Census and the Geological Survey. The difference in quantity mined as reported by the two bureaus is due to different methods in tabulating reports from certain operators who included with mined output the sales of phosphate rock from stock and gave as the value of mined product the combined value of all materials shipped. The Geological Survey has excluded such quantities from its report of rock mined.

Table 1 shows, by states and kinds of rock, the quantity mined and the quantity and value of phosphate rock sold in 1919, as reported by the Geological Survey, and Table 2 presents both the Bureau of the Census and the Geological Survey figures on quantity and value of phosphate rock produced in 1919.

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TABLE 1.—PHOSPHATE ROCK MINED AND SOLD IN THE UNITED STATES, BY STATES: 1919.[1]

STATE.	MINED.	MINED AND SOLD.		
	Quantity (tons, 2,240 pounds).	Quantity (tons, 2,240 pounds).	Value.	Average value per ton.
UNITED STATES	1,851,549	2,271,983	$11,591,268	$5.10
FLORIDA	1,254,609	1,660,200	7,797,929	4.70
Hard rock		285,467	2,452,563	8.59
Soft rock		14,498	196,318	13.54
Land pebble		1,360,235	5,149,048	3.79
SOUTH CAROLINA	49,032	60,823	308,968	5.08
Land rock		60,823	308,968	5.08
TENNESSEE AND KENTUCKY	530,973	534,025	3,414,516	6.39
Brown rock		475,475	3,123,565	6.57
Blue rock		58,550	290,951	4.97
WESTERN STATES [2]	16,935	16,935	69,855	4.12

[1] U. S. Geological Survey, Mineral Resources of the United States: 1919.
[2] Includes Idaho, Utah, and Wyoming.

TABLE 2.—COMPARISON OF REPORTS ON PRODUCTION, BUREAU OF THE CENSUS AND UNITED STATES GEOLOGICAL SURVEY: 1919.

STATE.	BUREAU OF THE CENSUS.			GEOLOGICAL SURVEY.	
	Total value of all products.	Phosphate rock mined.		Phosphate rock mined and sold.	
		Quantity (tons, 2,240 pounds).	Value.	Quantity (tons, 2,240 pounds).	Value.
United States	$10,300,198	1,988,975	$10,292,990	2,271,983	$11,591,268
Florida	6,678,888	1,404,299	6,673,888	1,669,200	7,797,929
South Carolina, Tennessee, and Kentucky	3,551,755	567,665	3,549,547	594,848	3,723,484
Western states [1]	69,555	17,011	69,555	16,935	69,855

[1] Includes Idaho and Utah, and in the Geological Survey statistics also Wyoming.

PRINCIPAL STATISTICS.

The phosphate-rock mining industry ranked eleventh among the mining industries of the United States in 1919 on the basis of total value of all products—$10,300,198; and on the basis of average number of wage earners employed—4,373—the industry ranked tenth. There were 39 operators of producing phosphate-rock mines during the year who reported for 48 enterprises embracing 69 mines. These operators produced 1,988,975 long tons of phosphate rock valued at $10,292,990 and reported other receipts from mining operations amounting to $7,208.

Table 3 presents for the United States as a whole, and separately for such states as can be shown, the principal statistics for producing phosphate-rock enterprises in 1919. Only one operation for development without production was reported during the census year, and statistics for this enterprise are not here shown because to combine them with those for the producing enterprises would impair the value of these and to show them separately would disclose the individual operation. Therefore, the data are not included in this report but will be combined with other nonproducing enterprises in the general tables for the United States.

TABLE 3.—PRINCIPAL STATISTICS, PRODUCING ENTERPRISES: 1919.

	United States.	Florida.	Tennessee.	South Carolina and Kentucky.	Idaho and Utah.
Number of enterprises	48	23	19	3	3
Number of mines	69	40	23	3	3
Mineral land operated (acres)	160,447	108,925	23,452	26,785	1,285
Persons engaged	4,761	2,585	1,674	459	43
Proprietors and firm members	14	5	5	2	2
Salaried employees	374	250	101	19	4
Wage earners (average number)	4,373	2,330	1,568	438	37
Power used (aggregate horsepower)	49,039	40,996	7,168	1,275	200
Capital	$72,733,956	$55,740,488	$14,657,494	$1,665,961	$670,013
Principal expenses:					
Salaries	$761,423	$549,971	$174,803	$28,729	$7,920
Wages	$3,900,966	$2,372,141	$1,174,759	$300,033	$54,033
Contract work	$163,696	$115,262	$35,421	.....	$13,013
Supplies and materials	$2,161,501	$1,455,370	$638,533	$59,800	$7,798
Fuel and purchased power	$1,819,301	$1,347,785	$380,932	$89,061	$1,523
Royalties and rents	$209,087	$128,834	$70,553	$10,300	.....
Taxes	$347,580	$275,354	$63,423	$8,475	$328
Total value of all products	$10,300,198	$6,678,888	$3,139,671	$412,084	$69,555
Phosphate rock—					
Quantity (tons, 2,240 pounds)	1,988,975	1,404,299	489,639	78,026	17,011
Value	$10,292,990	$6,673,888	$3,137,463	$412,084	$69,555

GEOGRAPHIC DISTRIBUTION.

Statistics relating to the phosphate-rock mining industry can be shown separately for only the two leading states, Florida and Tennessee. Statistics for South Carolina and Kentucky and for Idaho and Utah are combined in order to avoid disclosure of individual operations. Table 3 shows the principal statistics, and Table 4 the rank, by the per cent distribution of the average number of wage earners and value of products, for these states and groups of states. The South Atlantic region leads in this industry with products valued at more than two-thirds and wage earners numbering more than half of the totals for the United States. Nearly one-third of the industry, as measured by the value of products or number of wage earners, was located in the East South Central region, and a very small remainder in the Western Mountain region.

TABLE 4.—STATES, RANKED BY VALUE OF PRODUCTS, PRODUCING ENTERPRISES: 1919.

STATE.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.	
		Average number.	Per cent distribution.	Amount.	Per cent distribution.
United States	48	4,373	100.0	$10,300,198	100.0
Florida	23	2,330	53.3	6,678,888	64.8
Tennessee	19	1,568	35.9	3,139,671	30.5
South Carolina and Kentucky	3	438	10.0	412,084	4.0
Idaho and Utah	3	37	0.8	69,555	0.7

PROGRESS OF THE INDUSTRY.

Comparative statistics for producing mines in the United States: 1889–1919.—Table 5 presents for producing phosphate-rock mining enterprises in the United States the principal statistics reported at the Fourteenth Census and the three preceding censuses of mines and quarries. This table indicates large increase in the phosphate-rock mining industry during the two decades 1889–1909. In contrast, the statistics for 1919 and 1909 show decreases in the number of enterprises, mines, persons engaged, and in the value of products; the increase in the principal expenses is merely nominal on account of the general price increases during the decade.

TABLE 5.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES: 1919, 1909, 1902, AND 1889.

	1919	1909	1902	1889	PER CENT OF INCREASE.[1] 1909–1919.	1902–1909.	1889–1902.
Number of enterprises	48	71	87	(2)	.....	.....	.....
Number of mines	69	153	115	(2)	−54.9	33.0	.....
Persons engaged	4,761	8,260	.....	.....	−42.4	.....	.....
Proprietors and firm members	14	17	(2)	(2)	.....	.....	.....
Salaried employees	374	370	391	(2)	1.1	−5.4	.....
Wage earners (average number)	4,373	7,873	5,971	5,011	−44.5	31.9	19.2
Power used (aggregate horsepower)	49,639	50,526	14,229	(2)	−1.8	255.1	.....
Capital	$72,733,956	$30,642,656	(2)	$6,131,718	137.4	.....	.....
Principal expenses:							
Salaries	761,423	590,990	$355,204	1,209,151	28.8	66.4	.....
Wages	3,900,966	3,215,661	1,930,093		21.3	66.6	.....
Contract work	163,696	251,849	157,402	115,930	−35.0	60.0	35.8
Supplies and materials	2,161,501	898,657	[4] 799,414	317,159	140.5	.....	.....
Fuel and purchased power	1,819,301	1,360,368	(3)	(3)	33.7	.....	.....
Royalties and rents	209,687	345,568	212,350	(3)	−39.3	62.7	.....
Taxes	347,580	86,859	(3)	(3)	300.2	.....	.....
Value of products	10,300,198	10,781,192	4,922,943	2,937,776	−4.5	119.0	67.6

[1] A minus sign (−) denotes decrease. Percentages are omitted where base is less than 100.
[2] Not reported.
[3] Comparable figures not available.
[4] Includes cost of fuel.

Table 6 shows the production of phosphate rock marketed annually from 1889 to 1920 as reported by the United States Geological Survey. These statistics show great progress in the industry until 1913 but a decline during the war period. The depression in the year 1919, as indicated by these statistics, was due to a diminished foreign market and labor difficulties.

TABLE 6.—MARKETED PRODUCTION OF PHOSPHATE ROCK: 1889 TO 1920.[1]

YEAR.	Quantity (tons, 2,240 pounds).	Value.	YEAR.	Quantity (tons, 2,240 pounds).	Value.
1889	550,245	$2,937,776	1905	1,947,190	$6,763,403
1890	510,499	3,213,795	1906	2,080,957	8,579,437
1891	587,988	3,651,150	1907	2,265,343	10,653,551
1892	681,571	3,296,227	1908	2,386,138	11,399,124
1893	941,368	4,136,070	1909	2,338,264	10,796,456
1894	996,949	3,479,547	1910	2,654,988	10,917,000
1895	1,038,551	3,606,094	1911	3,053,279	11,900,693
1896	930,779	2,803,372	1912	2,973,332	11,675,774
1897	1,039,345	2,673,202	1913	3,111,221	11,796,231
1898	1,308,885	3,453,460	1914	2,734,043	9,608,041
1899	1,515,702	5,084,076	1915	1,835,667	5,413,449
1900	1,491,216	5,359,248	1916	1,982,385	5,896,993
1901	1,483,723	5,316,403	1917	2,584,287	7,771,084
1902	1,490,314	4,693,444	1918	2,490,760	8,214,463
1903	1,581,576	5,319,204	1919	2,271,983	11,591,268
1904	1,874,428	6,580,875	1920	4,103,982	25,079,572

[1] U. S. Geological Survey, "Mineral Resources of the United States."

Power per enterprise and per wage earner: 1919 and 1909.—Table 7 presents comparative statistics for 1919 and 1909 regarding the power used and shows that while there was a slight decrease in the aggregate horsepower used, this was due to decrease in the number of enterprises, as the horsepower per enterprise shows increase. The horsepower per wage earner in the enterprises operated during 1919 was nearly double the horsepower per wage earner in 1909. There is thus indicated some progress in the industry through relatively larger use of mechanical equipment.

TABLE 7.—POWER USED PER ENTERPRISE AND PER WAGE EARNER: 1919 AND 1909.

	1919	1909	Per cent of increase.[1]
Number of enterprises	48	71	.....
Wage earners (average number)	4,373	7,873	−44.5
Power used (aggregate horsepower)	49,639	50,526	−1.8
Horsepower per enterprise	1,034	712	45.2
Horsepower per wage earner	11	6	.....

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

CHARACTER OF ORGANIZATION.

The character of organization of operating enterprises in the phosphate-rock mining industry in the United States as a whole is shown in Table 8. More than four-fifths of the enterprises were corporations, which employed 92.8 per cent of the average number of wage earners and reported 92.7 per cent of the total value of products. Other enterprises conducted by individuals and firms were relatively small.

TABLE 8.—CHARACTER OF ORGANIZATION, PRODUCING ENTERPRISES: 1919.

CHARACTER OF ORGANIZATION.	Number of enterprises.	Wage earners (average number).	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Amount.	Per enterprise.	Enterprise.	Wage earners (average number).	Value of products.
All classes	48	4,373	$10,300,198	$214,587	100.0	100.0	100.0
Corporation	39	4,058	9,546,209	244,775	81.2	92.8	92.7
Individual	4	95	187,858	46,964	8.3	2.2	1.8
Firm	5	220	566,131	113,226	10.4	5.0	5.5

SCALE OF OPERATION.

Size of enterprises according to value of products.—Table 9 gives, for the United States as a whole and for Florida and Tennessee separately, the number of enterprises and value of products, with per cent distribution, for enterprises grouped according to the value of their products. The largest enterprises, those producing products valued at more than $500,000, numbered only 7, or one-seventh of the total number, but produced more than half the total value of products.

TABLE 9.—SIZE OF PRODUCING ENTERPRISES, BY VALUE OF PRODUCTS: 1919.

STATE AND VALUE OF PRODUCTS PER ENTERPRISE.	ENTERPRISES.		VALUE OF PRODUCTS.	
	Number.	Per cent distribution.	Amount.	Per cent distribution.
UNITED STATES	48	100.0	$10,300,198	100.0
Less than $20,000 [1]	8	16.7	66,217	0.6
$20,000 to $100,000	16	33.3	897,711	8.7
$100,000 to $500,000	17	35.4	4,052,511	39.3
$500,000 and over [2]	7	14.6	5,283,729	51.3
FLORIDA	23	100.0	6,678,888	100.0
Less than $100,000 [3]	7	30.4	429,171	6.4
$100,000 to $500,000	11	47.8	2,417,068	36.2
$500,000 and over [2]	5	21.7	3,832,649	57.4
TENNESSEE	19	100.0	$3,139,671	100.0
Less than $20,000 [1]	6	31.6	47,544	1.5
$20,000 to $100,000	6	31.6	294,783	9.4
$100,000 and over [4]	7	36.8	2,797,344	89.1

[1] Includes the group "Less than $5,000."
[2] Includes the group "$1,000,000 to $5,000,000."
[3] Includes the group "$5,000 to $20,000."
[4] Includes the group "$500,000 to $1,000,000."

Size of enterprises according to average number of wage earners employed.—Table 10 shows, for the United States as a whole, and for states and groups of states, the enterprises classified according to the average number of wage earners employed. In the United States as a whole, 1 enterprise employed no wage earners, and 33 had fewer than 101 wage earners each and employed only 26.7 per cent of the wage earners. The larger enterprises, that is, those employing more than 100 wage earners each, numbered 14 and employed 73.2 per cent of the wage earners. These enterprises were in Florida, South Carolina, and Tennessee.

TABLE 10.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS: 1919.

STATE AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS (AVERAGE NUMBER).	
	Number.	Per cent distribution.	Number.	Per cent distribution.
UNITED STATES	48	100.0	4,373	100.0
No wage earners	1	2.1	.....	.....
1 to 5	2	4.2	9	0.2
6 to 20	10	20.8	122	2.8
21 to 50	11	22.9	360	8.2
51 to 100	10	20.8	679	15.5
101 to 500	14	29.2	3,203	73.2
FLORIDA	23	100.0	2,330	100.0
6 to 20	3	13.0	41	1.8
21 to 50	7	30.4	247	10.6
51 to 100	6	26.1	366	15.7
101 to 500	7	30.4	1,676	71.9
TENNESSEE	19	100.0	1,568	100.0
No wage earners	1	5.3	.....	.....
1 to 5	2	10.5	9	0.6
6 to 20	4	21.1	44	2.8
21 to 50	4	21.1	113	7.2
51 to 100	3	15.8	246	15.7
101 to 500	5	26.3	1,156	73.7
SOUTH CAROLINA AND KENTUCKY	3	100.0	438	100.0
51 to 100	1	33.3	67	15.3
101 to 500	2	66.7	371	84.7
IDAHO AND UTAH	3	100.0	37	100.0
6 to 20	3	100.0	37	100.0

Size of enterprises according to acreage of mineral land.—In Table 11 the enterprises are classified according to the number of acres of mineral land operated, and for each group the number of mines and the number of acres operated are shown. The largest number of enterprises was in the class operating the largest holdings of mineral land—1,000 acres and over—and the next largest number was in the class operating from 200 to 500 acres each. Practically 80 per cent of the enterprises were in classes operating more than 200 acres each and together they reported 99.5 per cent of the total acreage.

TABLE 11.—SIZE OF PRODUCING ENTERPRISES, BY NUMBER OF ACRES OF MINERAL LAND: 1919.

ACRES PER ENTERPRISE.	ENTERPRISES.		Number of mines.	MINERAL LAND.	
	Number.	Per cent distribution.		Acres.	Per cent distribution.
All classes	48	100.0	69	160,447	100.0
1 to 50	5	10.4	7	106	0.1
50 to 100	2	4.2	2	185	0.1
100 to 200	3	6.2	11	459	0.3
200 to 500	10	20.8	12	3,430	2.1
500 to 1,000	6	12.5	6	4,849	3.0
1,000 and over	22	45.8	31	151,418	94.4

PERSONS ENGAGED IN THE INDUSTRY.

Persons according to class and sex.—Table 12 shows the persons engaged in the phosphate-rock

mining industry by classes, showing the number of males and females and the per cent distribution. The salaried employees, numbering 374, constituted only 7.8 per cent of the total number of persons engaged in the industry. Only 31 females, representing seven-tenths of 1 per cent of the total number of persons employed, were reported among the salaried employees. Twenty-three female wage earners, or four-tenths of 1 per cent of all wage earners, were reported working on the representative day.

TABLE 12.—PERSONS ENGAGED IN THE INDUSTRY, PRODUCING ENTERPRISES: 1919.

	Number.	Per cent of total.
Persons engaged	4,761	100.0
Proprietors and firm members ... male	14	0.3
Salaried officers ... male	43	0.9
Superintendents and managers ... male	106	2.2
Technical employees ... male	60	1.3
Clerks—		
Male	134	2.8
Female	31	0.7
Wage earners (average number)	4,373	91.9
Wage earners, December 15, or nearest representative day	5,913	100.0
Male	5,890	99.6
Female	23	0.4
Wage earners under 16 (included above)	1	.....

Wage earners, by occupations.—Table 13 shows the number of wage earners, employed on December 15 or the nearest representative day, classified according to occupation, gives the per cent distribution for each occupational class, and also the number in each class employed above ground and below ground. The table distinguishes between men engaged in the more peculiarly mining occupations, such as miners, quarrymen, drillmen, timbermen, trackmen, trammers, and their helpers; men in other skilled trades such as enginemen, hoistmen, firemen, machinists, electricians, carpenters, and other mechanics; and less skilled and unclassified laborers. The table shows that 94.4 per cent of the total number of wage earners were engaged in mining operations proper, and that 5.6 per cent were employed in beneficiating plants. Only 2.5 per cent of the total number were employed below ground.

TABLE 13.—WAGE EARNERS, BY OCCUPATIONS, PRODUCING ENTERPRISES: 1919.

CLASS OF WAGE EARNERS.	NUMBER OF WAGE EARNERS DEC. 15 OR NEAREST REPRESENTATIVE DAY.			
	Total.	Per cent distribution.	Above-ground.	Below ground.
All classes	5,913	100.0	5,764	149
Foremen, shift bosses, etc	294	5.0	291	3
Enginemen, hoistmen, electricians, mechanics, etc	1,154	19.5	1,154	.....
Miners, quarrymen, and drillmen, including their helpers	1,084	18.3	968	116
Timbermen, trackmen, and men engaged in hauling, tramming, etc	450	7.6	443	7
Muckers, loaders, laborers, and others not classified	2,600	44.0	2,577	23
Wage earners employed in mills and beneficiating plants	331	5.6	331	.....

Wage earners, by months.—Table 14 shows, for the United States as a whole and for states and groups of states, the number of wage earners employed on the 15th day, or the nearest representative day, of each month and the average number of wage earners, and also indicates the months of minimum and maximum employment, and shows the ratio of the minimum to the maximum number. The changes in the number employed from month to month reflect conditions prevailing in the phosphate-rock industry during the census year. The numbers for Florida, which largely affect the totals for the United States, were unusual for the months from May to September and were due to strikes. These statistics for 1919 are therefore not representative of the industry.

It will be noted that the number of wage earners reported for all enterprises on the representative day, which is presented in several other tables, aggregated 5,913, or somewhat more than the number shown in Table 14 for December 15, which was the largest number reported for the 15th day of any month. While for most mines the representative day selected for reporting wage earners in detail was December 15, for other mines for which December was not a representative month, reports were made for some other date. Therefore, the aggregate for the representative day differs from the total of the numbers reported by each enterprise for the month of December.

TABLE 14.—WAGE EARNERS, BY MONTHS, PRODUCING ENTERPRISES: 1919.

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

STATE.	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.	
United States	4,373	4,583	4,865	4,741	4,972	3,259	*2,902*	3,419	3,873	4,094	4,639	5,358	**5,771**	50.3
Florida	2,330	2,867	2,937	2,852	2,955	1,179	*814*	1,277	1,649	1,870	2,553	3,190	**3,817**	21.3
Tennessee	1,568	*1,301*	1,403	1,458	1,577	1,649	1,624	1,657	1,733	1,695	1,577	1,633	1,419	75.1
South Carolina and Kentucky	438	**396**	414	413	421	401	428	448	444	470	463	483	475	82.0
Idaho and Utah	37	19	21	*18*	19	30	36	37	47	59	46	52	60	30.0

Prevailing hours of labor.—Table 15 shows the producing enterprises classified according to the prevailing hours of labor per week and gives the average number of wage earners employed in each class. In the United States as a whole, for a majority of the enterprises and for 84.2 per cent of the wage earners employed, the hours of labor were 54 to 62 per week and the 10-hour day and 6-day week prevailed. The same hours ruled in all states except Idaho and Utah where the hours of labor were 8 per day and 48 per week.

TABLE 15.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR: 1919.

STATE.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—									
			35 and under.		36 to 43.		44 to 53.		54 to 62.		72 to 84.	
	Enterprises.	Wage earners (average number).	Enterprises.	Wage earners (average number).	Enterprises.	Wage earners (average number).	Enterprises.	Wage earners (average number).	Enterprises.	Wage earners (average number).	Enterprises.	Wage earners (average number).
United States	[1] 47	4,373	1	5	1	30	6	309	36	3,683	3	346
Florida	23	2,330	.....	.....	.....	.....	2	247	18	1,737	3	346
Tennessee	[1] 18	1,568	1	5	1	30	1	25	15	1,508	.....	.....
South Carolina and Kentucky	3	438	.....	.....	.....	.....	.....	.....	3	438	.....	.....
Idaho and Utah	3	37	.....	.....	.....	.....	3	37	.....	.....	.....	.....

[1] Exclusive of 1 enterprise employing no wage earners.

LAND TENURE AND ROYALTIES.

Land tenure.—Table 16 shows for 1919, the number of acres of land controlled by producing phosphate-rock mining enterprises. The table distinguishes mineral land (that is, land held for its content of phosphate rock) from timber and other lands, and shows the mineral land according to form of tenure. In Table 17 enterprises in the industry are grouped according to form of tenure of mineral land; that is, whether held by ownership, under lease, or partly by ownership and partly under lease. This table shows that 97.5 per cent of the phosphate-rock land controlled by the producing enterprises was owned by the operators and that, in the East South Central and South Atlantic regions only a relatively small number of acres were operated under lease.

TABLE 16.—LAND CONTROLLED, PRODUCING ENTERPRISES: 1919.

STATE.	Aggregate (acres).	MINERAL LAND (ACRES).			Timber and other lands (acres).
		Total.	Owned.	Held under lease.	
United States	241,810	160,447	156,418	4,029	81,363
Florida	188,002	108,925	106,685	2,240	79,077
Tennessee	25,738	23,452	22,073	1,379	2,286
South Carolina and Kentucky	26,785	26,785	26,375	410	.....
Idaho and Utah	1,285	1,285	1,285	.....	.....

TABLE 17.—NUMBER OF PRODUCING ENTERPRISES AND ACRES OF MINERAL LAND CONTROLLED, CLASSIFIED ACCORDING TO FORM OF TENURE: 1919.

STATE.	ALL CLASSES.					ENTERPRISES OPERATING ONLY OWNED LAND.			ENTERPRISES OPERATING ONLY LAND HELD UNDER LEASE.			ENTERPRISES OPERATING LAND PARTLY OWNED AND PARTLY HELD UNDER LEASE.				
	Number of enterprises.	Acres controlled.				Number of enterprises.	Acres controlled.		Number of enterprises.	Acres controlled.		Number of enterprises.	Acres controlled.			
		Aggregate.	By ownership.	By lease.	Per cent owned is of aggregate.		By ownership.	Per cent of aggregate.		By lease.	Per cent of aggregate.		Total.	By ownership.	By lease.	Per cent of aggregate.
United States	48	160,447	156,418	4,029	97.5	35	148,129	92.3	9	2,769	1.7	4	9,549	8,289	1,260	6.0
Florida	23	108,925	106,685	2,240	97.9	18	100,285	92.1	4	2,090	1.9	1	6,550	6,400	150	6.0
Tennessee	19	23,452	22,073	1,379	94.1	12	20,245	86.3	5	670	2.9	2	2,528	1,828	700	10.8
South Carolina and Kentucky	3	26,785	26,375	410	98.5	2	26,314	98.2	.....	.....	.....	1	471	61	410	1.8
Idaho and Utah	3	1,285	1,285	.....	100.0	3	1,285	100.0	.....	.....	.....	.....	.....	.....	.....	.....

Table 18 presents comparative statistics for 1919 and 1909 pertaining to the acreage of mineral land and other lands controlled. There was notable decrease in both mineral and other lands reported, but a particularly large decrease in the acres of mineral land operated under lease. These decreases are in accord with the decrease in the number of mines operated as explained in the discussion of Table 5.

TABLE 18.—COMPARATIVE STATISTICS, LAND CONTROLLED, PRODUCING ENTERPRISES: 1919 AND 1909.

CHARACTER AND TENURE OF LAND.	ACRES.		
	1919	1909	Per cent of increase.[1]
Total land	241,810	340,097	−29.0
Mineral land	160,447	243,221	−34.0
Owned	156,418	230,405	−32.1
Leased	4,029	12,816	−68.6
Timber and other lands	81,363	97,476	−16.5

[1] A minus sign (−) denotes decrease.

Royalties.—The census of 1919 did not distinguish between royalties or rents paid for mineral land, and rents of other kinds, but, as these other rents are generally insignificant, statistics presented on royalties and rents may, where mineral lands are leased, be taken to cover only royalties or rents of mineral land. Royalty, which is a compensation for the privilege of mining leased lands, is either a fixed share of the product or a percentage of the value of product.

Table 19, in which the enterprises are classified according to form of land tenure, shows for each class the number of enterprises, the value of products, and the royalties and rents paid. Approximately three-fourths of the enterprises operated only owned land and reported only a small amount of rents, probably for buildings, equipment, easements, or privileges. The enterprises operating on leased land and on land partly owned and partly leased reported royalties amounting to 7.6 per cent of the value of their products.

TABLE 19.—VALUE OF PRODUCTS AND ROYALTIES AND RENTS, FOR PRODUCING ENTERPRISES, CLASSIFIED ACCORDING TO TENURE OF MINERAL LAND: 1919.

CLASSES OF ENTERPRISES.	Number of enterprises.	Value of products.	Royalties and rents.
All classes	48	$10,300,198	$209,687
Enterprises operating:			
Only owned land	35	8,197,622	50,917
Only land held under lease	9	869,094	139,271
Land partly owned and partly held under lease	4	1,233,482	19,499

POWER.

Power equipment used.—The number and horsepower of the several types of prime movers and of electric motors used by the phosphate-rock producing enterprises in 1919 are presented for the United States as a whole and separately for states, in so far as they can be shown without disclosure, in the table of detailed statistics. Comparative statistics for 1919 and 1909 are presented for the United States as a whole in Table 20 which shows the number and horsepower of the power equipment used by producing enterprises and the per cent of increase or decrease. The table shows a slight decrease in the aggregate horsepower used, which, as indicated in the section on progress of the industry, is due to the decrease in the number of enterprises reporting. This decrease in aggregate horsepower was brought about by a decrease in horsepower of prime movers used, which was nearly offset by the increase in horsepower of electric motors operated by purchased current. A notable increase in the use of electrically driven equipment is shown by the increases in horsepower of electric motors operated by both current purchased and current generated by the enterprise reporting.

TABLE 20.—COMPARATIVE STATISTICS, POWER USED, PRODUCING ENTERPRISES: 1919 AND 1909.

	1919	1909	Per cent of increase.[1]
Power used: Aggregate horsepower	49,639	50,526	−1.8
Prime movers (total horsepower)	46,976	50,426	−6.8
Steam engines—			
Number	117	549	−78.7
Horsepower	34,891	46,817	−25.5
Internal-combustion engines—			
Number	44	32	.....
Horsepower	12,085	3,609	234.9
Equipment operated by purchased power (total horsepower)	2,663	100	2,563.0
Electric motors—			
Number	38	1	.....
Horsepower	2,663	100	2,563.0
Electric motors run by current generated by the enterprise reporting:			
Number	320	339	−5.6
Horsepower	33,107	21,388	54.8

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

GENERAL TABLE.

Table 21 is a detailed presentation for 1919 of the statistics for phosphate-rock producing enterprises in the United States as a whole and separately by states in so far as they can be shown without disclosure of individual operations. As but one phosphate-rock mining enterprise reported operations for development only, statistics for nonproducing operations can not be shown in this table. The table gives the number of enterprises, and mines, and the number of enterprises operating beneficiating plants; acreage of land controlled according to character and the tenure of mineral land; the capital invested; the principal expenses of operation and development; the persons engaged in the industry by classes and the wage earners according to occupation; and statistics with regard to number and horsepower of power equipment, and with regard to fuel used.

TABLE 21.—DETAILED STATISTICS FOR THE PHOSPHATE-ROCK MINING INDUSTRY, BY STATES: 1919.

	PRODUCING ENTERPRISES.				
	Total.	Florida.	Tennessee.	South Carolina and Kentucky.	Idaho and Utah.
Number of enterprises	48	23	19	3	3
Number of mines	69	40	23	3	3
Number of enterprises operating beneficiating plants	20	8	10	2	.....
Mineral land operated ... acres	160,447	108,925	23,452	26,785	1,285
Land controlled, total ... acres	241,810	188,002	25,738	26,785	1,285
Mineral land owned ... acres	156,418	106,685	22,073	26,375	1,285
Mineral land held under lease ... acres	4,029	2,240	1,379	410	.....
Timber and other lands ... acres	81,363	70,077	2,286	.....	.....
Capital	$72,733,956	$55,740,488	$14,657,494	$1,665,961	$670,013
Principal expenses	$9,364,154	$6,244,717	$2,538,424	$496,398	$84,615
Salaries and wages—					
Officers, superintendents, managers, and technical employees	$566,477	$419,376	$120,111	$19,820	$7,170
Clerks, etc.	$194,946	$130,595	$54,692	$8,909	$750
Wage earners	$3,900,966	$2,372,141	$1,174,759	$300,033	$54,033
Supplies and materials	$2,161,501	$1,455,370	$638,533	$59,800	$7,798
Fuel	$1,739,833	$1,277,999	$379,182	$81,817	$835
Purchased power	$79,468	$69,786	$1,750	$7,244	$688
Royalties and rents	$209,687	$128,834	$70,553	$10,300	.....
Taxes—Federal, state, county, and local	$347,580	$275,354	$63,423	$8,475	$328
Contract work	$163,096	$115,262	$35,421	.....	$13,013
Expenditures for development (included in principal expenses)	$353,237	$301,881	$32,065	$16,211	$3,080
Value of products	$10,300,198	$6,678,888	$3,139,671	$412,084	$69,555
Persons engaged in industry	4,761	2,585	1,674	459	43
Proprietors and officials	223	149	59	10	5
Proprietors and firm members	14	5	5	2	2
Salaried officers	43	27	16	.....	.....
Superintendents and managers	106	65	31	7	3
Technical employees	60	52	7	1	.....
Clerks, etc.—					
Male	134	87	38	8	1
Female	31	19	9	3	.....
Wage earners (average number)	4,373	2,330	1,568	438	37
Wage earners, number 15th day of—					
Maximum month	Dec. 5,771	Dec. 3,817	Aug. 1,733	Nov. 483	Dec. 60
Minimum month	June 2,902	June 814	Jan. 1,301	Jan. 396	Mar. 18
Wage earners by occupations, Dec. 15, or nearest representative day—					
Above ground (total)	5,764	3,803	1,456	478	27
Below ground (total)	149	.....	115	.....	34
Foremen, shift bosses, etc.—					
Above ground	291	227	48	16	.....
Below ground	3	.....	2	.....	1
Enginemen, hoistment, electricians, mechanics, etc.—					
Above ground	1,154	918	189	47	.....
Miners, quarrymen, and drillmen, including their helpers—					
Above ground	968	603	294	71	.....
Below ground	116	.....	90	.....	26
Timbermen, trackmen, and men engaged in hauling, tramming, etc.—					
Above ground	443	203	162	78	.....
Below ground	7	.....	7	.....	.....
Muckers, loaders, laborers, and others not classified—					
Above ground	2,577	1,686	639	225	27
Below ground	23	.....	16	.....	7
Wage earners employed in mills and beneficiating plants—					
Above ground	331	166	124	41	.....
Number of wage earners under 16 years of age included in those reported above:					
Above ground	1	.....	1	.....	.....
Number of females included in wage earners reported above:					
Above ground	23	23	.....	.....	.....
Power used: Aggregate horsepower	49,639	40,996	7,168	1,275	200
Prime movers (horsepower, total)	46,976	38,881	7,070	1,025	.....
Steam engines, not turbines—					
Number	100	27	55	18	.....
Horsepower	17,140	9,095	7,020	1,025	.....
Steam turbines—					
Number	17	17	.....	.....	.....
Horsepower	17,751	17,751	.....	.....	.....
Internal-combustion engines—					
Number	44	43	1	.....	.....
Horsepower	12,085	12,035	50	.....	.....
Equipment operated by purchased power (horsepower, total)	2,663	2,115	98	250	200
Electric motors—					
Number	38	23	5	6	4
Horsepower	2,663	2,115	98	250	200
Electric motors run by current generated by the enterprise reporting:					
Number	320	253	63	4	.....
Horsepower	33,107	31,115	1,792	200	.....
Fuel used:					
Coal, anthracite ... tons, 2,240 pounds	28	.....	.....	.....	28
Coal, bituminous ... tons, 2,000 pounds	121,273	19,621	88,029	13,623	.....
Coke ... tons, 2,000 pounds	146	146	.....	.....	.....
Wood ... cords	39,961	32,022	5,679	2,260	.....
Fuel oils ... barrels	657,284	657,039	245	.....	.....
Gasoline and other volatile oils ... barrels	10,871	10,786	42	.....	43

DEPARTMENT OF COMMERCE

BUREAU OF THE CENSUS

WASHINGTON

FOURTEENTH CENSUS OF THE UNITED STATES

MINES AND QUARRIES: 1919

STONE

Prepared under the supervision of EUGENE F. HARTLEY, Chief Statistician for Manufactures
By FRANK J. KATZ, Expert Special Agent for Mines and Quarries

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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, which did neither productive work nor development work during the entire year; or enterprises the products of which were valued at less than $500 or, in the bituminous coal-mining industry, producing less than 1,000 tons; or, if nonproducing enterprises, those doing development work amounting to less than $5,000.

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, was 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.

Geographic presentation.—The general tables at the end of the bulletin give statistics of the industry in detail for each state or group of states which can be shown without disclosure of individual operations. Other tables present statistics by mining regions, producing provinces, or fields, these divisions comprising groups of states related by features peculiar to the industry.

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 such employees 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 total 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 for the representative day. This number is not used in any other way because it is believed to be less significant than the average number. The number reported for the representative day, on account of the unavoidable variations of date, involves more or less duplication of persons working in different industries at different times; does not represent the total number employed in all industries at any one time; and gives undue weight to seasonal industries as compared with industries in continuous operation.

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 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 in which the majority belong. 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 at 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.

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.

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.

Contract work.—The amounts reported under this head include expenditures for both productive operations and those prosecuted for development only; they are in effect indirect expenditures for salaries, wages, supplies, materials, and fuel and power.

Royalties and rents.—The amounts given under this head represent the payment to fee holders or the value of the 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 taxes; 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 for 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.

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 mined in 1919 under the terms by which it was disposed of, and 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.

Lands 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.

STONE.

INTRODUCTION.

Scope of the report.—This report presents the results of the census of mines and quarries for the year 1919 relating to the stone-quarrying industries. It includes statistics showing: The progress of the industry by comparison of results of the 1919 census with those of the three preceding censuses of mines and quarries; the geographic distribution of the industries by states; the character of organization and the size of operating enterprises; the persons engaged in the industry; the land controlled and form of tenure of mineral land; power equipment and fuel used; statistics in detail for the stone industries in the United States, as a whole, for each industry separately, and for each industry in the states that can be shown without the disclosure of individual operations.

The report on the stone industries does not include statistics relating to the operation of quarries by penal and other governmental institutions. Returns were received from 122 such enterprises operating 87 limestone quarries, 14 granite quarries, 7 sandstone quarries, and 63 basalt quarries from which products valued at $1,935,640 were obtained in 1919.

Only two operations for development of nonproducing properties were reported for the stone-quarrying industries for the year 1919 and statistics for these are omitted from this report as they would, if combined with data for producing enterprises, impair the value of these, and, if shown separately, would disclose individual operations. The data for the nonproducing enterprises will be combined with those for other nonproducing enterprises and presented in the detail tables for the United States.

Definition of the industries.—The statistics for the stone industries relate to the quarrying of stone of all kinds except operations, as noted in the following paragraphs, which are specifically omitted in order to avoid duplication of statistics for industries not classified as stone quarrying. The numerous varieties of stone have, for the purposes of the census, been assigned to six groups—limestone, granite, sandstone, basalt, slate, and marble—and the statistics on quarry operations are herein presented as for six industries correspondingly designated.

The limestone industry includes the quarrying of limestone, of the related rock dolomite, and of a small amount of other calcareous rock such as tufa, which is, in some places, called marl; but the digging of true calcareous marl is not included with the limestone quarrying. Statistics on the production of a small amount of chert in Arkansas and Florida are included with the statistics on limestone. Limestone is the rock most used for building stone and constituted approximately one-third of all stone used for that purpose in 1919, but the principal uses of limestone are, first, for fluxing and as refractory materials and otherwise as material in many manufacturing industries; second, as crushed stone, rubble, and riprap used chiefly in road work, concrete, and rough construction work; and third, in agriculture. The quarrying and consumption of limestone in the manufacture of lime and of cement by the producers are not considered in the statistics here presented, as those operations are within the scope of the census of manufactures.

The granite industry includes the quarrying of granite and related granular igneous rocks, and includes a negligible amount of miscellaneous stone reported from Arizona, California, New York, and South Dakota. Granite is the rock principally used for monumental stone and, next to limestone, is the most important building stone; it is also the rock most commonly used for making paving blocks, and, as curbing and flagging, is second in importance to sandstone; three-fourths of the granite output, however, is used as crushed stone and as rubble and riprap.

The sandstone industry includes the quarrying of sandstone and quartzite (which embraces ganister) and some miscellaneous stone, as argillite from Arkansas, New Jersey, and New York; considerable quantities of siliceous mica schist used as ganister and some so-called "greenstones" from Pennsylvania. The sandstone industry as here considered includes the production of crushed sandstone for use as sand, about two-fifths of the output of the industry being used for this purpose in 1919. Other uses of sandstone were as crushed stone, rubble and riprap in rough construction work, as ganister and other refractory materials, as building stone, paving blocks, curbing, and flagging.

The basalt industry includes the quarrying of basalt, commonly known as trap rock, and other related rocks which are for the most part dark, heavy volcanic, rocks, and which are used almost entirely as crushed stone. For convenience in tabulation and in order to avoid disclosure of individual operations, reports for the quarrying of small amounts of miscellaneous stone in California, Idaho, Massachusetts, New York, Oregon, and Rhode Island, have been included in the basalt industry.

The slate industry includes the quarrying of slate for use as roofing, in switchboards and other electrical apparatus, for structural purposes, sanitary ware, grave vaults and covers, blackboards, bulletin boards and school slates, billiard table tops, and as crushed

"granules" for coating roofing felts, etc., and for other minor purposes. Nearly half of the slate output as measured in tons is used as "granules;" aside from this the principal uses are as structural material, roofing, and sanitary slate.

The marble industry includes the quarrying of marble, which is crystalline limestone. The pure white or handsome, variously colored varieties of marble are quarried chiefly for use as monumental and building stone. Other uses of marble are of minor importance. Data on the production of small amounts of serpentine or verde antique in Michigan are included with the statistics on marble.

In addition to excluding the quarrying of limestone for the manufacture of lime and cement, as noted above, the census of mines and quarries also excluded from the stone industries the following: The quarrying of shale for use either as clay or in the manufacture of cement; the quarrying of grits or millstones as this is presented separately as the millstones industry; the quarrying of soapstone which is presented in the talc and soapstone industry; the quarrying of stone of various kinds for use as hones, whetstones, scythe-stones, and rubbing stones which is part of the abrasive materials industry; the quarrying of tripoli, quartzite, and other siliceous rock for use as abrasive materials, or as silica or for other special uses as such operations are included either in the abrasive materials industry or in the silica industry.

Relatively little stone is used rough as obtained from the quarry but at most quarries the stone is broken, crushed, shaped, dressed, ground, or otherwise prepared. The breaking of stone into rubble and riprap, and the crushing of stone for road work, ballast, concrete, or for other construction purposes is quite general and is closely connected with the quarrying operation. Such processes have not been considered as beneficiation, and enterprises practicing them have not been counted as operating dressing mills or beneficiating plants. On the other hand, the cutting, sawing, finishing, and polishing of stone for monumental and building uses and for paving, curbing, and flagging and the fine grinding or pulverizing of stone for use in manufacturing industries and in agriculture are considered processes of beneficiation if carried on in connection with the quarrying. Such beneficiation was practiced by more than one-sixth of the stone-quarrying enterprises in 1919, and the statistics herein presented, relating primarily to stone quarrying, cover also the operation of beneficiating plants at the quarries.

Returns were received from stone producers who subjected their product to operations properly considered as manufacturing and when such operators made separate returns for the two phases of their business the returns were included, respectively, in the census of mines and quarries and the census of manufactures. But when operators of such enterprises made one report covering the entire business the reports were, so far as possible, revised and segregated in order to be separately tabulated. However, this was generally not practicable and the full reports covering both the quarrying and the manufacturing ends of the business have been included in the census of mines and quarries for the stone industries as well as in the census of manufactures.

Wage earners above and below ground.—Stone of all kinds is quarried almost without exception from open or surface workings, and most of the wage earners in the stone-quarrying industries are classed as employed above ground. There are, however, a few limestone and marble quarries and some of the slate quarries in the United States which are underground workings. In 1919 some limestone enterprises in Alabama and Pennsylvania and slate enterprises in all producing eastern states reported wage earners employed below ground. A number of the slate quarries which reported wage earners below ground are merely deep open pits, but because of the hazards of operating these deep pits the classification of wage earners as employed underground, made by the reporting operators, was accepted.

Method of reporting quantity and value of products.—The statistics on the production of stone were collected in cooperation with the United States Geological Survey. For that purpose a supplemental schedule requesting special information desired by the Survey was provided in addition to the general schedule of the census. The Geological Survey required the quantity only of stone produced in various forms such as rough, dressed, crushed, ground, etc., classified by uses, but the quantity and value of the stone sold or used during 1919 classified in the same detail as the stone produced. In the reports from most of the enterprises the quantity produced and the quantity sold or used were identical, but in many reports they were different. As the census required only the value of stone actually produced—that is, quarried and prepared during the year 1919—the value of products reported by the Census Bureau for enterprises whose sales differed from the quarry output is the value of the stone quarried and prepared during 1919 computed on the basis of the average selling value of stone of like character sold or used. The Geological Survey has tabulated only the quantity and value of stone sold or used in 1919, which quantity may include considerable stone drawn from stock previously quarried, or may exclude stone quarried during the census year 1919 but not used or sold. This accounts for much of the difference in value of

stone products reported by the Bureau of the Census and by the Geological Survey. Another source of discrepancy is in the differences in classification, which are principally of three kinds: First, the Geological Survey has not considered as stone production the output of enterprises classified in the stone industry by the Bureau of the Census. This difference is limited chiefly to the sandstone industry, of which approximately two-fifths of the output is classified as sand by the Geological Survey and not tabulated as stone. Second, miscellaneous varieties of stone separately tabulated by the Geological Survey were included with several of the principal varieties by the Census Bureau. Third, the Geological Survey includes in its tabulation the value of finished stone products, such as monumental and building stone, for some enterprises for which the Bureau of the Census reports only the value of rough stone, the finishing operations having been reported as manufacturing conducted separately. Furthermore, minor differences in value are due to inclusion in the census tabulations of the value of by-products and miscellaneous receipts from quarry operations.

In order to indicate the extent of the differences in the value of products as noted above, the following statement has been prepared to show the value of products for the stone industries as reported by the Bureau of the Census for 1919 and the value of various kinds of stone marketed in 1919 as reported by the Geological Survey.

INDUSTRY.	Bureau of the Census.	Geological Survey.
Total	$101,684,919	$102,739,791
Limestone	52,943,924	53,171,701
Granite	18,279,345	19,345,714
Sandstone	10,684,969	5,283,842
Basalt	9,657,977	8,944,686
Slate	5,720,792	6,030,648
Marble	4,397,912	8,042,297
Other stone		1,920,903

Tables 1 and 2 are introduced to show in this report data on the quantity and uses of the stone produced in the United States in 1919. Table 1 shows the output of stone in 1919 in the United States, including Alaska, Hawaii, and Porto Rico and also the production by governmental (including penal) institutions as reported by the Geological Survey. The quantity of stone produced for each of the principal uses and classified by kinds is shown in thousands of tons.

TABLE 1.—STONE PRODUCED, BY USES: 1919.

(Based on statistics from United States Geological Survey, Mineral Resources, "Stone in 1919" and "Slate in 1919.")

VARIETY OF STONE.	All uses.	Monumental stone.	Building stone.	Paving blocks.	Curbing and flagging.	Crushed stone.	Rubble and riprap.	Metallurgical and refractory uses.[1]	Other manufacturing uses.	Agricultural uses.	All other uses.
	Expressed in thousand tons (2,000 pounds).										
Total	65,949	399	[2] 1,167	387	229	33,876	2,353	22,376	2,978	1,393	791
Basalt	7,411	.....	30	2	.....	7,053	311	.....	.....	.....	15
Granite	4,221	305	304	364	51	2,700	477	.....	.....	.....	20
Limestone	49,760	.....	394	.....	7	21,762	1,162	21,455	2,978	1,393	609
Marble	333	94	85	.....	.....	.....	.....	115	.....	.....	39
Sandstone[3]	2,623	.....	151	21	171	1,179	307	783	.....	.....	11
Slate	410	.....	[2] 170	.....	.....	[4] 203	.....	.....	.....	.....	37
Other stone	1,191	.....	33	.....	.....	979	96	23	.....	.....	60

[1] Includes limestone and marble for flux; and dolomite, sandstone (ganister), and mica schist as refractory materials.
[2] Includes roofing slates, other structural slate, and sanitary slate.
[3] In addition to the quantities here shown as reported by the Geological Survey, approximately 2,200 thousand tons of sandstone were produced for use as "sand."
[4] "Granules" for roofing.

In Table 2 the Geological Survey's figures on quantity of stone produced have been recast in order to correlate them with the Census Bureau's statistics on the quarrying industries. The Geological Survey's data on production in Alaska, Hawaii, and Porto Rico, and by governmental institutions have been excluded, the data on sandstone used as sand have been added, and the data on miscellaneous varieties of stone classified by the Geological Survey as "other stone" have been distributed with the statistics for the principal kinds of stone.

TABLE 2.—QUANTITY OF STONE PRODUCED, BY STATES: 1919.[1]

(Quantities expressed in tons of 2,000 pounds are approximate equivalents of quantities reported in various other units by the quarry operators.)

STATE.	Total.	Limestone.[2]	Granite.[3]	Sandstone.[4]	Basalt.[5]	Marble.	Slate.
	(Tons, 2,000 pounds.)						
United States	67,844,000	49,715,000	4,420,000	5,224,000	7,745,000	331,000	409,000
Alabama	880,000	859,000		21,000		(6)	
Arizona	516,000	162,000	[7] 354,000	(6)			
Arkansas	409,000	[7] 100,000	7,000	[7] 290,000		3,000	
California	2,852,000	170,000	[7] 1,009,000	272,000	[7] 1,399,000	2,000	
Colorado	530,000	493,000	3,000	34,000			
Connecticut	1,281,000	(6)	53,000	24,000	1,204,000		
Delaware	89,000		89,000				
District of Columbia	6,000		6,000				
Florida	129,000	[7] 129,000					
Georgia	298,000	89,000	209,000			(6)	
Idaho	103,000	100,000		3,000	(6)		
Illinois	5,682,000	4,959,000		723,000			
Indiana	1,635,000	1,635,000		(6)			
Iowa	513,000	513,000					
Kansas	680,000	680,000					
Kentucky	1,216,000	1,201,000		15,000			
Louisiana	(6)	(6)					
Maine	177,000	23,000	150,000				4,000
Maryland	903,000	353,000	138,000	67,000	343,000	(6)	2,000
Massachusetts	1,372,000	54,000	384,000	58,000	[7] 868,000	8,000	
Michigan	7,206,000	7,187,000		19,000	(6)	(6)	
Minnesota	462,000	216,000	75,000	20,000	142,000		
Mississippi	(6)	(6)					
Missouri	1,138,000	1,116,000	(6)			22,000	
Montana	206,000	205,000	1,000	(6)			
Nebraska	204,000	204,000		(6)			
Nevada	(6)	(6)				(6)	
New Hampshire	105,000		105,000				
New Jersey	1,626,000	374,000	34,000	[7] 23,000	1,195,000		
New Mexico	(6)	(6)		(6)		(6)	
New York	4,167,000	3,393,000	[7] 58,000	[7] 70,000	[7] 548,000	24,000	74,000
North Carolina	616,000	69,000	547,000	(6)			
North Dakota							
Ohio	8,160,000	7,703,000		457,000			
Oklahoma	662,000	659,000	3,000	(6)			
Oregon	523,000	36,000	(6)		[7] 487,000	(6)	
Pennsylvania	14,446,000	10,666,000	216,000	[7] 2,206,000	1,134,000	(6)	134,000
Rhode Island	117,000	(6)	40,000		[7] 77,000		
South Carolina	404,000		404,000				
South Dakota	137,000	18,000	(6)	119,000			
Tennessee	676,000	630,000		(6)		46,000	
Texas	599,000	548,000	51,000		(6)	(6)	
Utah	315,000	315,000		(6)			(8)
Vermont	460,000	39,000	133,000			100,000	188,000
Virginia	1,620,000	1,447,000	101,000	65,000	(6)		7,000
Washington	243,000	24,000	8,000	(6)	211,000		
West Virginia	2,294,000	1,971,000		323,000			
Wisconsin	1,515,000	1,142,000	230,000	143,000	(6)		
Wyoming	118,000	104,000		14,000			
Undistributed	554,000	120,000	12,000	150,000	137,000	126,000	

[1] Based on statistics compiled by the United States Geological Survey and tabulated to conform with the Bureau of the Census classification of the stone-quarrying industries.
[2] Includes 21,790 tons of miscellaneous stone. [3] Includes 199,140 tons of miscellaneous stone. [4] Includes 412,370 tons of miscellaneous stone.
[5] Includes 517,540 tons of miscellaneous stone. [6] Included under "undistributed." [7] Includes miscellaneous unclassified stone. [8] Too small to be shown.

PRINCIPAL STATISTICS.

Summary for producing enterprises.—Operators in the stone-quarrying industries in 1919 reported 1,820 producing enterprises working 1,922 quarries in which an average of 42,986 wage earners were employed during the census year. The total value of all products of these enterprises was $101,684,919. On the bases of total value of products and average number of wage earners employed, the stone industries, as a unit, ranked fifth among the mining industries in the United States in 1919.

The principal statistics for 1919 for the stone industries, as a whole, and for each industry separately are presented in Table 3. This table shows a segregation of the total value of products into the value of the stone produced, which amounted to $100,423,476, and the value of other products or receipts from operation, which was $1,261,443; and also gives the approximate quantity of the stone quarried. In Table 4 the receipts from quarrying operations, other than the value of the principal stone product, are shown in detail for each stone industry.

The rank of the several stone-quarrying industries among the mining industries of the United States, according to value of products and number of wage earners, is shown in the following tabular statement:

INDUSTRY.	VALUE OF PRODUCTS.		WAGE EARNERS.	
	Amount.	Rank among the mining industries.	Average number.	Rank among the mining industries.
Limestone	$52,913,924	7	22,069	5
Granite	18,279,345	8	8,019	8
Sandstone	10,684,969	10	4,287	11
Basalt	9,657,077	13	3,336	13
Slate	5,720,792	16	3,513	12
Marble	4,397,912	17	1,732	15

TABLE 3.—PRINCIPAL STATISTICS, PRODUCING ENTERPRISES: 1919.

	Total.	Limestone.	Granite.	Sandstone.	Basalt.	Slate.	Marble.
Number of enterprises	1,820	895	358	255	163	101	48
Number of quarries	1,922	925	381	276	174	104	62
Number of enterprises operating mills and dressing plants in connection with quarries	354	44	152	66	6	61	25
Mineral land operated ... acres	252,242	122,820	30,659	48,729	15,625	5,440	28,969
Persons engaged	48,087	24,705	8,951	4,897	3,791	3,852	1,891
Proprietors and firm members, total	1,288	633	328	179	77	64	7
Number performing manual labor	417	175	145	53	20	21	3
Salaried employees	3,813	2,003	574	431	378	275	152
Wage earners (average number)	42,986	22,069	8,049	4,287	3,336	3,513	1,732
Power used (aggregate horsepower)	376,808	213,717	55,674	33,869	37,307	20,613	15,628
Capital	$148,759,533	$82,124,367	$18,823,980	$18,955,321	$12,899,171	$6,923,172	$9,033,522
Principal expenses:							
Salaries	$7,168,303	$3,726,593	$1,196,456	$830,633	$751,247	$409,255	$254,119
Wages	$45,534,798	$23,926,332	$8,587,659	$4,448,811	$3,991,307	$3,128,249	$1,452,440
Contract work	$995,976	$665,557	$118,637	$54,161	$41,406	$95,633	$20,582
Supplies and materials	$18,441,459	$10,968,220	$2,593,040	$1,664,432	$2,030,869	$632,459	$552,439
Fuel	$5,267,846	$2,897,432	$833,636	$597,353	$562,827	$228,954	$147,644
Purchased power	$2,213,459	$1,278,958	$261,185	$250,909	$157,161	$188,505	$76,741
Royalties and rents	$1,381,290	$667,751	$139,202	$131,970	$250,199	$157,788	$34,380
Taxes	$2,088,170	$1,119,861	$377,646	$195,309	$198,613	$73,238	$123,503
Expenditures for development (included in the above items)	$1,241,343	$764,673	$156,870	$96,555	$131,800	$60,531	$30,914
Total value of all products	$101,684,919	$52,943,924	$18,279,345	$10,684,969	$9,657,977	$5,720,792	$4,397,912
Stone produced—value	$100,423,476	$51,967,290	$18,247,617	$10,672,134	$9,430,528	$5,720,054	$4,385,853
Approximate quantity ... tons, 2,000 pounds	67,844,000	49,715,000	4,420,000	5,224,000	7,745,000	409,000	331,000
Other products—value	$1,261,443	$976,634	$31,728	$12,835	$227,449	$738	$12,059

TABLE 4.—OTHER PRODUCTS: 1919.

INDUSTRY.	Total.	Mineral products.	Lime.[1]	Unspecified products.	Power sold and work or miscellaneous services for others.
All industries	$1,261,443	$27,288	$574,688	$346,110	$313,357
Limestone	976,634	[2] 15,196	574,688	148,814	237,936
Granite	31,728	.....	.....	6,250	25,478
Sandstone	12,835	.....	.....	400	12,435
Basalt	227,449	[3] 33	.....	190,646	36,770
Slate	738	.....	.....	.....	738
Marble	12,059	[4] 12,059	.....	.....	.....

[1] Includes only the lime reported by enterprises of which the principal product was stone and which did not report statistics for lime separately.
[2] Includes coal, clay, marble, and silica. [3] Fuller's earth. [4] Limestone.

Geographic distribution.—The stone-quarrying industry is distributed generally throughout the United States, and forms an important part of the mineral industry in many states. The statistics for the stone industries are presented by states or by the usual geographic divisions without attempt to group or divide states into special regions or districts which are characteristic of the several industries.

Table 5 presents the statistics for the combined quarrying industries by geographic divisions, with per cent distribution for each item.

TABLE 5.—STATISTICS FOR THE COMBINED STONE INDUSTRIES, PRODUCING ENTERPRISES: 1919.

DIVISION.	Number of enterprises.	Number of quarries.	Mineral land operated (acres).	Wage earners (average number).	Power used (aggregate horsepower).	Capital.	Cost of supplies and materials.[1]	Wages.	Value of products.
United States	1,820	1,922	252,242	42,986	376,808	$148,759,533	$25,922,764	$45,534,798	$101,684,919
New England:									
Number or amount	268	292	28,584	6,679	57,150	21,003,113	3,313,580	7,478,865	17,363,413
Per cent of total	14.7	15.2	11.3	15.5	15.2	14.1	12.8	16.4	17.1
Middle Atlantic:									
Number or amount	542	578	77,375	13,402	97,917	43,545,385	8,482,049	15,058,849	30,691,987
Per cent of total	29.8	30.1	30.7	31.2	26.0	29.3	32.7	33.1	30.2
East North Central:									
Number or amount	311	320	51,441	8,720	120,115	47,857,804	7,047,694	9,623,642	25,911,756
Per cent of total	17.1	16.6	20.4	20.3	31.9	32.2	27.2	21.1	25.5
West North Central:									
Number or amount	192	201	6,877	2,995	24,149	6,502,359	1,422,627	3,142,820	6,138,502
Per cent of total	10.5	10.5	2.7	7.0	6.4	4.4	5.5	6.9	6.0
South Atlantic:									
Number or amount	179	186	30,315	5,531	33,427	11,625,676	2,585,110	4,981,539	10,300,476
Per cent of total	9.8	9.7	12.0	12.9	8.9	7.8	10.0	10.9	10.1
East South Central:									
Number or amount	107	114	8,453	2,684	18,307	5,205,912	1,271,993	2,037,917	4,556,567
Per cent of total	5.9	5.9	3.4	6.2	4.9	3.5	4.9	4.5	4.5
West South Central:									
Number or amount	59	60	20,850	944	8,277	3,571,152	546,083	847,493	1,936,922
Per cent of total	3.2	3.1	8.3	2.2	2.2	2.4	2.1	1.9	1.9
Mountain:									
Number or amount	78	82	14,082	943	4,679	4,093,684	411,699	1,053,682	2,084,407
Per cent of total	4.3	4.3	5.6	2.2	1.2	2.8	1.6	2.3	2.0
Pacific:									
Number or amount	84	89	14,265	1,088	12,787	5,354,448	841,929	1,309,991	2,700,889
Per cent of total	4.6	4.6	5.7	2.5	3.4	3.6	3.2	2.9	2.7

[1] Includes cost of fuel and purchased power.

The figures show that the Middle Atlantic and the East North Central divisions, which are the most populous and the most important industrially, are also the most important in the stone industries; the New England division is third in importance, and the South Atlantic is fourth.

Table 6 shows the number of enterprises, the average number of wage earners employed, and the value of products, for each of the stone industries, by states, ranked according to value of products, and it also shows for each industry the per cent distribution among the states of wage earners and of value of products. Pennsylvania was the leading state in four industries, limestone, sandstone, basalt, and slate. Vermont led in the granite and marble industries and was second in the slate industry. More than half of the limestone industry was concentrated in the leading states, Pennsylvania, Ohio, Indiana, and New York; of the granite industry, in Vermont, Massachusetts, North Carolina, Wisconsin, and New Hampshire; of the sandstone industry, in Pennsylvania and Ohio; of the basalt industry, in Pennsylvania, New Jersey, and Massachusetts. More than three-fourths of the slate industry was concentrated in Pennsylvania and Vermont and nearly three-fourths of the marble industry in Vermont and Tennessee.

TABLE 6.—STONE INDUSTRIES AND STATES, RANKED BY VALUE OF PRODUCTS, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND STATE.	Number of enterprises.	WAGE EARNERS. Average number.	WAGE EARNERS. Per cent distribution.	VALUE OF PRODUCTS. Amount.	VALUE OF PRODUCTS. Per cent distribution.
UNITED STATES—All industries.	1,820	42,986	.....	$101,684,919	.....
LIMESTONE	895	22,069	100.0	52,943,924	100.0
Pennsylvania	184	5,573	25.3	12,881,213	24.3
Ohio	90	2,262	10.2	6,742,496	12.7
Indiana	67	1,800	8.2	4,619,801	8.7
New York	55	1,739	7.9	4,597,942	8.7
Illinois	41	1,244	5.6	3,776,626	7.1
Missouri	70	1,171	5.3	2,355,736	4.4
West Virginia	17	1,003	4.5	1,927,490	3.6
Virginia	31	777	3.5	1,610,544	3.1
Alabama	15	835	3.8	1,340,961	2.5
Kentucky	47	676	3.1	1,126,109	2.1
Wisconsin	33	382	1.7	1,107,790	2.1
Kansas	35	484	2.2	835,147	1.6
Oklahoma	13	278	1.3	567,288	1.1
California	13	245	1.1	540,987	1.0
Tennessee	21	349	1.6	534,848	1.0
Colorado	14	228	1.0	526,738	1.0
Iowa	25	246	1.1	476,650	0.9
New Jersey	10	258	1.2	459,059	0.9
Minnesota	10	156	0.7	311,180	0.6
Utah	7	148	0.7	291,234	0.6
Maryland	11	149	0.7	241,638	0.5
Arkansas	6	114	0.5	220,070	0.4
Montana	7	87	0.4	191,887	0.4
Florida	4	111	0.5	177,201	0.3
Georgia	5	80	0.4	174,821	0.3
Arizona	4	45	0.2	153,211	0.3
Oregon	4	69	0.3	138,708	0.3
Vermont	4	40	0.2	76,152	0.1
All other states [1]	52	1,520	6.9	4,940,397	9.3
GRANITE	358	8,049	100.0	18,279,345	100.0
Vermont	27	1,062	13.2	3,563,734	19.5
Massachusetts	42	1,034	12.8	2,405,165	13.2
North Carolina	16	959	11.9	1,576,250	8.6
Wisconsin	14	753	9.4	1,484,979	8.1
New Hampshire	23	589	7.3	1,427,979	7.8
Maine	42	747	9.3	1,300,996	7.1
Minnesota	27	392	4.9	1,135,391	6.2
Georgia	20	580	7.2	885,663	4.9
South Carolina	10	322	4.0	747,976	4.1
Rhode Island	8	262	3.3	733,683	4.0
California	17	162	2.0	563,485	3.1
Maryland	9	235	2.9	495,651	2.7
Pennsylvania	29	197	2.4	435,654	2.4
Virginia	7	157	2.0	259,569	1.4
Connecticut	11	92	1.1	206,546	1.1
GRANITE—Continued.					
New York	7	101	1.3	$173,404	0.9
Arizona	3	58	0.7	128,777	0.7
New Jersey	4	48	0.6	81,198	0.4
Washington	5	42	0.5	74,958	0.4
Montana	3	4	(2)	12,944	0.1
All other states [3]	34	253	3.1	585,343	3.2
SANDSTONE	255	4,287	100.0	10,684,969	100.0
Pennsylvania	100	1,673	39.0	3,534,563	33.1
Ohio	21	875	20.4	2,759,352	25.8
Illinois	15	288	6.7	1,329,389	12.4
West Virginia	15	343	8.0	885,588	8.3
New York	22	146	3.4	301,315	2.8
Wisconsin	12	133	3.1	231,078	2.2
South Dakota	5	89	2.1	140,068	1.3
Kentucky	5	56	1.3	91,363	0.9
California	6	27	0.6	65,074	0.6
New Jersey	5	20	0.5	46,775	0.4
Colorado	7	14	0.3	45,723	0.4
All other states [4]	42	623	14.5	1,254,681	11.7
BASALT	163	3,336	100.0	9,657,977	100.0
Pennsylvania	29	721	21.6	2,298,791	23.8
New Jersey	36	637	19.1	1,928,025	20.0
Massachusetts	21	547	16.4	1,548,611	16.0
Connecticut	20	363	10.9	1,262,579	13.1
California	16	262	7.9	635,588	6.6
Maryland	10	183	5.5	369,075	3.8
Oregon	9	124	3.7	294,812	3.1
Washington	8	99	3.0	240,742	2.5
All other states [5]	14	400	12.0	1,079,754	11.2
SLATE	101	3,513	100.0	5,720,792	100.0
Pennsylvania	42	1,892	53.9	2,651,533	46.3
Vermont	38	1,039	29.6	2,057,388	36.0
New York	9	134	3.8	445,027	7.8
Virginia	4	210	6.0	203,068	3.5
Maryland	4	85	2.4	76,683	1.3
All other states [6]	4	153	4.4	287,093	5.0
MARBLE	48	1,732	100.0	4,397,912	100.0
Vermont	15	570	32.9	2,108,872	48.0
Tennessee	13	540	31.2	1,088,131	24.7
New York	6	100	5.8	249,286	5.7
All other states [7]	14	522	30.1	951,623	21.6

[1] Includes enterprises in states as follows: Connecticut, 1; Idaho, 3; Louisiana, 1; Maine, 1; Massachusetts, 1; Michigan, 11; Nebraska, 8; Nevada, 1; North Carolina, 2; South Dakota, 3; Texas, 12; Wyoming, 8.
[2] Less than one-tenth of 1 per cent.
[3] Includes enterprises in states as follows: Arkansas, 2; Colorado, 8; Delaware, 2; District of Columbia, 3; Missouri, 2; Oklahoma, 6; Oregon, 2; South Dakota, 1; Texas, 8.
[4] Includes enterprises in states as follows: Alabama, 2; Arizona, 2; Arkansas, 7; Connecticut, 3; Idaho, 2; Indiana, 1; Maryland, 2; Massachusetts, 1; Michigan, 2; Minnesota, 1; Missouri, 4; Montana, 2; North Carolina, 1; Oklahoma, 2; Tennessee, 2; Utah, 2; Virginia, 2; Washington, 1; Wyoming, 3.
[5] Includes enterprises in states as follows: Delaware, 1; Idaho, 1; Michigan, 1; New York, 4; Rhode Island, 4; Texas, 1; Wisconsin, 2.
[6] Includes enterprises in states as follows: Maine, 3; Utah, 1.
[7] Includes enterprises in states as follows: Alabama, 2; California, 3; Georgia, 1; Maryland, 2; Massachusetts, 3; Michigan, 1; Missouri, 1; Texas, 1.

PROGRESS OF THE INDUSTRY.

Comparative summary for producing quarries in the United States: 1889–1919.—Table 7 presents for producing enterprises, in the combined quarrying industries and in each stone industry separately, the principal statistics reported at the Fourteenth Census and the three preceding censuses of mines and quarries and gives the percentages of increase or decrease. Although in some industries and over some census periods notable increases are shown for certain items, never-

theless there has been a general decline which was very marked between 1909 and 1919, and is best shown by the decrease in the average number of wage earners employed. The increases shown in the principal expenses and in the value of products in 1902 as compared with 1889 and in 1919 as compared with 1909 are in large part due to general price increases and do not mark increase in volume of business.

TABLE 7.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES, 1919, 1909, 1902, AND 1889.

	1919	1909	1902	1889	PER CENT OF INCREASE.[1] 1909-1919	1902-1909	1889-1902
	ALL STONE INDUSTRIES.						
Number of enterprises	1,820	3,988	5,470	(2)	−54.4	−27.1	.....
Number of quarries	1,922	4,603	5,764	4,163	−58.2	−20.1	38.5
Persons engaged	48,087	[3] 87,849	.....	.....	−45.3	.....	.....
Proprietors and firm members, total	1,288	4,106	(2)	(2)	−68.6	.....	.....
Number performing manual labor	417	1,827	(2)	(2)	−77.2	.....	.....
Salaried employees	3,813	[3] 4,673	5,279	1,086	−18.4	−11.5	386.1
Wage earners (average number)	42,986	79,070	71,156	81,288	−45.6	11.1	−12.5
Power used (aggregate horsepower)	376,808	303,442	178,878	(4)	24.2	69.6	.....
Capital	$148,759,533	[5] $132,641,780	(2)	$90,212,433	12.2	.....	.....
Principal expenses:							
Salaries	7,168,303	[6] 5,146,739	$4,488,339	30,555,877	39.3	14.7	37.5
Wages	45,534,798	39,661,871	37,515,907		14.8	5.7	
Contract work	995,976	463,590	36,981	(4)	114.8	(1)	.....
Supplies and materials	18,441,459	8,800,184	[7] 10,739,736	7,923,220	109.6	.....	.....
Fuel and purchased power	7,481,305	3,482,054	(4)	(4)	114.9	.....	.....
Royalties and rents	1,381,290	1,439,445	1,156,754	(4)	−4.0	24.4	.....
Taxes	2,088,170	[8] 496,235	(4)	(4)	320.8	.....	.....
Value of products	101,084,919	75,992,908	70,462,438	53,035,620	33.8	7.8	32.9

	1919	1909	1902	1889	PER CENT OF INCREASE.[1] 1909-1919	1902-1909	1889-1902
	LIMESTONE.						
Number of enterprises	895	1,665	3,137	(2)	−46.2	−46.9	.....
Number of quarries	925	1,916	3,246	1,954	−51.7	−41.0	66.1
Persons engaged	24,705	33,623	.....	.....	−26.5	.....	.....
Props. and firm members, total	633	1,634	(2)	(2)	−61.3	.....	.....
Performing manual labor	175	640	(2)	(2)	−72.7	.....	.....
Salaried employees	2,003	1,700	2,231	433	17.8	−23.8	415.2
Wage earners (av. number)	22,069	30,289	31,547	30,211	−27.1	−4.0	4.4
Power used (aggregate h. p.)	213,717	125,024	64,500	(4)	70.9	93.8	.....
Capital	$82,124,367	$44,089,476	(2)	$27,022,325	86.3	.....	.....
Principal expenses:							
Salaries	3,726,593	1,717,996	$1,843,747	10,121,985	116.9	−6.8	63.9
Wages	23,926,332	14,082,185	14,750,638		69.9	−4.5	
Contract work	665,557	201,880	36,381	(4)	229.7	454.9	.....
Supplies and materials	10,968,220	3,754,125	[7] 5,403,912	4,227,246	192.2	.....	.....
Fuel and purchased power	4,176,300	1,507,628	(4)	(4)	177.0	.....	.....
Royalties and rents	667,751	488,919	422,693	(4)	36.6	15.7	.....
Taxes	1,119,861	161,117	(4)	(4)	595.1	.....	.....
Value of products	52,943,824	29,832,492	30,441,801	19,095,179	77.5	−2.0	59.4
	GRANITE.						
Number of enterprises	358	707	853	814	−49.4	−17.1	4.8
Number of quarries	381	826	906	874	−53.9	−8.8	3.7
Persons engaged	8,951	20,394	.....	.....	−56.1	.....	.....
Props. and firm members, total	328	730	(2)	(2)	−55.1	.....	.....
Performing manual labor	145	318	(2)	(2)	−54.4	.....	.....
Salaried employees	574	920	1,377	222	−37.6	−33.2	520.3
Wage earners (av. number)	8,049	18,744	18,836	22,091	−57.1	−0.5	−14.7
Power used (aggregate h. p.)	55,674	61,095	46,986	(4)	−8.9	30.0	.....
Capital	$18,823,980	$25,422,307	(2)	$19,115,449	−26.0	.....	.....
Principal expenses:							
Salaries	1,196,456	1,069,532	$1,227,885	9,620,485	11.9	−12.9	27.9
Wages	8,587,669	11,112,195	11,072,996		−22.7	0.4	
Contract work	118,037	65,744	.....	(4)	80.5	.....	.....
Supplies and materials	2,593,040	1,921,912	[7] 2,493,065	1,446,485	34.9	.....	.....
Fuel and purchased power	1,094,821	757,078	(4)	(4)	44.6	.....	.....
Royalties and rents	139,202	194,349	194,892	(4)	−28.4	−0.3	.....
Taxes	377,646	113,097	(4)	(4)	233.9	.....	.....
Value of products	18,279,345	18,997,976	18,257,944	14,464,095	−3.8	4.1	26.2

	1919	1909	1902	1889	PER CENT OF INCREASE.[1] 1909-1919	1902-1909	1889-1902
	BASALT.						
Number of enterprises	163	196	(2)	(2)	−16.8	.....	.....
Number of quarries	174	220	(2)	(2)	−20.9	.....	.....
Persons engaged	3,791	5,744	.....	.....	−34.0	.....	.....
Props. and firm members, total	77	116	(2)	(2)	−33.6	.....	.....
Performing manual labor	20	22	(2)	(2)	.....	.....	.....
Salaried employees	378	372	(2)	(2)	1.6	.....	.....
Wage earners (av. number)	3,336	5,256	(2)	(2)	−36.5	.....	.....
Power used (aggregate h. p.)	37,307	29,211	(2)	(2)	27.7	.....	.....
Capital	$12,899,171	$8,745,553	(2)	(2)	47.5	.....	.....
Principal expenses:							
Salaries	751,247	347,094	(2)	(2)	116.4	.....	.....
Wages	3,991,307	2,538,964	(2)	(2)	57.2	.....	.....
Contract work	41,406	60,204	(2)	(2)	−31.2	.....	.....
Supplies and materials	2,030,869	1,018,090	(2)	(2)	99.5	.....	.....
Fuel and purchased power	719,988	279,082	(2)	(2)	158.0	.....	.....
Royalties and rents	250,199	282,501	(2)	(2)	−11.4	.....	.....
Taxes	198,613	32,301	(2)	(2)	514.9	.....	.....
Value of products	9,657,977	5,578,317	(2)	(2)	73.1	.....	.....
	SLATE.						
Number of enterprises	101	185	174	(2)	−45.4	6.3	.....
Number of quarries	104	219	199	212	−52.5	10.1	−6.1
Persons engaged	3,852	9,486	.....	.....	−59.4	.....	.....
Props. and firm members, total	64	221	(2)	(2)	−71.0	.....	.....
Performing manual labor	21	70	(2)	(2)	.....	.....	.....
Salaried employees	275	462	437	75	−40.5	5.7	.....
Wage earners (av. number)	3,513	8,803	5,920	6,095	−60.1	48.7	−2.9
Power used (aggregate h. p.)	20,613	29,777	25,454	(4)	−30.8	17.0	.....
Capital	$6,923,172	$12,177,350	(2)	$10,569,593	−43.1	.....	.....
Principal expenses:							
Salaries	409,255	405,479	$334,879	2,218,982	0.9	21.1	58.3
Wages	3,128,249	4,088,653	3,177,459		−23.5	28.7	
Contract work	95,633	28,962	.....	(4)	230.2	.....	.....
Supplies and materials	632,459	521,761	[7] 680,361	282,114	21.2	.....	.....
Fuel and purchased power	417,459	327,397	(4)	(4)	27.5	.....	.....
Royalties and rents	157,788	271,252	269,267	(4)	−41.8	0.7	.....
Taxes	73,238	33,192	(4)	(4)	120.6	.....	.....
Value of products	5,720,792	6,054,174	5,696,051	3,482,513	−5.5	6.3	53.6

See footnotes at end of this table.

TABLE 7.—COMPARATIVE SUMMARY, PRODUCING ENTERPRISES, 1919, 1909, 1902, AND 1889—Continued.

	SANDSTONE.							MARBLE.						
	1919	1909	1902	1889	PER CENT OF INCREASE.[1] 1909-1919	1902-1909	1889-1902	1919	1909	1902	1889	PER CENT OF INCREASE.[1] 1909-1919	1902-1909	1889-1902
Number of enterprises	255	1,158	1,231	(2)	−78.0	−5.9	.....	48	77	75	74	.....	.....	.....
Number of quarries	276	1,314	1,330	1,020	−79.0	−1.2	30.4	62	108	83	103	−42.6	.....	−19.4
Persons engaged	4,897	11,774	.....	.....	−58.4	.....	.....	1,891	6,502	.....	.....	−70.9	.....	.....
Props. and firm members, total	179	1,356	(2)	(2)	−86.8	.....	.....	7	49	(2)	(2)	.....	.....	.....
Performing manual labor	53	771	(2)	(2)	−93.1	.....	.....	3	6	(2)	(2)	.....	.....	.....
Salaried employees	431	606	882	260	−28.9	−31.3	239.2	152	287	352	96	−47.0	−18.5	.....
Wage earners (av. number)	4,287	9,812	10,783	18,458	−56.3	−9.0	−41.6	1,732	6,166	4,070	4,433	−71.9	51.5	−8.2
Power used (aggregate h. p.)	33,869	36,556	27,652	(4)	−7.4	32.2	.....	15,628	21,779	14,286	(4)	−28.2	52.4	.....
Capital	$18,955,321	$17,058,244	(2)	$18,412,224	11.1	.....	.....	$9,033,522	$20,272,755	(2)	$15,002,842	−55.4	.....	.....
Principal expenses:														
Salaries	830,633	591,967	$740,807	6,785,214	40.3	−20.1	3.8	254,119	383,107	$341,021	1,809,211	−33.7	12.3	41.1
Wages	4,448,811	4,760,851	6,302,174		−6.6	−24.5		1,452,440	3,079,023	2,212,640		−52.8	39.2	
Contract work	54,161	79,456	600	(4)	−31.8	(1)	.....	20,582	27,344	.....	(4)	−24.7	.....	.....
Supplies and materials	1,664,432	1,039,969	[7] 1,336,576	1,311,789	60.0	.....	.....	552,439	544,327	[7] 825,822	655,586	1.5	.....	.....
Fuel and purchased power	848,262	349,180	(4)	(4)	142.9	.....	.....	224,385	261,689	(4)	(4)	−14.3	.....	.....
Royalties and rents	131,970	154,513	204,517	(4)	−14.6	−24.4	.....	34,380	47,911	65,385	(4)	−28.2	−26.7	.....
Taxes	195,309	58,145	(4)	(4)	235.9	.....	.....	123,503	70,616	(4)	(4)	74.9	.....	.....
Value of products	10,684,969	9,290,829	11,022,460	12,505,663	15.0	−15.7	−11.9	4,397,912	6,239,120	5,044,182	3,488,170	−29.5	23.7	44.6

[1] A minus sign (−) denotes decrease. Percentages are omitted where base is less than 100.
[2] Not reported.
[3] Includes 326 salaried officials and employees which can not be distributed among the several industries.
[4] Comparable figures not available.
[5] Includes $4,876,095 which can not be distributed among the several industries.
[6] Includes $631,564 which can not be distributed among the several industries.
[7] Includes cost of fuel.
[8] Includes $27,767 which can not be distributed among the several industries

Comparison by geographic divisions: 1919 and 1909.—Table 8 shows for 1919 and 1909 the value of products for the stone industries as a whole and for each industry separately by geographic divisions with percentage of increase or decrease during the census period. Although the significance of the absolute increases or decreases is impaired by the price changes during the census interval, as mentioned above, the table serves to localize the changes within industries and geographic divisions. Thus it is apparent, considering all industries as a unit, that the general decline was less in the East South Central, South Atlantic, Middle Atlantic, and East North Central than in other divisions.

TABLE 8.—VALUE OF PRODUCTS: 1919 AND 1909.

DIVISION.	ALL INDUSTRIES.			LIMESTONE.			GRANITE.		
	1919	1909	Per cent of increase.[1]	1919	1909	Per cent of increase.[1]	1919	1909	Per cent of increase.[1]
United States	$101,684,919	$75,992,908	33.8	$52,943,924	$29,832,492	77.5	$18,279,345	$18,997,976	−3.8
New England	17,363,413	16,555,959	4.9	139,857	17,580	695.5	9,638,103	9,497,135	1.5
Middle Atlantic	30,691,087	19,188,911	59.9	17,938,214	7,570,565	136.9	690,256	1,107,698	−37.7
East North Central	25,911,756	16,712,774	55.0	19,866,076	12,594,606	57.7	1,484,979	1,433,105	3.6
West North Central	6,138,502	5,562,974	10.3	4,281,292	4,295,879	−0.3	1,293,950	851,800	51.9
South Atlantic	10,300,476	6,324,278	62.9	4,206,193	1,332,151	215.7	4,036,836	3,269,355	23.5
East South Central	4,556,507	2,793,868	63.1	3,001,918	1,868,734	60.6	.....	.....	.....
West South Central	1,936,922	1,426,989	35.7	1,280,325	939,076	36.3	179,803	197,771	−9.0
Mountain	2,084,407	2,373,519	−12.2	1,550,354	845,415	83.4	278,314	230,859	20.6
Pacific	2,700,889	5,053,636	−46.6	679,695	368,486	84.5	677,005	2,410,244	−71.9

DIVISION.	SANDSTONE.			BASALT.			SLATE.			MARBLE.		
	1919	1909	Per cent of increase.[1]	1919	1909	Per cent of increase.[1]	1919	1909	Per cent of increase.[1]	1919	1909	Per cent of increase.[1]
United States	$10,684,969	$9,290,829	15.0	$9,657,977	$5,578,317	73.1	$5,720,792	$6,054,174	−5.5	$4,397,912	$6,239,120	−29.5
New England	12,918	472,703	−97.3	2,995,604	949,933	215.3	2,344,081	2,088,400	12.2	2,232,850	3,530,208	−36.8
Middle Atlantic	3,882,653	3,813,418	1.8	4,835,018	2,561,227	88.8	3,096,560	3,604,985	−14.1	249,286	531,018	−53.1
East North Central	4,447,809	2,669,105	66.6	111,083	15,958	596.1	.....	.....	.....	1,809	.....	.....
West North Central	470,806	411,949	14.3	.....	3,337	.....	.....	.....	.....	92,445	.....	.....
South Atlantic	981,018	297,544	229.7	475,743	281,746	68.9	279,751	315,129	−11.2	320,935	828,353	−61.3
East South Central	124,702	159,936	−22.0	.....	.....	.....	.....	.....	.....	1,429,947	765,198	86.9
West South Central	402,391	210,224	91.4	61,343	79,918	−23.2	.....	.....	.....	12,970	.....	.....
Mountain	247,295	690,864	−64.2	8,044	118,225	−93.2	400	.....	.....	.....	488,156	.....
Pacific	115,377	565,086	−79.6	1,171,142	1,567,973	−25.3	.....	45,660	.....	57,670	96,187	−40.0

[1] A minus sign (−) denotes decrease.

CHARACTER OF ORGANIZATION.

The character of organization of enterprises operating producing quarries is shown in Table 9 for the stone industries in the United States as a whole and for each industry for selected states. More than half of all the stone-quarrying enterprises in the United States were operated by corporations, and for the separate stone industries the proportion ranged from 42.5 per cent in the granite industry to 91.7 per cent in the marble industry. Corporations reported 83.2 per cent of all the wage earners in the country employed in quarrying operations and contributed 86 per cent of the total value of products of the stone industries. The table shows that in Pennsylvania, the leading state in the limestone industry, corporations, although predominant in average number of wage earners employed and value of products reported, were outnumbered by enterprises operated under different forms of organization; in two of the other states shown in the limestone industry this was also true. In the granite industry in all of the leading states, which could be shown, except Minnesota and North Carolina, the number of enterprises operated by corporations was exceeded by the number under the other forms of organization, but the corporations in each state reported more than half the wage earners and the value of products. Among the states shown for the sandstone industry, New York reported most of the enterprises unincorporated, although these were relatively the less important enterprises.

TABLE 9.—CHARACTER OF ORGANIZATION, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND SELECTED STATES.	ALL CLASSES.			CORPORATION.						
	Number of enterprises.	Average number of wage earners.	Value of products.	Enterprises.		Wage earners.		Value of products.		
				Number.	Per cent of total.	Average number.	Per cent of total.	Amount.	Per cent of total.	Per enterprise.
UNITED STATES—All industries	1,820	42,986	$101,684,919	975	53.6	35,778	83.2	$87,467,874	86.0	$89,711
Limestone	895	22,069	52,943,924	462	51.6	18,324	83.0	45,890,605	86.7	99,330
Granite	358	8,049	18,279,345	152	42.5	6,392	79.4	14,504,529	79.3	95,425
Sandstone	265	4,287	10,684,909	142	55.7	3,574	83.4	9,405,068	88.0	66,233
Basalt	163	3,336	9,657,977	104	63.8	2,809	84.2	8,327,873	86.2	80,076
Slate	101	3,513	5,720,792	71	70.3	3,007	85.6	5,021,062	87.8	70,719
Marble	48	1,732	4,397,912	44	91.7	1,672	96.5	4,318,737	98.2	98,153
LIMESTONE.										
Pennsylvania	184	5,573	12,881,213	69	37.5	4,352	78.1	10,611,380	82.4	153,788
Ohio	90	2,262	6,742,496	45	50.0	2,087	92.3	6,287,088	93.2	139,713
Indiana	67	1,800	4,619,801	35	52.2	1,644	91.3	4,347,674	94.1	124,219
New York	55	1,739	4,597,942	36	65.5	1,561	89.8	4,220,582	91.8	117,238
Illinois	41	1,244	3,776,626	31	75.6	1,187	95.4	3,678,329	97.4	118,656
Missouri	70	1,171	2,355,736	39	55.7	877	74.9	1,921,761	81.6	49,276
West Virginia	17	1,003	1,927,490	13	76.5	991	98.8	1,897,479	98.4	145,960
Virginia	31	777	1,610,544	19	61.3	483	62.2	954,563	59.3	50,240
Alabama	15	835	1,340,961	12	80.0	814	97.5	1,316,990	98.2	109,749
Kentucky	47	676	1,126,109	19	40.4	484	71.6	827,054	73.4	43,529
Wisconsin	33	382	1,107,790	15	45.5	295	77.2	912,657	82.4	60,844
GRANITE.										
Vermont	27	1,062	3,563,734	13	48.1	919	86.5	3,153,017	88.5	242,540
Massachusetts	42	1,034	2,405,165	15	35.7	798	77.2	1,744,981	72.6	116,332
North Carolina	16	959	1,576,250	10	62.5	935	97.5	1,517,850	96.3	151,785
New Hampshire	23	589	1,427,979	7	30.4	317	53.8	727,884	51.0	103,983
Maine	42	747	1,300,996	10	23.8	614	82.2	1,061,749	81.6	106,175
Minnesota	27	392	1,135,391	14	51.9	287	73.2	845,883	74.5	60,420
SANDSTONE.										
Pennsylvania	100	1,673	3,534,563	52	52.0	1,238	74.0	2,733,682	77.3	52,571
Illinois	15	288	1,329,389	11	73.3	278	96.5	1,313,757	98.8	119,432
West Virginia	15	343	885,588	10	66.7	331	96.5	870,360	98.3	87,036
New York	22	146	301,315	8	36.4	88	60.3	186,124	61.8	23,266
BASALT.										
Pennsylvania	29	721	2,298,791	16	55.2	660	91.5	2,108,543	91.7	131,784
New Jersey	36	637	1,928,025	23	63.9	540	84.8	1,665,957	86.4	72,433
Massachusetts	21	547	1,548,611	16	76.2	459	83.9	1,324,967	85.6	82,810
Connecticut	20	363	1,262,579	13	65.0	313	86.2	1,134,685	89.9	87,283
SLATE.										
Pennsylvania	42	1,892	2,651,533	34	81.0	1,706	90.2	2,451,467	92.5	72,102
Vermont	38	1,039	2,057,388	21	55.3	742	71.4	1,605,968	78.1	76,475
New York	9	134	445,027	5	55.6	111	82.8	397,183	89.2	79,437
Virginia	4	210	203,068	4	100.0	210	100.0	203,068	100.0	50,767
MARBLE.										
Vermont	15	570	2,108,872	15	100.0	570	100.0	2,108,872	100.0	140,591
Tennessee	13	540	1,088,131	13	100.0	540	100.0	1,088,131	100.0	83,702

TABLE 9.—CHARACTER OF ORGANIZATION, PRODUCING ENTERPRISES: 1919—Continued.

INDUSTRY AND SELECTED STATES.	INDIVIDUAL.							FIRM.						
	Enterprises.		Wage earners.		Value of products.			Enterprises.		Wage earners.		Value of products.		
	Number.	Per cent of total.	Average number.	Per cent of total.	Amount.	Per cent of total.	Per enterprise.	Number.	Per cent of total.	Average number.	Per cent of total.	Amount.	Per cent of total.	Per enterprise.
UNITED STATES—All industries	[1] 528	29.0	[1] 3,775	8.8	[1] $7,5[illegible]5,579	7.4	$14,310	[2] 317	17.4	[2] 3,433	8.0	[2] $6,661,466	6.6	$21,014
Limestone	289	32.3	2,011	9.1	3,705,252	7.0	12,821	144	16.1	1,734	7.9	3,348,067	6.3	23,250
Granite	126	35.2	938	11.7	2,109,442	11.5	16,742	80	22.3	719	8.9	1,665,374	9.1	20,817
Sandstone	61	23.9	279	6.5	500,761	4.7	8,209	52	20.4	434	10.1	779,140	7.3	14,983
Basalt	40	24.5	356	10.7	973,250	10.1	24,331	19	11.7	171	5.1	356,854	3.7	18,782
Slate	8	7.9	131	3.7	137,699	3.3	23,462	22	21.8	375	10.7	512,031	9.0	23,274
Marble	[3] 4	8.3	[3] 60	3.5	[3] 79,175	1.8	19,794	.....	.....	.....	.....	.....	.....	.....
LIMESTONE.														
Pennsylvania	76	41.3	682	12.2	1,263,417	9.8	16,624	[4] 39	21.2	[4] 539	9.7	[4] 1,006,416	7.8	25,806
Ohio	30	33.3	81	3.6	245,901	3.6	8,197	[5] 15	16.7	[5] 94	4.2	[5] 209,507	3.1	13,967
Indiana	21	31.3	83	4.6	142,106	3.1	6,767	11	16.4	73	4.1	130,021	2.8	11,820
New York	10	18.2	36	2.1	81,279	1.8	8,128	9	16.4	142	8.2	296,081	6.4	32,898
Illinois	[6] 10	24.4	[6] 57	4.6	[6] 98,297	2.6	9,830	.....	.....	.....	.....	.....	.....	.....
Missouri	23	32.9	205	17.5	307,543	13.1	13,371	8	11.4	89	7.6	126,432	5.4	15,804
West Virginia	.....	.....	.....	.....	.....	.....	.....	[7] 4	23.5	[7] 12	1.2	[7] 30,011	1.6	7,503
Virginia	4	12.9	10	1.3	12,500	0.8	3,125	8	25.8	284	36.6	643,481	40.0	80,435
Alabama	3	20.0	21	2.5	23,971	1.8	7,990	.....	.....	.....	.....	.....	.....	.....
Kentucky	20	42.6	113	16.7	152,009	13.5	7,600	8	17.0	79	11.7	147,046	13.1	18,381
Wisconsin	13	39.4	66	17.3	137,545	12.4	10,580	[5] 5	15.2	[5] 21	5.5	[5] 57,588	5.2	11,518
GRANITE.														
Vermont	[8] 14	51.9	[8] 143	13.5	[8] 410,717	11.5	29,337	.....	.....	.....	.....	.....	.....	.....
Massachusetts	16	38.1	185	17.9	501,836	20.9	31,365	11	26.2	51	4.9	158,348	6.6	14,395
North Carolina	3	18.8	20	2.1	48,400	3.1	16,133	3	18.8	4	0.4	10,000	0.6	3,333
New Hampshire	9	39.1	69	11.7	131,887	9.2	14,654	7	30.4	203	34.5	568,208	39.8	81,173
Maine	18	42.9	93	12.4	153,843	11.8	8,547	[5] 14	33.3	[5] 40	5.4	[5] 85,404	6.6	6,100
Minnesota	6	22.2	53	13.5	148,458	13.1	24,743	7	25.9	52	13.3	141,050	12.4	20,150
SANDSTONE.														
Pennsylvania	25	25.0	156	9.3	281,979	8.0	11,279	23	23.0	279	16.7	518,902	14.7	22,561
Illinois	.....	.....	.....	.....	.....	.....	.....	4	26.7	10	3.5	15,632	1.2	3,908
West Virginia	.....	.....	.....	.....	.....	.....	.....	[7] 5	33.3	[7] 12	3.5	[7] 15,228	1.7	3,046
New York	7	31.8	29	19.9	66,140	22.0	9,449	7	31.8	29	19.9	49,051	16.3	7,007
BASALT.														
Pennsylvania	10	34.5	48	6.7	164,690	7.2	16,469	[5] 3	10.3	[5] 13	1.8	[5] 25,558	1.1	8,519
New Jersey	[6] 13	36.1	[6] 97	15.2	[6] 262,068	13.6	20,159	.....	.....	.....	.....	.....	.....	.....
Massachusetts	[8] 5	23.8	[8] 88	16.1	[8] 223,644	14.4	44,729	.....	.....	.....	.....	.....	.....	.....
Connecticut	3	15.0	12	3.3	29,666	2.3	9,889	4	20.0	38	10.5	98,228	7.8	24,557
SLATE.														
Pennsylvania	3	7.1	68	3.6	74,715	2.8	24,905	5	11.9	118	6.2	125,351	4.7	25,070
Vermont	3	7.9	52	5.0	89,790	4.4	29,930	[5] 14	36.8	[5] 245	23.6	[5] 361,630	17.6	25,831
New York	.....	.....	.....	.....	.....	.....	.....	[9] 4	44.4	[9] 23	17.2	[9] 47,844	10.8	11,961
Virginia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
MARBLE.														
Vermont	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tennessee	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

[1] Includes 2 firms in the marble industry to avoid disclosure of individual operations.
[2] The total for the United States includes 11 enterprises, employing 205 wage earners and reporting products to the value of $365,735, which were operated under other forms of organization. These enterprises were reported in the stone industries as follows: Limestone, 4; granite, 2; sandstone, 1; basalt, 3; slate, 1. The statistics for 2 firms in the marble industry are excluded to avoid disclosure of individual operations.
[3] Includes 2 firms.
[4] Includes 2 other forms of organization.
[5] Includes 1 other form of organization.
[6] Includes 1 firm.
[7] Includes 2 individuals.
[8] Includes 1 firm and 2 other forms of organization.
[9] Includes 1 individual.

SCALE OF OPERATION.

Size of enterprises according to value of products.—Table 10 shows, for the stone industries, as a whole, and for each industry separately, the number of producing enterprises and the value of products, for enterprises classified according to the value of their products, and gives the percentage distribution for each class. The larger enterprises, which were those producing more than $100,000 worth of product, constituted only 13.6 per cent of the total number of enterprises, but they produced 63.8 per cent of the total value of products. This relation, a majority of the value of products from a few of the enterprises, holds good for each of the stone industries except slate, in which the class of enterprises producing over $100,000 worth of product contributed only 46.2 per cent of the total value of products. In the marble industry one-fourth of the enterprises were relatively small, with products valued at not more than $20,000 worth each. In the basalt and slate industries the small enterprises of this class constituted approximately one-third of the total number, and in the limestone, granite, and sandstone industries they were more than one-half of the total number but contributed less than 10 per cent of the total value of products. Table 11 shows, for selected states in each industry, the same data as given in Table 10 for the industries.

TABLE 10.—SIZE OF PRODUCING ENTERPRISES, BY VALUE OF PRODUCTS: 1919.

INDUSTRY AND VALUE OF PRODUCT PER ENTERPRISE.	ENTERPRISES. Number.	ENTERPRISES. Per cent distribution.	VALUE OF PRODUCTS. Amount.	VALUE OF PRODUCTS. Per cent distribution.
ALL INDUSTRIES	1,820	100.0	$101,684,919	100.0
Less than $5,000	414	22.7	1,035,173	1.0
$5,000 to $20,000	510	28.0	5,632,561	5.5
$20,000 to $100,000	649	35.7	30,121,363	29.6
$100,000 to $500,000	223	12.3	43,547,229	42.8
$500,000 to $1,000,000	16	0.9	10,405,310	10.2
$1,000,000 to $5,000,000	8	0.4	10,943,283	10.8
LIMESTONE	895	100.0	52,943,924	100.0
Less than $5,000	208	23.2	507,076	1.0
$5,000 to $20,000	259	28.9	2,915,675	5.5
$20,000 to $100,000	310	34.6	14,429,913	27.3
$100,000 to $500,000	103	11.5	20,834,355	39.4
$500,000 to $1,000,000	10	1.1	6,904,529	13.0
$1,000,000 to $5,000,000	5	0.6	7,352,376	13.9
GRANITE	358	100.0	18,279,345	100.0
Less than $5,000	90	25.1	241,093	1.3
$5,000 to $20,000	104	29.1	1,027,383	5.6
$20,000 to $100,000	110	30.7	4,786,424	26.2
$100,000 to $500,000	50	14.0	9,344,547	51.1
$500,000 and over [1]	4	1.1	2,879,898	15.8
SANDSTONE	255	100.0	$10,684,969	100.0
Less than $5,000	79	31.0	191,820	1.8
$5,000 to $20,000	78	30.6	841,052	7.9
$20,000 to $100,000	72	28.2	3,035,162	28.4
$100,000 and over [2]	26	10.2	6,616,935	61.9
BASALT	163	100.0	9,657,977	100.0
Less than $5,000	20	12.3	48,034	0.5
$5,000 to $20,000	40	24.5	490,470	5.1
$20,000 to $100,000	77	47.2	3,850,020	39.9
$100,000 and over [3]	26	16.0	5,269,453	54.6
SLATE	101	100.0	5,720,792	100.0
Less than $5,000	13	12.9	36,448	0.6
$5,000 to $20,000	21	20.8	276,824	4.8
$20,000 to $100,000	55	54.5	2,764,500	48.3
$100,000 and over [3]	12	11.9	2,643,020	46.2
MARBLE	48	100.0	4,397,912	100.0
Less than $5,000	4	8.3	10,702	0.2
$5,000 to $20,000	8	16.7	81,157	1.8
$20,000 to $100,000	25	52.1	1,255,344	28.5
$100,000 and over [1]	11	22.9	3,050,709	69.4

[1] Includes the group "$1,000,000 to $5,000,000."
[2] Includes the groups "$500,000 to $1,000,000," and "$1,000,000 to $5,000,000."
[3] Includes the group "$500,000 to $1,000,000."

TABLE 11.—SIZE OF PRODUCING ENTERPRISES, BY VALUE OF PRODUCTS, FOR SELECTED STATES: 1919.

INDUSTRY, STATE, AND VALUE OF PRODUCT PER ENTERPRISE.	ENTERPRISES. Number.	ENTERPRISES. Per cent distribution.	VALUE OF PRODUCTS. Amount.	VALUE OF PRODUCTS. Per cent distribution.
LIMESTONE.				
PENNSYLVANIA	184	100.0	$12,881,213	100.0
Less than $5,000	45	24.5	110,846	0.9
$5,000 to $20,000	59	32.1	655,766	5.1
$20,000 to $100,000	55	29.9	2,391,038	18.6
$100,000 to $500,000	19	10.3	4,101,544	31.9
$500,000 and over [1]	6	3.3	5,619,019	43.6
OHIO	90	100.0	6,742,496	100.0
Less than $5,000	21	23.3	56,573	0.8
$5,000 to $20,000	28	31.1	315,973	4.7
$20,000 to $100,000	28	31.1	1,458,040	21.6
$100,000 and over [1]	13	14.4	4,911,910	72.9
INDIANA	67	100.0	4,619,801	100.0
Less than $5,000	21	31.3	52,674	1.1
$5,000 to $20,000	20	29.9	209,293	4.5
$20,000 to $100,000	16	23.9	851,761	18.4
$100,000 and over [2]	10	14.9	3,506,073	75.9
NEW YORK	55	100.0	4,597,942	100.0
Less than $5,000	7	12.7	17,141	0.4
$5,000 to $20,000	11	20.0	114,573	2.5
$20,000 to $100,000	24	43.6	1,080,617	23.5
$100,000 and over [2]	13	23.6	3,385,611	73.6
ILLINOIS	41	100.0	3,776,626	100.0
Less than $5,000	6	14.6	11,126	0.3
$5,000 to $20,000	11	26.8	141,562	3.7
$20,000 to $100,000	11	26.8	508,266	13.5
$100,000 and over [2]	13	31.7	3,115,672	82.5
MISSOURI	70	100.0	2,355,736	100.0
Less than $5,000	15	21.4	35,789	1.5
$5,000 to $20,000	24	34.3	265,194	11.3
$20,000 to $100,000	26	37.1	1,147,412	48.7
$100,000 to $500,000	5	7.1	907,341	38.5
WEST VIRGINIA	17	100.0	1,927,490	100.0
Less than $20,000 [3]	5	29.4	31,611	1.6
$20,000 to $100,000	7	41.2	500,872	26.0
$100,000 and over [2]	5	29.4	1,395,007	72.4
LIMESTONE—continued.				
VIRGINIA	31	100.0	$1,610,544	100.0
Less than $5,000	9	29.0	21,315	1.3
$5,000 to $20,000	4	12.9	37,783	2.3
$20,000 to $100,000	13	41.9	623,535	38.7
$100,000 to $500,000	5	16.1	927,911	57.6
ALABAMA	15	100 0	1,340,961	100.0
Less than $20,000 [3]	4	26.7	40,323	3.0
$20,000 to $100,000	7	46.7	377,460	28.1
$100,000 to $500,000	4	26.7	923,178	68.8
KENTUCKY	47	100.0	1,126,109	100.0
Less than $5,000	12	25.5	29,217	2.6
$5,000 to $20,000	20	42.6	212,585	18.9
$20,000 to $100,000	12	25.5	532,194	47.3
$100,000 to $500,000	3	6.4	352,113	31.3
WISCONSIN	33	100.0	1,107,790	100.0
Less than $5,000	10	30.3	27,513	2.5
$5,000 to $20,000	8	24.2	67,691	6.1
$20,000 to $100,000	11	33.3	438,504	39.6
$100,000 to $500,000	4	12.1	574,082	51.8
GRANITE.				
VERMONT	27	100.0	3,563,734	100.0
Less than $20,000 [4]	12	44.4	43,340	1.2
$20,000 to $100,000	7	25.9	366,503	10.3
$100,000 and over [5]	8	29.6	3,153,891	88.5
MASSACHUSETTS	42	100.0	2,405,165	100.0
Less than $5,000	6	14.3	19,875	0.8
$5,000 to $20,000	10	23.8	88,409	3.7
$20,000 to $100,000	19	45.2	820,374	34.1
$100,000 and over [2]	7	16.7	1,476,507	61.4
NORTH CAROLINA	16	100.0	1,576,250	100.0
Less than $20,000 [4]	5	31.2	16,500	1.0
$20,000 to $100,000	6	37.5	252,964	16.0
$100,000 and over [2]	5	31.2	1,306,786	82.9

[1] Includes the group "$1,000,000 to $5,000,000."
[2] Includes the group "$500,000 to $1,000,000."
[3] Includes the group "Less than $5,000."
[4] Includes the group "$5,000 to $20,000."
[5] Includes the groups "$500,000 to $1,000,000" and "$1,000,000 to $5,000,000."

TABLE 11.—SIZE OF PRODUCING ENTERPRISES, BY VALUE OF PRODUCTS, FOR SELECTED STATES: 1919—Contd.

INDUSTRY, STATE, AND VALUE OF PRODUCT PER ENTERPRISE.	ENTERPRISES.		VALUE OF PRODUCTS.	
	Number.	Per cent distribution.	Amount.	Per cent distribution.
GRANITE—continued.				
WISCONSIN	14	100.0	$1,484,979	100.0
Less than $20,000 [1]	5	35.7	29,796	2.0
$20,000 to $100,000	3	21.4	116,947	7.9
$100,000 to $500,000	6	42.9	1,338,236	90.1
NEW HAMPSHIRE	23	100.0	1,427,979	100.0
Less than $5,000	8	34.8	20,808	1.5
$5,000 to $20,000	4	17.4	40,068	2.8
$20,000 to $100,000	6	26.1	250,020	17.5
$100,000 to $500,000	5	21.7	1,117,083	78.2
MAINE	42	100.0	1,300,996	100.0
Less than $5,000	17	40.5	47,413	3.6
$5,000 to $20,000	16	38.1	163,614	12.6
$20,000 to $100,000	4	9.5	192,942	14.8
$100,000 to $500,000	5	11.9	897,027	68.9
MINNESOTA	27	100.0	1,135,391	100.0
Less than $5,000	3	11.1	6,994	0.6
$5,000 to $20,000	10	37.0	126,196	11.1
$20,000 to $100,000	11	40.7	484,477	42.7
$100,000 to $500,000	3	11.1	517,724	45.6
SANDSTONE.				
PENNSYLVANIA	100	100.0	3,534,563	100.0
Less than $5,000	26	26.0	73,633	2.1
$5,000 to $20,000	35	35.0	403,942	11.4
$20,000 to $100,000	29	29.0	1,245,790	35.2
$100,000 to $500,000	10	10.0	1,811,198	51.2
OHIO	21	100.0	2,759,352	100.0
Less than $5,000	4	19.0	13,333	0.5
$5,000 to $20,000	3	14.3	31,057	1.1
$20,000 to $100,000	8	38.1	372,718	13.5
$100,000 and over [2]	6	28.6	2,342,244	84.9
ILLINOIS	15	100.0	1,329,389	100.0
Less than $5,000	4	26.7	12,015	0.9
$5,000 to $20,000	6	40.0	61,823	4.7
$20,000 and over [2]	5	33.3	1,255,551	94.4
WEST VIRGINIA	15	100.0	885,588	100.0
Less than $5,000	5	33.3	15,228	1.7
$5,000 to $20,000	4	26.7	45,473	5.1
$20,000 to $100,000	3	20.0	132,015	14.9
$100,000 to $500,000	3	20.0	692,872	78.2
BASALT.				
PENNSYLVANIA	29	100.0	$2,298,791	100.0
Less than $5,000	5	17.2	14,300	0.6
$5,000 to $20,000	10	34.5	102,425	4.5
$20,000 to $100,000	9	31.0	374,520	16.3
$100,000 to $500,000	5	17.2	1,807,546	78.6
NEW JERSEY	36	100.0	1,928,025	100.0
Less than $20,000 [1]	14	38.9	168,630	8.7
$20,000 to $100,000	15	41.7	768,977	39.9
$100,000 to $500,000	7	19.4	990,418	51.4
MASSACHUSETTS	21	100.0	1,548,611	100.0
Less than $20,000 [1]	4	19.0	23,806	1.5
$20,000 to $100,000	10	47.6	508,432	32.8
$100,000 to $500,000	7	33.3	1,016,373	65.6
CONNECTICUT	20	100.0	1,262,579	100.0
Less than $5,000	3	15.0	2,601	0.2
$5,000 to $20,000	3	15.0	32,952	2.6
$20,000 to $100,000	11	55.0	586,522	46.5
$100,000 to $500,000	3	15.0	640,504	50.7
CALIFORNIA	16	100.0	635,588	100.0
Less than $5,000	4	25.0	10,468	1.6
$5,000 to $20,000	3	18.8	32,376	5.1
$20,000 and over [3]	9	56.2	592,744	93.3
SLATE.				
PENNSYLVANIA	42	100.0	2,651,533	100.0
Less than $5,000	5	11.9	17,013	0.6
$5,000 to $20,000	5	11.9	54,872	2.1
$20,000 to $100,000	25	59.5	1,278,380	48.2
$100,000 to $500,000	7	16.7	1,301,268	49.1
VERMONT	38	100.0	2,057,388	100.0
Less than $5,000	3	7.9	7,627	0.4
$5,000 to $20,000	12	31.6	164,777	8.0
$20,000 and over [3]	23	60.5	1,884,984	91.6
MARBLE.				
VERMONT	15	100.0	2,108,872	100.0
Less than $20,000 [1]	4	26.7	36,531	1.7
$20,000 to $100,000	7	46.7	352,875	16.7
$100,000 and over [2]	4	26.7	1,719,466	81.5
TENNESSEE	13	100.0	1,088,131	100.0
Less than $100,000 [4]	8	61.5	275,415	25.3
$100,000 to $500,000	5	38.5	812,716	74.7

[1] Includes the group "Less than $5,000."
[2] Includes the group "$1,000,000 to $5,000,000."
[3] Includes the groups "$100,000 to $500,000," and "$500,000 to $1,000,000."
[4] Includes the group "$5,000 to $20,000.

Size of enterprises according to average number of wage earners.—Table 12 presents a classification of the producing enterprises, for all quarry industries combined and for each industry separately by states, according to the average number of wage earners per enterprise and shows the distribution of enterprises and wage earners for each class. For all stone industries in the United States combined, 3.2 per cent of the enterprises employed no wage earners; 92.4 per cent of the enterprises had fewer than 101 wage earners each but employed 67.4 per cent of the total average number of wage earners; only 79 enterprises, or 4.3 per cent of the total number, had more than 100 wage earners each and employed 32.6 per cent of the total average number of wage earners. A similar preponderance of small enterprises—those having less than 101 wage earners each—was characteristic of each of the stone industries. In the limestone, basalt, and marble industries the largest number of enterprises was in the class having 6 to 20 wage earners; in the granite and sandstone industries the greatest number was in the class having 1 to 5 wage earners; and in the slate industry the greatest number was in the class having 21 to 50 wage earners. The larger enterprises, those employing more than 100 wage earners each, were mostly in the limestone and granite industries, although each of the other industries reported a few enterprises of this size. In the limestone industry Pennsylvania, Ohio, Indiana, West Virginia, Michigan, and Alabama reported the largest enterprises; in the granite industry, Vermont, Massachusetts, North Carolina, and Wisconsin; in the sandstone industry, Pennsylvania and Ohio; in the slate industry, Pennsylvania and Vermont; in the basalt industry, Pennsylvania, Connecticut, and New York; and in the marble industry, Vermont.

TABLE 12.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS: 1919.

INDUSTRY AND STATE.	TOTAL.		ENTERPRISES EMPLOYING—											PER CENT DISTRIBUTION.										
	Enterprises.	Wage earners (average number).	No wage earners.	1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.		51 to 100 wage earners.		101 to 500 wage earners.		No wage earners.	1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.		51 to 100 wage earners.		101 to 500 wage earners.	
				Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.		Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.
ALL INDUSTRIES.	1,820	42,086	58	561	1,405	626	7,037	370	11,584	126	8,935	79	14,025	3.2	30.8	3.3	34.4	16.4	20.3	26.9	6.9	20.8	4.3	32.6
Limestone	895	22,069	25	288	713	301	3,445	179	5,456	59	4,109	43	8,346	2.8	32.2	3.2	33.6	15.6	20.0	24.7	6.6	18.6	4.8	37.8
Granite	358	8,049	20	119	288	117	1,173	60	1,862	28	2,035	14	2,691	5.6	33.2	3.6	32.7	14.6	16.8	23.1	7.8	25.3	3.9	33.4
Sandstone	255	4,287	9	105	245	89	1,032	29	942	17	1,249	6	819	3.5	41.2	5.7	34.9	24.1	11.4	22.0	6.7	29.1	2.4	19.1
Slate	101	3,513	1	9	32	32	355	39	1,291	14	1,005	6	830	1.0	8.9	0.9	31.7	10.1	38.6	36.7	13.9	28.6	5.9	23.6
Basalt	163	3,336	2	36	115	67	782	47	1,502	6	390	5	547	1.2	22.1	3.4	41.1	23.4	28.8	45.0	3.7	11.7	3.1	16.4
Marble	48	1,732	1	4	12	20	250	16	531	2	147	5	792	2.1	8.3	0.7	41.7	14.4	33.3	30.7	4.2	8.5	10.4	45.7
LIMESTONE.																								
Pennsylvania	184	5,573	2	64	144	59	635	28	790	19	1,415	12	2,589	1.1	34.8	2.6	32.1	11.4	15.2	14.2	10.3	25.4	6.5	46.5
Ohio	90	2,262	2	39	87	24	257	18	551	3	228	4	1,139	2.2	43.3	3.8	26.7	11.4	20.0	24.4	3.3	10.1	4.4	50.4
Indiana	67	1,800	1	24	56	24	240	9	260	4	252	5	992	1.5	35.8	3.1	35.8	13.3	13.4	14.4	6.0	14.0	7.5	55.1
New York	55	1,739	2	10	25	24	276	8	287	8	560	3	591	3.6	18.2	1.4	43.6	15.9	14.5	16.5	14.5	32.2	5.5	34.0
Illinois	41	1,244	3	10	30	10	120	11	400	4	298	3	396	7.3	24.4	2.4	24.4	9.6	26.8	32.2	9.8	24.0	7.3	31.8
Missouri	70	1,171	1	20	60	29	353	17	491	2	124	1	143	1.4	28.6	5.1	41.4	30.1	24.3	41.9	2.9	10.6	1.4	12.2
West Virginia	17	1,003	1	3	8	2	15	4	118	3	223	4	639	5.9	17.6	0.8	11.8	1.5	23.5	11.8	17.6	22.2	23.5	63.7
Alabama	15	835	.....	3	8	2	36	6	207	1	52	3	532	.....	20.0	1.0	13.3	4.3	40.0	24.8	6.7	6.2	20.0	63.7
Virginia	31	777	.....	10	27	8	114	8	239	3	192	2	205	.....	32.3	3.5	25.8	14.7	25.8	30.8	9.7	24.7	6.5	26.4
Kentucky	47	676	.....	18	53	18	222	9	275	2	126	.....	.....	.....	38.3	7.8	38.3	32.8	19.1	40.7	4.3	18.6	.....	.....
Kansas	35	484	.....	17	31	11	110	6	190	.....	.....	1	153	.....	48.6	6.4	31.4	22.7	17.1	39.3	.....	.....	2.9	31.6
Wisconsin	33	382	.....	15	20	11	120	6	168	1	65	.....	.....	.....	45.5	7.6	33.3	31.4	18.2	44.0	3.0	17.0	.....	.....
Tennessee	21	349	.....	3	2	11	163	7	184	.....	.....	.....	.....	.....	14.3	0.6	52.4	46.7	33.3	52.7	.....	.....	.....	.....
Oklahoma	13	278	1	2	5	5	57	4	115	.....	.....	1	101	7.7	15.4	1.8	38.5	20.5	30.8	41.4	.....	.....	7.7	36.3
New Jersey	10	258	.....	1	5	5	62	3	113	1	78	.....	.....	.....	10.0	1.9	50.0	24.0	30.0	43.8	10.0	30.2	.....	.....
Iowa	25	246	1	9	20	13	137	1	31	1	58	.....	.....	4.0	36.0	8.1	52.0	55.7	4.0	12.6	4.0	23.6	.....	.....
California	13	245	1	3	9	7	75	1	28	.....	.....	1	133	7.7	23.1	3.7	53.8	30.6	7.7	11.4	.....	.....	7.7	54.3
Colorado	14	228	3	4	15	4	36	1	34	2	143	.....	.....	21.4	28.6	6.6	28.6	15.8	7.1	14.9	14.3	62.7	.....	.....
Minnesota	10	156	.....	4	10	3	36	2	48	1	62	.....	.....	.....	40.0	6.4	30.0	23.1	20.0	30.8	10.0	39.7	.....	.....
Maryland	11	149	.....	8	31	1	16	1	49	1	53	.....	.....	.....	72.7	20.8	9.1	10.7	9.1	32.9	9.1	35.6	.....	.....
Utah	7	148	.....	2	6	1	20	4	122	.....	.....	.....	.....	.....	28.6	4.1	14.3	13.5	57.1	82.4	.....	.....	.....	.....
Arkansas	6	114	.....	1	5	3	46	2	63	.....	.....	.....	.....	.....	16.7	4.4	50.0	40.4	33.3	55.3	.....	.....	.....	.....
Florida	4	111	.....	1	2	1	17	1	40	1	52	.....	.....	.....	25.0	1.8	25.0	15.3	25.0	36.0	25.0	46.8	.....	.....
Montana	7	87	.....	2	2	3	30	2	55	.....	.....	.....	.....	.....	28.6	2.3	42.9	34.5	28.6	63.2	.....	.....	.....	.....
Georgia	5	80	.....	1	1	3	44	1	35	.....	.....	.....	.....	.....	20.0	1.2	60.0	55.0	20.0	43.8	.....	.....	.....	.....
Oregon	4	69	.....	1	4	1	7	2	58	.....	.....	.....	.....	.....	25.0	5.8	25.0	10.1	50.0	84.1	.....	.....	.....	.....
Arizona	4	45	2	.....	.....	1	14	1	31	.....	.....	.....	.....	50.0	.....	.....	25.0	31.1	25.0	68.9	.....	.....	.....	.....
Vermont	4	40	.....	1	5	2	12	1	23	.....	.....	.....	.....	.....	25.0	12.5	50.0	30.0	25.0	57.5	.....	.....	.....	.....
All other states [1]	52	1,520	5	12	33	15	175	15	451	2	128	3	733	9.6	23.1	2.2	28.8	11.5	28.8	29.7	3.8	8.4	5.8	48.2
GRANITE.																								
Vermont	27	1,062	1	11	25	4	51	6	211	2	145	3	630	3.7	40.7	2.4	14.8	4.8	22.2	19.9	7.4	13.7	11.1	59.3
Massachusetts	42	1,034	.....	14	27	14	160	11	355	2	149	1	343	.....	33.3	2.6	33.3	15.5	26.2	34.3	4.8	14.4	2.4	33.2
North Carolina	16	959	1	4	8	2	36	5	1 54	2	132	2	629	6.2	25.0	0.8	12.5	3.8	31.2	16.1	12.5	13.8	12.5	65.6
Wisconsin	14	753	.....	4	13	3	32	1	22	3	243	3	443	.....	28.6	1.7	21.4	4.2	7.1	2.9	21.4	32.3	21.4	58.8
Maine	42	747	5	21	53	9	96	2	80	2	146	3	372	11.9	50.0	7.1	21.4	12.9	4.8	10.7	4.8	19.5	7.1	49.8
New Hampshire	23	589	3	8	14	4	55	3	68	4	285	1	167	13.0	34.8	2.4	17.4	9.3	13.0	11.5	17.4	48.4	4.3	28.4
Georgia	20	580	.....	3	10	8	89	5	176	4	305	.....	.....	.....	15.0	1.7	40.0	15.3	25.0	30.3	20.0	52.6	.....	.....
Minnesota	27	392	1	9	24	9	77	6	157	2	134	.....	.....	3.7	33.3	6.1	33.3	19.6	22.2	40.1	7.4	34.2	.....	.....
South Carolina	10	322	.....	4	11	2	24	1	41	3	246	.....	.....	.....	40.0	3.4	20.0	7.5	10.0	12.7	30.0	76.4	.....	.....
Rhode Island	8	262	.....	3	15	2	20	1	46	1	74	1	107	.....	37.5	5.7	25.0	7.6	12.5	17.6	12.5	28.2	12.5	40.8
Maryland	9	235	.....	1	4	4	62	3	102	1	67	.....	.....	.....	11.1	1.7	44.4	26.4	33.3	43.4	11.1	28.5	.....	.....
Pennsylvania	20	197	.....	7	20	20	122	2	55	.....	.....	.....	.....	.....	24.1	10.2	69.0	61.9	6.9	27.9	.....	.....	.....	.....
California	17	162	3	5	7	6	64	3	91	.....	.....	.....	.....	17.6	29.4	4.3	35.3	39.5	17.6	56.2	.....	.....	.....	.....
Virginia	7	157	.....	.....	.....	3	32	3	67	1	58	.....	.....	.....	.....	.....	42.9	20.4	42.9	42.7	14.3	36.9	.....	.....
New York	7	101	.....	3	8	2	24	2	69	.....	.....	.....	.....	.....	42.9	7.9	28.6	23.8	28.6	68.3	.....	.....	.....	.....
Connecticut	11	92	.....	3	6	7	62	1	24	.....	.....	.....	.....	.....	27.3	6.5	63.6	67.4	9.1	26.1	.....	.....	.....	.....
Arizona	3	58	.....	1	4	.....	.....	2	54	.....	.....	.....	.....	.....	33.3	6.9	.....	.....	66.7	93.1	.....	.....	.....	.....
New Jersey	4	48	.....	1	3	2	21	1	24	.....	.....	.....	.....	.....	25.0	6.2	50.0	43.7	25.0	50.0	.....	.....	.....	.....
Washington	5	42	.....	.....	.....	5	42	.....	.....	.....	.....	.....	.....	.....	.....	.....	100.0	100.0	.....	.....	.....	.....	.....	.....
Montana	3	4	.....	3	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	100.0	100.0	.....	.....	.....	.....	.....	.....	.....	.....
All other states [2]	34	253	6	14	32	11	104	2	66	1	51	.....	.....	17.6	41.2	12.6	32.4	41.1	5.9	26.1	2.9	20.2	.....	.....
SANDSTONE.																								
Pennsylvania	100	1,673	2	40	106	36	394	14	455	5	342	3	376	2.0	40.0	6.3	36.0	23.6	14.0	27.2	5.0	20.4	3.0	22.5
Ohio	21	875	.....	4	6	7	81	4	117	3	228	3	443	.....	19.0	0.7	33.3	9.3	19.0	13.4	14.3	26.1	14.3	50.6
West Virginia	15	343	.....	6	17	5	60	1	22	3	244	.....	.....	.....	40.0	5.0	33.3	17.5	6.7	6.4	20.0	71.1	.....	.....
Illinois	15	288	.....	8	23	3	35	2	86	2	144	.....	.....	.....	53.3	8.0	20.0	12.2	13.3	29.9	13.3	50.0	.....	.....
New York	22	146	2	10	16	9	109	1	21	.....	.....	.....	.....	9.1	45.5	11.0	40.9	74.7	4.5	14.4	.....	.....	.....	.....
Wisconsin	12	133	.....	4	7	7	91	1	35	.....	.....	.....	.....	.....	33.3	5.3	58.3	68.4	8.3	26.3	.....	.....	.....	.....
South Dakota	5	89	.....	2	6	1	18	2	65	.....	.....	.....	.....	.....	40.0	6.7	20.0	20.2	40.0	73.0	.....	.....	.....	.....
Kentucky	5	56	.....	2	7	3	49	.....	.....	.....	.....	.....	.....	.....	40.0	12.5	60.0	87.5	.....	.....	.....	.....	.....	.....
California	6	27	1	3	5	2	22	.....	.....	.....	.....	.....	.....	16.7	50.0	18.5	33.3	81.5	.....	.....	.....	.....	.....	.....
New Jersey	5	20	.....	3	7	2	13	.....	.....	.....	.....	.....	.....	.....	60.0	35.0	40.0	65.0	.....	.....	.....	.....	.....	.....
Colorado	7	14	2	4	8	1	6	.....	.....	.....	.....	.....	.....	28.6	57.1	57.1	14.3	42.9	.....	.....	.....	.....	.....	.....
All other states [3]	42	623	2	19	37	13	154	4	141	4	291	.....	.....	4.8	45.2	5.9	31.0	24.7	9.5	22.6	9.5	46.7	.....	.....

[1] Includes enterprises in states as follows: Connecticut, 1; Idaho, 3; Louisiana, 1; Maine, 1; Massachusetts, 1; Michigan, 11; Nebraska, 8; Nevada, 1; North Carolina, 2; South Dakota, 3; Texas, 12; Wyoming, 8.

[2] Includes enterprises in states as follows: Arkansas, 2; Colorado, 8; Delaware, 2; District of Columbia, 3; Missouri, 2; Oklahoma, 6; Oregon, 2; South Dakota, 1; Texas, 8.

[3] Includes enterprises in states as follows: Alabama, 2; Arizona, 2; Arkansas, 7; Connecticut, 3; Idaho, 2; Indiana, 1; Maryland, 2; Massachusetts, 1; Michigan, 2; Minnesota, 1; Missouri, 4; Montana, 2; North Carolina, 1; Oklahoma, 2; Tennessee, 2; Utah, 2; Virginia, 2; Washington, 1; Wyoming, 3.

TABLE 12.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS: 1919—Continued.

INDUSTRY AND STATE.	TOTAL.		ENTERPRISES EMPLOYING—											PER CENT DISTRIBUTION.										
	Enterprises.	Wage earners (average number).	No wage earners.	1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.		51 to 100 wage earners.		101 to 500 wage earners.		No wage earners.	1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.		51 to 100 wage earners.		101 to 500 wage earners.	
				Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.		Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.
SLATE.																								
Pennsylvania	42	1,892	....	....	....	11	117	20	669	7	521	4	585	....	....	....	26.2	6.2	47.6	35.4	16.7	27.5	9.5	30.9
Vermont	38	1,039	....	6	23	15	176	12	378	3	217	2	245	....	15.8	2.2	39.5	16.9	31.6	36.4	7.9	20.9	5.3	23.6
Virginia	4	210	....	....	....	....	....	2	82	2	128	....	....	....	....	....	....	....	50.0	39.0	50.0	61.0	....	....
New York	9	134	....	3	9	3	26	3	99	....	....	....	....	....	33.3	6.7	33.3	19.4	33.3	73.0	....	....	....	....
Maryland	4	85	....	....	....	2	22	2	63	....	....	....	....	....	....	....	50.0	25.9	50.0	74.1	....	....	....	....
All other states [1]	4	153	1	....	....	1	14	....	....	2	139	....	....	25.0	....	....	25.0	9.2	....	....	50.0	90.8	....	....
BASALT.																								
Pennsylvania	29	721	....	7	13	11	93	7	230	1	55	3	330	....	24.1	1.8	37.9	12.9	24.1	31.9	3.5	7.6	10.3	45.8
New Jersey	36	637	....	10	41	16	185	8	288	2	123	....	....	....	27.8	6.4	44.4	29.0	22.2	45.2	5.6	19.3	....	....
Massachusetts	21	547	....	2	6	9	126	8	260	2	155	....	....	....	9.5	1.1	42.9	23.0	38.1	47.5	9.5	28.3	....	....
Connecticut	20	363	1	3	7	10	119	5	133	....	....	1	104	5.0	15.0	1.9	50.0	32.8	25.0	36.6	....	....	5.0	28.7
California	16	262	....	5	13	5	60	6	189	....	....	....	....	....	31.2	5.0	31.2	22.9	37.5	72.1	....	....	....	....
Maryland	10	183	....	2	8	5	76	3	99	....	....	....	....	....	20.0	4.4	50.0	41.5	30.0	54.1	....	....	....	....
Oregon	9	124	....	2	9	5	56	2	59	....	....	....	....	....	22.2	7.3	55.6	45.2	22.2	47.6	....	....	....	....
Washington	8	99	1	3	10	3	32	....	....	1	57	....	....	12.5	37.5	10.1	37.5	32.3	....	....	12.5	57.6	....	....
All other states [2]	14	400	....	2	8	3	35	8	244	....	....	1	113	....	14.3	2.0	21.4	8.8	57.1	61.0	....	....	7.1	28.2
MARBLE.																								
Vermont	15	570	....	2	3	6	71	5	153	....	....	2	343	....	13.3	0.5	40.0	12.5	33.3	26.8	....	....	13.3	60.2
Tennessee	13	540	....	....	....	5	66	5	179	2	147	1	148	....	....	....	38.5	12.2	38.5	33.1	15.4	27.2	7.7	27.4
New York	6	100	....	....	....	5	65	1	35	....	....	....	....	....	....	....	83.3	65.0	16.7	35.0	....	....	....	....
All other states [3]	14	522	1	2	9	4	48	5	164	....	....	2	301	7.1	14.3	1.7	28.6	9.2	35.7	31.4	....	....	14.3	57.7

[1] Includes enterprises in states as follows: Maine, 3; Utah, 1.
[2] Includes enterprises in states as follows: Delaware, 1; Idaho, 1; Michigan, 1; New York, 4; Rhode Island, 4; Texas, 1; Wisconsin, 2.
[3] Includes enterprises in states as follows: Alabama, 2; California, 3; Georgia, 1; Maryland, 2; Massachusetts, 3; Michigan, 1; Missouri, 1; Texas, 1.

Size of enterprises according to acreage of mineral land.—Table 13 shows producing enterprises, in the combined quarry industries and in each industry separately, classified according to the number of acres of quarry land operated, and gives the number of acres of land and the number of quarries operated in each class, together with the per cent distribution for enterprises and mineral land. The largest number of enterprises for the quarry industries as a whole was in the class operating from 1 to 50 acres. Large holdings of quarry lands are exceptional in the stone industries, but the very few enterprises which had extensive holdings—500 acres or more—reported more than half of the total acreage of all quarry land.

TABLE 13.—SIZE OF PRODUCING ENTERPRISES, BY NUMBER OF ACRES OF MINERAL LAND OPERATED: 1919.

INDUSTRY AND ACRES PER ENTERPRISE.	ENTERPRISES.		Number of quarries.	MINERAL LAND OPERATED.	
	Number.	Per cent distribution.		Acres.	Per cent distribution.
ALL INDUSTRIES	1,820	100.0	1,922	252,242	100.0
1 to 50	1,297	71.3	1,332	18,271	7.2
50 to 100	182	10.0	194	13,824	5.5
100 to 200	163	9.0	180	24,381	9.7
200 to 500	102	5.6	124	32,299	12.8
500 to 1,000	37	2.0	39	27,074	10.7
Over 1,000	39	2.1	53	136,303	54.1
LIMESTONE	895	100.0	925	122,820	100.0
1 to 50	627	70.1	636	8,858	7.2
50 to 100	85	9.5	88	6,491	5.3
100 to 200	87	9.7	92	13,242	10.8
200 to 500	57	6.4	66	18,384	15.0
500 to 1,000	22	2.5	23	16,277	13.3
Over 1,000	17	1.9	20	59,568	48.5
GRANITE	358	100.0	381	30,659	100.0
1 to 50	271	75.7	278	3,714	12.1
50 to 100	41	11.5	44	3,184	10.4
100 to 200	22	6.1	25	3,138	10.2
200 to 500	17	4.7	27	5,145	16.8
500 to 1,000	2	0.6	2	1,478	4.8
Over 1,000	5	1.4	5	14,000	45.7
SANDSTONE	255	100.0	276	48,729	100.0
1 to 50	170	66.7	184	2,165	4.4
50 to 100	30	11.8	34	2,259	4.6
100 to 200	25	9.8	27	3,655	7.5
200 to 500	15	5.9	15	4,653	9.5
500 to 1,000	7	2.7	7	5,076	10.4
Over 1,000	8	3.1	9	30,921	63.5
BASALT	163	100.0	174	15,625	100.0
1 to 50	119	73.0	123	1,680	10.8
50 to 100	19	11.7	21	1,386	8.9
100 to 200	13	8.0	15	1,947	12.5
200 to 500	9	5.5	12	2,912	18.6
Over 1,000	3	1.8	3	7,700	49.3
SLATE	101	100.0	104	5,440	100.0
1 to 50	83	82.2	84	1,334	24.5
50 to 100	4	4.0	4	310	5.7
100 to 200	9	8.9	10	1,408	25.9
200 to 500	2	2.0	2	475	8.7
500 to 1,000	3	3.0	4	1,913	35.2
MARBLE	48	100.0	62	28,969	100.0
1 to 50	27	56.2	27	520	1.8
50 to 100	3	6.2	3	194	0.7
100 to 200	7	14.6	11	991	3.4
200 to 500	2	4.2	2	730	2.5
500 to 1,000	3	6.2	3	2,330	8.0
Over 1,000	6	12.5	16	24,204	83.6

PERSONS ENGAGED IN THE INDUSTRIES.

Persons according to class and sex.—Table 14 shows the persons engaged in the stone-quarrying industries by classes, gives the number of males and females in each class, and also the per cent distribution of the three principal classes. Females constituted only 1.1 per cent of the total of all classes of persons engaged, and were employed principally as clerks and other subordinate salaried employees. They numbered more than one-fourth of all the employees in this grade in the stone industries as a whole. The number of proprietors and officials, including the salaried employees of the higher grades, was 7.3 per cent of the total number of persons for all stone industries, and the proportion for the separate industries ranged from 5.1 per cent to 8.9 per cent. The number of clerks and other subordinate salaried employees was 3.3 per cent of the total number of persons engaged in all the stone industries and the proportion for the separate industries ranged from 1.8 to 3.8 per cent. Wage earners constituted 89.4 per cent of the total number of persons in all stone industries and the proportion ranged from 87.5 per cent in the sandstone industry to 91.6 per cent in the marble industry.

TABLE 14.—PERSONS ENGAGED, PRODUCING ENTERPRISES: 1919.

	All industries.	Limestone.	Granite.	Sandstone.	Basalt.	Slate.	Marble.
All classes	48,087	24,705	8,951	4,897	3,791	3,852	1,891
Male	47,566	24,452	8,866	4,818	3,742	3,823	1,865
Female	521	253	85	79	49	29	26
Proprietors and officials	3,532	1,727	696	434	310	269	96
Per cent of all classes	7.3	7.0	7.8	8.9	8.2	7.0	5.1
Male	3,459	1,691	685	418	305	265	95
Female	73	36	11	16	5	4	1
Proprietors and firm members	1,288	633	328	179	77	64	7
Male	1,249	612	321	172	75	62	7
Female	39	21	7	7	2	2	.....
Salaried officers of corporation	833	375	137	106	85	84	46
Male	804	360	133	102	82	82	45
Female	29	15	4	4	3	2	1
Superintendents and managers	1,307	672	197	143	138	117	40
Male	1,302	672	197	138	138	117	40
Female	5	.....	.....	5	.....	.....	.....
Technical employees	104	47	34	6	10	4	3
Male	104	47	34	6	10	4	3
Female	.....	.....	.....	.....	.....	.....	.....
Clerks and other subordinate salaried employees	1,569	909	206	176	145	70	63
Per cent of all classes	3.3	3.7	2.3	3.6	3.8	1.8	3.3
Male	1,135	701	133	115	103	45	38
Female	434	208	73	61	42	25	25
Wage earners (average number)	42,986	22,069	8,049	4,287	3,336	3,513	1,732
Per cent of all classes	89.4	89.3	89.9	87.5	88.0	91.2	91.6
Male [1]	42,972	22,060	8,048	4,285	3,334	3,513	1,732
Female [1]	14	9	1	2	2	.....	.....

[1] Segregation based on the ratio between male and female wage earners reported for the representative day.

Proprietors performing manual labor.—Table 15 gives for all the stone industries in the United States, as a whole, and for each industry separately the total number of proprietors and firm members and the number and percentages of these performing manual labor. Enterprises of the size and type operated without the assistance of hired help or with little help appear from the facts brought out by this table to be fairly numerous and especially so in the granite industry. Out of a total of 1,288 proprietors and firm members, 417, or nearly one-third, were personally performing manual labor in or about their quarries.

TABLE 15.—PROPRIETORS AND FIRM MEMBERS, PRODUCING ENTERPRISES: 1919.

INDUSTRY.	Total.	PERFORMING MANUAL LABOR.	
		Number.	Per cent of total.
All industries	1,288	417	32.4
Limestone	633	175	27.6
Granite	328	145	44.2
Sandstone	179	53	29.6
Basalt	77	20	26.0
Slate	64	21	32.8
Marble	7	3	42.9

The number of proprietors and firm members working in all stone industries was equivalent to less than 1 per cent of the total average number of wage earners.

Wage earners, by occupations.—Table 16 presents for the combined quarrying industries, and for each industry separately, the number of wage earners employed on a representative day, classified according to occupation, gives the number in each class employed above and below ground, and shows the per cent of the total in each occupational class. The table distinguishes between men engaged in the more peculiarly quarrying occupations; men engaged in other skilled trades such as enginemen, hoistmen, firemen, machinists, electricians, carpenters, and other mechanics; and less skilled and unclassified laborers. Wage earners in open-pit quarries were classed as employed above ground except as noted in the "Introduction" to this report. Wage earners classified as employed below ground numbered 1,511, or only 3.1 per cent of the total number of wage earners of all classes and in all the stone industries on a representative day. These were in the limestone industry, constituting 3.1 per cent of all the wage earners in that industry, and in the slate industry where they consti-

tuted 18.4 per cent of the wage earners. Of the total number of wage earners reported for all industries combined, 89.3 per cent were employed in actual quarrying operations, and 10.7 per cent in mills and dressing plants. In the limestone and basalt industries the proportion in mills and dressing plants was small, being 3.8 per cent and 1.1 per cent, respectively. In the sandstone industry the proportion was larger, 15.1 per cent, and in the granite, slate, and marble industries the percentages in mills and dressing plants were, respectively, 22.1, 23.5, and 28.5. These ratios are in accord with the data in Table 1, which indicates that for granite, marble, and slate a considerable part of the output was for uses requiring cutting, dressing, or other preparation.

TABLE 16.—WAGE EARNERS, BY OCCUPATIONS, DECEMBER 15 OR NEAREST REPRESENTATIVE DAY, PRODUCING ENTERPRISES: 1919.

CLASS OF WAGE EARNER.	ALL INDUSTRIES.		LIMESTONE.		GRANITE.		SANDSTONE.		SLATE.		BASALT.		MARBLE.	
	Number of wage earners.	Per cent distribution.	Number of wage earners.	Per cent distribution.	Number of wage earners.	Per cent distribution.	Number of wage earners.	Per cent distribution.	Number of wage earners.	Per cent distribution.	Number of wage earners.	Per cent distribution.	Number of wage earners.	Per cent distribution.
All classes	48,707	100.0	25,052	100.0	9,166	100.0	4,861	100.0	3,973	100.0	3,799	100.0	1,856	100.0
Above ground, total	47,196	96.9	24,272	96.9	9,166	100.0	4,861	100.0	3,242	81.6	3,799	100.0	1,856	100.0
Foremen, shift bosses, etc.	1,876	3.9	957	3.8	379	4.1	197	4.1	133	3.4	144	3.8	66	3.6
Enginemen, hoistmen, firemen, mechanics, etc.	5,535	11.4	3,278	13.1	858	9.4	405	8.3	371	9.3	473	12.5	150	8.1
Quarrymen, drillmen, and their helpers	16,462	33.8	8,433	33.7	3,736	40.8	1,599	32.9	811	20.4	1,120	29.5	763	41.1
Trackmen and men engaged in hauling, tramming, etc.	3,211	6.6	1,930	7.7	544	5.9	304	6.3	200	5.0	192	5.1	41	2.2
Muckers, loaders, laborers, and others not classified	14,885	30.6	8,716	34.8	1,621	17.7	1,621	33.3	792	19.9	1,828	48.1	307	16.5
Wage earners employed in mills and dressing plants	5,227	10.7	958	3.8	2,028	22.1	735	15.1	935	23.5	42	1.1	529	28.5
Below ground, total	1,511	3.1	780	3.1	.....	.....	.....	.....	731	18.4	.....	.....	.....	.....
Foremen, shift bosses, etc.	46	0.1	10	.....	.....	.....	.....	.....	36	0.9	.....	.....	.....	.....
Enginemen, firemen, mechanics, etc.	56	0.1	53	0.2	.....	.....	.....	.....	3	0.1	.....	.....	.....	.....
Quarrymen, drillmen, and their helpers	692	1.4	204	0.8	.....	.....	.....	.....	488	12.3	.....	.....	.....	.....
Trackmen and men engaged in hauling, tramming, etc.	158	0.3	104	0.4	.....	.....	.....	.....	54	1.4	.....	.....	.....	.....
Muckers, loaders, laborers, and others not classified	559	1.1	409	1.6	.....	.....	.....	.....	150	3.8	.....	.....	.....	.....

Wage earners, by months.—Table 17 shows for each of the stone industries, by states, the number of wage earners employed on the 15th day of each month or the nearest representative day, the average number employed during the year, the months of maximum and minimum employment, and the ratio of the minimum to the maximum number. The changes in the number employed from month to month reflect conditions prevailing in the stone-quarrying industries during the census year. The month of maximum employment for the combined stone industries was August, and the month of minimum employment was February, the minimum number employed being two-thirds of the maximum number. The industries are very largely seasonal, not only because of winter's direct interference with quarry operation but also because of lessened demand in winter for structural and paving materials. Except in the slate industry, the figures apparently indicate normal conditions. In the slate industry the numbers employed in the last three months were larger than the average for the summer months because of recovery from the very subnormal conditions which prevailed earlier in the year 1919.

TABLE 17.—WAGE EARNERS, BY MONTHS, PRODUCING ENTERPRISES: 1919.

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

INDUSTRY AND STATE.	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.	
UNITED STATES—All industries	42,986	33,573	*32,990*	36,189	41,735	45,061	46,563	48,013	**49,378**	48,553	47,240	45,242	41,295	66.8
Limestone	22,069	18,085	*17,398*	18,847	21,476	22,092	23,667	24,590	**25,655**	25,303	23,901	22,538	20,367	67.8
Granite	8,049	*5,669*	5,844	6,504	7,771	8,620	8,945	9,071	**9,228**	9,024	9,101	8,741	8,070	61.4
Sandstone	4,287	3,471	*3,305*	3,681	4,128	4,411	4,533	4,607	**4,961**	4,916	4,726	4,598	4,047	66.6
Basalt	3,336	*2,037*	*2,037*	2,456	3,257	3,680	3,828	3,985	**4,097**	3,906	3,908	3,710	3,131	49.7
Slate	3,513	*2,852*	2,909	3,060	3,415	3,580	3,764	3,858	3,572	3,594	3,729	3,896	**3,927**	72.6
Marble	1,732	*1,459*	1,497	1,641	1,688	1,778	1,826	1,833	1,865	1,810	**1,875**	1,759	1,753	77.8
LIMESTONE.														
Alabama	835	808	893	832	853	798	744	*730*	845	**904**	861	874	878	80.8
Arizona	45	**78**	54	51	32	42	36	41	42	47	44	45	*28*	35.9
Arkansas	114	*73*	80	92	96	122	128	131	138	**140**	131	116	121	52.1
California	245	**283**	240	236	250	253	242	228	237	*225*	228	261	257	79.5
Colorado	228	**327**	303	274	276	257	268	273	277	243	87	*73*	78	22.3

TABLE 17.—WAGE EARNERS, BY MONTHS, PRODUCING ENTERPRISES: 1919—Continued.

INDUSTRY AND STATE.	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.	
LIMESTONE—continued.														
Florida	111	110	108	122	119	122	113	108	106	102	105	115	102	83.6
Georgia	80	94	95	90	93	65	93	86	71	63	61	67	82	64.2
Illinois	1,244	834	810	1,054	1,279	1,488	1,389	1,461	1,438	1,452	1,401	1,334	988	54.4
Indiana	1,800	940	915	1,107	1,583	1,817	2,046	2,249	2,419	2,363	2,170	1,989	2,002	37.8
Iowa	246	109	132	166	230	287	283	300	336	343	333	264	169	31.8
Kansas	484	416	415	451	532	607	637	506	471	509	536	447	281	44.1
Kentucky	676	345	351	468	687	734	773	885	903	879	788	716	583	38.2
Maryland	149	130	122	105	144	167	166	173	192	170	153	151	115	54.7
Minnesota	156	52	53	105	159	190	217	198	203	201	185	166	143	24.0
Missouri	1,171	912	826	926	1,071	1,182	1,211	1,305	1,404	1,414	1,377	1,287	1,137	58.4
Montana	87	81	70	83	89	95	115	100	94	83	82	83	69	60.0
New Jersey	258	299	288	276	237	222	236	242	258	255	266	253	264	74.2
New York	1,739	1,356	1,184	1,409	1,764	2,032	1,955	2,085	2,111	1,989	1,901	1,659	1,423	56.1
Ohio	2,262	2,173	1,878	1,902	1,986	2,166	2,415	2,564	2,659	2,569	2,458	2,314	2,060	70.6
Oklahoma	278	252	283	269	230	239	228	217	391	387	281	277	282	55.5
Oregon	69	40	36	21	18	43	55	75	86	77	119	115	142	13.4
Pennsylvania	5,573	5,135	5,051	5,254	5,336	5,237	5,701	5,873	6,181	6,111	5,910	5,691	5,396	81.7
Tennessee	349	311	319	380	347	356	334	354	378	376	372	301	360	79.2
Utah	148	158	142	164	156	146	144	158	152	166	112	149	129	67.5
Vermont	40	40	34	39	36	61	48	41	38	41	35	39	28	45.9
Virginia	777	650	611	637	818	892	809	885	862	878	837	762	683	68.5
West Virginia	1,003	907	912	1,014	1,039	1,054	994	1,022	1,095	1,063	960	992	984	82.8
Wisconsin	382	178	187	232	409	487	509	517	501	477	444	377	266	34.4
All other states	1,520	994	1,006	1,088	1,606	1,831	1,778	1,792	1,767	1,776	1,664	1,621	1,317	54.3
GRANITE.														
Arizona	58	98	96	112	112	80	28	26	26	26	28	28	36	23.2
California	162	146	140	136	141	140	134	142	136	171	201	210	247	54.3
Connecticut	92	79	67	68	89	108	111	108	97	94	94	95	94	60.4
Georgia	580	441	478	534	547	597	608	651	710	657	604	560	573	62.1
Maine	747	251	244	500	763	1,008	1,044	933	951	884	870	833	683	23.4
Maryland	235	125	122	154	224	292	280	304	314	303	285	235	182	38.9
Massachusetts	1,034	643	635	743	1,056	1,161	1,198	1,212	1,201	1,117	1,201	1,174	1,067	52.4
Minnesota	392	333	353	351	351	378	387	413	413	422	437	444	422	75.0
Montana	4	.....	.....	.....	4	6	7	7	8	6	6	2	2	25.0
New Hampshire	580	260	271	302	479	624	739	747	779	763	780	726	598	33.3
New Jersey	48	27	28	51	48	48	35	35	35	37	81	79	72	33.3
New York	101	29	26	31	65	126	146	149	158	155	148	104	75	16.5
North Carolina	959	843	890	964	935	932	946	963	979	1,026	1,026	1,016	988	82.2
Pennsylvania	197	130	129	141	181	214	235	261	251	213	203	208	198	49.4
Rhode Island	262	192	202	209	235	272	275	304	302	316	278	287	272	60.8
South Carolina	322	307	301	302	311	315	294	320	346	343	324	351	350	83.8
Vermont	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
Virginia	157	84	90	139	173	183	186	179	188	178	175	162	147	44.7
Washington	42	30	49	40	48	43	37	41	51	42	41	39	34	66.7
Wisconsin	753	583	608	622	767	778	833	849	821	860	854	809	652	67.8
All other states	253	204	208	213	239	255	251	256	277	279	295	281	278	69.2
SANDSTONE.														
California	27	14	16	28	20	24	22	39	53	27	28	26	27	26.4
Colorado	14	5	5	8	15	15	15	15	18	31	22	15	4	12.9
Illinois	288	307	284	269	247	269	276	283	284	297	327	328	285	75.3
Kentucky	56	5	23	51	64	70	67	74	69	82	67	57	43	6.1
New Jersey	20	7	7	7	30	29	29	29	29	29	22	11	11	23.3
New York	146	40	55	82	127	174	185	191	205	211	206	188	88	19.0
Ohio	875	701	687	766	900	1,008	971	965	970	977	903	863	789	68.2
Pennsylvania	1,673	1,413	1,268	1,404	1,551	1,650	1,780	1,859	1,942	1,877	1,871	1,815	1,646	65.3
South Dakota	89	40	43	42	65	76	89	122	141	121	111	127	91	28.4
West Virginia	343	325	291	304	294	343	351	330	395	389	357	379	358	73.7
Wisconsin	133	60	72	121	131	144	158	168	181	168	151	131	111	33.1
All other states	623	554	554	599	684	609	590	592	674	707	661	658	594	78.4
BASALT.														
California	262	189	155	229	268	270	249	271	294	283	308	327	301	47.4
Connecticut	363	281	277	338	350	380	386	406	405	377	393	395	368	68.2
Maryland	183	69	94	96	225	228	249	243	239	216	212	206	119	27.7
Massachusetts	547	305	287	366	578	599	613	640	688	708	677	607	496	40.5
New Jersey	637	359	352	385	578	750	796	808	779	779	764	715	579	43.6
Oregon	124	58	69	70	88	101	108	147	207	214	190	137	99	27.1
Pennsylvania	721	499	501	616	755	862	860	833	812	781	763	728	642	57.9
Washington	99	55	53	38	36	50	98	134	167	108	168	166	135	19.6
All other states	400	222	269	318	379	440	469	503	506	440	433	429	392	43.9
SLATE.														
Maryland	85	92	98	98	80	69	79	91	89	84	82	81	77	70.4
New York	134	86	78	65	101	122	127	137	160	164	177	191	200	32.5
Pennsylvania	1,892	1,373	1,455	1,592	1,865	1,949	2,013	2,070	2,058	2,064	2,106	2,083	2,076	65.2
Vermont	1,039	983	976	981	1,039	1,099	1,162	1,180	871	885	976	1,149	1,167	73.8
Virginia	210	162	166	189	195	202	234	226	237	234	223	226	226	68.4
All other states	153	156	136	135	135	139	149	154	157	163	165	166	131	74.6
MARBLE.														
New York	100	51	68	73	76	77	123	128	128	125	125	118	108	39.8
Tennessee	540	467	462	502	520	553	568	586	563	564	581	546	568	78.8
Vermont	570	506	530	566	585	614	601	572	579	588	600	561	538	82.4
All other states	522	436	437	500	507	534	534	547	595	533	569	534	539	73.1

It will be noted that the number of wage earners reported for all enterprises on a representative day, which is presented in several tables, aggregated 48,707, and differs considerably from the number shown for any month in Table 17. The representative day and month selected for reporting wage earners in detail varied with the individual enterprise. Therefore, the aggregate for the representative day differs from the total of the numbers reported by the several enterprises in any month.

Prevailing hours of labor.—Table 18 shows, for all stone industries and for each separately for selected states, the number of enterprises and number of wage earners classified according to the prevailing hours of labor per week reported by each enterprise. For the combined quarrying industries and for limestone, sandstone, slate, basalt, and marble the hours prevailing for a majority of the enterprises were 54 to 62 per week. These hours were those for 69.8 per cent of all the wage earners in the quarrying industries. For the five industries separately considered the proportion of wage earners working 54 to 62 hours were as follows: Limestone, 81.3 per cent; sandstone, 86 per cent; slate, 61.8; basalt, 77.5; marble, 96.2. The hours per day in these industries were most commonly 10 and the 6-day week was the rule. In the granite industry a majority of the enterprises and 60 per cent of the wage earners were in the class reporting working hours as 44 to 53 per week. The 8-hour day and 6-day week prevailed in the granite industry.

TABLE 18.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR: 1919.

INDUSTRY AND STATE.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—									
			35 and under.		36 to 43.		44 to 53.		54 to 62.		63 and over.	
	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.
UNITED STATES—All industries	[1] 1,762	42,986	8	120	55	1,565	511	10,827	1,171	29,992	17	482
Limestone	870	22,069	3	57	8	24	187	3,774	663	17,934	9	280
Granite	338	8,049	4	43	32	1,195	209	4,829	91	1,948	2	34
Sandstone	246	4,287			3	8	49	483	191	3,688	3	108
Slate	100	3,513			11	335	14	963	73	2,170	2	45
Basalt	161	3,336	1	20	1	3	49	728	110	2,585		
Marble	47	1,732					3	50	43	1,667	1	15
LIMESTONE.												
Pennsylvania	182	5,573			2	3	22	308	157	5,257	1	5
Ohio	88	2,262			2	3	6	467	80	1,792		
Indiana	66	1,800					14	682	52	1,118		
New York	53	1,739	1	6			11	238	41	1,495		
Illinois	38	1,244					7	75	31	1,169		
Missouri	69	1,171					22	330	46	698	1	143
West Virginia	16	1,003							16	1,003		
Alabama	15	835					7	367	8	468		
Virginia	31	777					4	62	27	715		
Kentucky	47	676	1	43	1	4	4	75	41	554		
Kansas	35	484			1	1	22	133	12	350		
Wisconsin	33	382					5	40	28	342		
Tennessee	21	349	1	8	1	8	7	124	11	176	1	33
Oklahoma	12	278					4	51	8	227		
New Jersey	10	258					5	114	5	144		
Iowa	24	246					5	36	19	210		
California	12	245					2	9	9	231	1	5
Colorado	11	228					8	183	3	45		
All other states	107	2,519			1	5	32	480	69	1,040	5	94
GRANITE.												
Vermont	26	1,062			26	1,062						
Massachusetts	42	1,034	1	12			34	926	7	96		
North Carolina	15	959			3	43	4	423	8	493		
Wisconsin	14	753					8	317	6	436		
Maine	37	747	1	3	1	11	33	729	2	4		
New Hampshire	20	589	1	23			17	564	2	2		
Georgia	20	580					14	454	6	126		
Minnesota	26	302					23	346	2	16	1	30
South Carolina	10	322			1	77	3	174	6	71		
Rhode Island	8	262	1	5			6	247	1	10		
Maryland	9	235					3	55	6	180		
Pennsylvania	29	197			1	2	8	80	19	111	1	4
California	14	162					12	141	2	21		
Virginia	7	157					1	11	6	146		
New York	7	101					4	32	3	69		
Connecticut	11	92					10	86	1	6		
Arizona	3	58					3	58				
All other states	40	347					26	186	14	161		
SANDSTONE.												
Pennsylvania	98	1,673					13	209	84	1,448	1	16
Ohio	21	875					4	11	16	791	1	73
West Virginia	15	343			1	1	2	25	12	317		
Illinois	15	288					5	41	10	247		
New York	20	146					5	15	14	112	1	19
Wisconsin	12	133					2	24	10	109		
South Dakota	5	89					1	3	4	86		
Kentucky	5	56							5	56		

TABLE 18.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR: 1919—Continued.

INDUSTRY AND STATE.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—									
			35 and under.		36 to 43.		44 to 53.		54 to 62.		63 and over.	
	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.	Enterprises.	Wage earners.
SANDSTONE—continued.												
California	5	27					3	10	2	17		
New Jersey	5	20							5	20		
Colorado	5	14					4	8	1	6		
All other states	40	623			2	7	10	137	28	479		
SLATE.												
Pennsylvania	42	1,892					12	949	28	898	2	45
Vermont	38	1,039			11	335			27	704		
Virginia	4	210							4	210		
New York	9	134					2	14	7	120		
Maryland	4	85							4	85		
All other states	3	153							3	153		
BASALT.												
Pennsylvania	29	721					4	78	25	643		
New Jersey	36	637					10	133	26	504		
Massachusetts	21	547					6	75	15	472		
Connecticut	19	363							19	363		
California	16	262					9	143	7	119		
Maryland	10	183	1	20	1	3	3	58	5	102		
Oregon	9	124					7	107	2	17		
Washington	7	99					7	99				
All other states	14	400					3	35	11	365		
MARBLE.												
Vermont	15	570							15	570		
Tennessee	13	540							13	540		
New York	6	100					1	11	5	89		
All other states	13	522					2	39	10	468	1	15

[1] Exclusive of 58 enterprises employing no wage earners in industries as follows: Limestone, 25; granite, 20; sandstone, 9; basalt, 2; slate, 1; marble, 1.

LAND TENURE.

In the tables relating to acreage the number of acres of mineral land controlled by the mining enterprises is greater than the number of acres reported operated by the amount of acreage leased to other operators and by the idle acreage. "Acres operated" is exclusive of the duplication in "Acres controlled" of acreage reported by both owners and lessees.

Table 19 shows, for the stone-quarrying industries, the number of acres of land controlled by producing enterprises. The table distinguishes mineral land, that is, quarry land or land held for its supply of stone, from timber and other lands, shows the mineral land classified according to the form of tenure, and gives the number of acres operated. The table shows that 65.3 per cent of all the quarry or mineral land controlled was owned by the operating enterprises. In the limestone, granite, sandstone, and slate industries more than two-thirds of the quarry lands were owned by the operators, but in the basalt and marble industry less than one-half was so owned.

TABLE 19.—LAND OPERATED AND CONTROLLED, PRODUCING ENTERPRISES: 1919.

INDUSTRY.	Mineral land operated (acres).	LAND CONTROLLED (ACRES).					
		Aggregate.	Mineral land.				Timber and other lands.
			Total.	Owned.	Held under lease.	Per cent owned.	
All industries	252,242	331,544	253,975	165,872	88,103	65.3	77,569
Limestone	122,820	175,986	123,023	84,717	38,306	68.9	52,963
Granite	30,659	37,747	30,749	23,799	6,950	77.4	6,998
Sandstone	48,729	56,802	50,161	34,726	15,435	69.2	6,641
Basalt	15,625	17,514	15,625	7,139	8,486	45.7	1,889
Slate	5,440	8,245	5,440	3,673	1,767	67.5	2,805
Marble	28,969	35,250	28,977	11,818	17,159	40.8	6,273

Table 20 presents for the United States as a whole and by geographic divisions the enterprises in each stone industry, classified according to tenure of quarry (mineral) land—whether held by ownership, under lease, or held partly by ownership and partly under lease. The table also shows the per cent the total owned acreage is of the aggregate acreage of mineral land and also the per cent which the land under each class of tenure is of the aggregate.

TABLE 20.—NUMBER OF PRODUCING ENTERPRISES AND ACRES OF MINERAL LAND CONTROLLED, CLASSIFIED ACCORDING TO FORM OF TENURE: 1919.

INDUSTRY AND DIVISION.	ALL CLASSES.					ENTERPRISES OPERATING ONLY OWNED LAND.			ENTERPRISES OPERATING ONLY LAND HELD UNDER LEASE.			ENTERPRISES OPERATING LAND PARTLY OWNED AND PARTLY HELD UNDER LEASE.				
	Number of enterprises.	Acres controlled.				Number of enterprises.	Acres controlled.		Number of enterprises.	Acres controlled.		Number of enterprises.	Acres controlled.			
		Aggregate.	By ownership.	By lease.	Per cent owned is of aggregate.		By ownership.	Per cent of aggregate.		By lease.	Per cent of aggregate.		Total.	By ownership.	By lease.	Per cent of aggregate.
UNITED STATES—All industries	1,820	253,975	165,872	88,103	65.3	1,099	155,063	61.0	639	70,190	27.6	82	28,722	10,809	17,913	11.3
LIMESTONE	895	123,023	84,717	38,306	68.9	563	78,826	64.1	297	25,916	21.1	35	18,281	5,891	12,390	14.9
New England	7	99	87	12	87.9	6	87	87.9	1	12	12.1					
Middle Atlantic	249	36,942	11,536	25,406	31.2	132	10,615	28.7	109	14,791	40.0	8	11,536	921	10,615	31.2
East North Central	242	45,445	43,350	2,095	95.4	176	39,270	86.4	57	1,753	3.9	9	4,422	4,080	342	9.7
West North Central	151	4,839	3,325	1,514	68.7	92	3,069	63.4	52	1,202	24.8	7	568	256	312	11.7
South Atlantic	70	6,778	4,147	2,631	61.2	38	4,133	61.0	30	2,369	35.0	2	276	14	262	4.1
East South Central	83	6,749	6,184	565	91.6	64	5,853	86.7	15	384	5.7	4	512	331	181	7.6
West South Central	32	6,023	4,441	1,582	73.7	15	4,431	73.6	16	1,422	23.6	1	170	10	160	2.8
Mountain	44	11,124	9,541	1,583	85.8	29	9,321	83.8	12	1,285	11.6	3	518	220	298	4.7
Pacific	17	5,024	2,106	2,918	41.9	11	2,047	40.7	5	2,698	53.7	1	279	59	220	5.6
GRANITE	358	30,749	23,799	6,950	77.4	233	23,015	74.8	110	6,398	20.8	15	1,336	784	552	4.3
New England	153	12,998	12,269	729	94.4	109	11,772	90.6	37	466	3.6	7	760	497	263	5.8
Middle Atlantic	40	1,031	894	137	86.7	23	892	86.5	16	125	12.1	1	14	2	12	1.4
East North Central	14	712	565	147	79.4	10	445	62.5	3	107	15.0	1	160	120	40	22.5
West North Central	30	1,678	1,627	51	97.0	18	1,606	95.7	10	44	2.6	2	28	21	7	1.7
South Atlantic	67	8,862	3,878	4,984	43.8	37	3,778	42.6	29	4,978	56.2	1	106	100	6	1.2
West South Central	16	738	369	369	50.0	8	335	45.4	6	149	20.2	2	254	34	220	34.4
Mountain	14	1,315	896	419	68.1	9	896	68.1	5	419	31.9					
Pacific	24	3,415	3,301	114	96.7	19	3,291	96.4	4	110	3.2	1	14	10	4	0.4
SANDSTONE	255	50,161	34,726	15,435	69.2	148	33,823	67.4	96	14,461	28.8	11	1,877	903	974	3.7
New England	4	9	3	6	33.3	2	3	33.3	2	6	66.7					
Middle Atlantic	127	31,792	26,489	5,303	83.3	73	26,044	81.9	52	5,028	15.8	2	720	445	275	2.3
East North Central	51	4,859	3,591	1,268	73.9	31	3,359	69.1	16	683	14.1	4	817	232	585	16.8
West North Central	10	340	268	72	78.8	6	230	70.3	3	25	7.4	1	76	29	47	22.4
South Atlantic	20	9,325	985	8,340	10.6	12	955	10.2	7	8,320	89.2	1	50	30	20	0.5
East South Central	9	454	439	15	96.7	5	439	96.7	4	15	3.3					
West South Central	9	196	82	114	41.8	5	82	41.8	4	114	58.2					
Mountain	18	3,000	2,791	209	93.0	12	2,631	87.7	5	169	5.6	1	200	160	40	6.7
Pacific	7	186	78	108	41.9	2	71	38.2	3	101	54.3	2	14	7	7	7.5
BASALT	163	15,625	7,139	8,486	45.7	89	6,798	43.5	67	8,247	52.8	7	580	341	239	3.7
New England	45	3,117	2,854	263	91.6	31	2,773	89.0	11	182	5.8	3	162	81	81	5.2
Middle Atlantic	69	6,046	1,964	4,082	32.5	30	1,764	29.2	36	3,927	65.0	3	355	200	155	5.9
East North Central	3	553	490	63	88.6	2	490	88.6	1	63	11.4					
South Atlantic	11	254	205	49	80.7	6	205	80.7	5	49	19.3					
West South Central	1	160		160					1	160	100.0					
Mountain	1	5	5		100.0	1	5	100.0								
Pacific	33	5,490	1,621	3,869	29.5	19	1,561	28.4	13	3,866	70.4	1	63	60	3	1.1
SLATE	101	5,440	3,673	1,767	67.5	34	3,158	58.1	58	1,092	20.1	9	1,190	515	675	21.9
New England	41	2,841	1,761	1,080	62.0	7	1,275	44.9	26	415	14.6	8	1,151	486	665	40.5
Middle Atlantic	51	1,502	895	607	59.6	21	895	59.6	30	607	40.4					
South Atlantic	8	1,037	957	80	92.3	5	928	89.5	2	70	6.8	1	39	29	10	3.8
Mountain	1	60	60		100.0	1	60	100.0								
MARBLE	48	28,977	11,818	17,159	40.8	32	9,443	32.6	11	14,076	48.6	5	5,458	2,375	3,083	18.8
New England	18	9,600	8,530	1,070	88.9	13	8,402	87.5	3	47	0.5	2	1,151	128	1,023	12.0
Middle Atlantic	6	107	97	10	90.7	5	97	90.7	1	10	9.3					
East North Central	1	40		40					1	40	100.0					
West North Central	1	20	20		100.0	1	20	100.0								
South Atlantic	3	4,069	2,023	2,046	49.7	1	23	0.6	1	46	1.1	1	4,000	2,000	2,000	98.3
East South Central	15	1,258	1,003	255	79.7	10	756	60.1	3	195	15.5	2	307	247	60	24.4
West South Central	1	13,733		13,733					1	13,733	100.0					
Pacific	3	150	145	5	96.7	2	145	96.7	1	5	3.3					

POWER.

The number and horsepower of the several types of prime movers and of electric motors used by the stone-quarrying industries in 1919 are presented in detail for these industries by states in the table of detailed statistics at the end of this report.

Table 21 shows for the stone-quarrying industries the power equipment used by producing enterprises in 1919 and 1909, and the per cent of increase or decrease in horsepower for each class of equipment used. For all industries combined a considerable increase is shown in the aggregate horsepower used, and this increase was brought about by the large increase in the horsepower of electric motors operated by purchased current which more than offset a considerable decrease in the horsepower of prime movers used. In 1909, 90 per cent of the aggregate horsepower used was developed by prime movers and only 10 per cent by electric motors operated by purchased current. On the other hand, in 1919, the horsepower of prime movers was only 58.4 per cent, while the horsepower of electric motors operated by purchased current constituted 41.6 per cent of the aggregate horsepower. There was also an appreciable increase in horsepower of electric motors run by current generated by the enterprises reporting them.

TABLE 21.—COMPARATIVE STATISTICS, POWER USED, PRODUCING ENTERPRISES: 1919.

INDUSTRY.	Aggregate horsepower.	PRIME MOVERS.							ELECTRIC MOTORS OPERATED BY PURCHASED POWER.		ELECTRIC MOTORS RUN BY CURRENT GENERATED BY THE ENTERPRISE REPORTING.	
		Total horsepower.	Steam engines.		Internal-combustion engines.		Water wheels and turbines.					
			Number.	Horsepower.	Number.	Horsepower.	Number.	Horsepower.	Number.	Horsepower.[1]	Number.	Horsepower.
All industries 1919	376,808	219,938	3,420	208,763	440	9,045	18	2,130	3,971	[1] 156,870	490	19,210
1909	303,442	273,090	5,533	257,396	278	6,721	65	8,973	681	30,352	599	17,405
Per cent of increase [2]	24.2	−19.5	−38.2	−18.9	58.3	34.6	−72.3	−76.3	483.1	416.8	−18.2	10.4
Limestone 1919	213,717	126,387	1,793	120,479	252	5,043	9	865	2,046	87,330	267	11,421
1909	125,024	115,573	2,166	112,390	119	2,911	9	272	206	9,451	170	5,291
Per cent of increase [2]	70.9	9.4	−17.2	7.2	111.8	73.2	.....	218.0	893.2	824.0	57.1	115.9
Granite 1919	55,674	34,711	747	32,591	84	1,343	4	777	450	[1] 20,963	34	1,520
1909	61,095	54,213	1,346	52,549	65	1,142	6	522	159	6,882	57	1,346
Per cent of increase [2]	−8.9	−36.0	−44.5	−38.0	.....	17.6	.....	48.9	183.0	204.6	.....	12.9
Sandstone 1919	33,809	21,197	340	19,081	71	2,116	.....	.....	386	12,672	155	4,696
1909	36,556	32,674	821	31,306	61	1,190	2	178	71	3,882	86	2,162
Per cent of increase [2]	−7.4	−35.1	−58.6	−39.1	.....	77.8	.....	.....	.....	226.4	.....	117.2
Basalt 1919	37,307	22,844	262	22,324	30	520	.....	.....	255	14,463	11	1,049
1909	29,211	21,917	255	20,922	19	995	.....	.....	173	7,294	18	521
Per cent of increase [2]	27.7	4.2	2.7	6.7	.....	−47.7	.....	.....	47.4	98.3	.....	101.3
Slate 1919	20,613	8,778	193	8,669	1	8	2	101	426	11,835	4	44
1909	29,777	27,769	707	27,255	3	46	14	468	63	2,008	2	50
Per cent of increase [2]	−30.8	−68.4	−72.7	−68.2	.....	.....	.....	−78.4	.....	489.4	.....	.....
Marble 1919	15,628	6,021	85	5,619	2	15	3	387	408	9,607	19	480
1909	21,779	20,944	238	12,974	11	437	34	7,533	9	835	266	8,035
Per cent of increase [2]	−28.2	−71.3	−64.3	−56.7	.....	−96.6	.....	−94.9	.....	1,050.5	−92.9	−94.0

[1] Includes 60 horsepower reported for equipment operated by purchased compressed air.
[2] A minus sign (−) denotes decrease. Percentages are omitted where base is less than 100.

Table 22 shows, for the stone industries and for selected states in each industry, the average number of wage earners employed, the total horsepower used, and the horsepower used per wage earner. The table shows considerable differences with respect to this item between the industries and between states in the various industries, but the larger figures on horse power per wage earner are shown in the industries and states producing crushed stone, stone for manufacturing uses, and dressed monumental and building stone in large quantities.[1]

[1] See U. S. Geological Survey, Mineral Resources of the United States, Stone in 1919.

TABLE 22.—HORSEPOWER PER WAGE EARNER, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND STATE.	Wage earners (average number).	Power used (aggregate horsepower).	Horsepower per wage earner.
ALL INDUSTRIES	42,086	376,808	8.8
Limestone	22,069	213,717	9.7
Granite	8,049	55,674	6.9
Sandstone	4,287	33,869	7.9
Basalt	3,336	37,307	11.2
Slate	3,513	20,613	5.9
Marble	1,732	15,628	9.0
LIMESTONE.			
Pennsylvania	5,573	30,155	5.4
Ohio	2,262	39,881	17.6
Indiana	1,800	21,642	12.0
New York	1,739	22,370	12.9
Illinois	1,244	22,325	17.9
Missouri	1,171	8,305	7.1
West Virginia	1,003	6,373	6.4
Virginia	777	5,723	7.4
Alabama	835	5,457	6.5
Kentucky	676	4,485	6.6
Wisconsin	382	5,772	15.1
GRANITE.			
Vermont	1,062	10,789	10.2
Massachusetts	1,034	6,580	6.4
North Carolina	959	2,025	2.1
Wisconsin	753	2,850	3.8
New Hampshire	589	4,121	7.0
Maine	747	4,050	5.4
Minnesota	392	3,675	9.4
SANDSTONE.			
Pennsylvania	1,673	10,844	6.5
Ohio	875	5,431	6.2
Illinois	288	3,806	13.2
West Virginia	343	3,486	10.2
BASALT.			
Pennsylvania	721	6,058	8.4
New Jersey	637	6,340	10.0
Massachusetts	547	4,721	8.6
Connecticut	363	6,254	17.2
California	262	4,792	18.3
SLATE.			
Pennsylvania	1,892	9,678	5.1
Vermont	1,039	6,447	6.2
MARBLE.			
Vermont	570	7,354	12.9
Tennessee	540	3,885	7.2

METHOD OF OPERATION.

Table 23 presents the principal statistics, for the stone industry as a whole and for each industry separately, for enterprises using quarrying machinery and for those without quarrying machinery. Quarry enterprises were classified, in accordance with the reports of the operators, on the basis of quarrying machinery and power equipment used, into those using quarrying machinery and those operating without quarrying machinery. Small enterprises using a few power drills were not grouped with those using more elaborate quarrying machinery but were tabulated in the class without quarrying machinery. For this reason, and also because hoisting machinery and the power equipment in crushing plants was reported by enterprises which did not use quarrying machinery, enterprises in the class without quarrying machinery reported considerable power used and expense for fuel and purchase of power. Three-fourths of all enterprises in the stone industries, as shown in Table 23, used quarrying machines. In the sandstone industry the proportion was less but in the slate and marble industries much greater. For all stone industries combined more than 90 per cent of the wage earners and value of products were reported by enterprises using quarrying machinery.

TABLE 23.—STATISTICS FOR PRODUCING ENTERPRISES, CLASSIFIED ACCORDING TO USE OF QUARRYING MACHINERY: 1919.

	ALL INDUSTRIES.		LIMESTONE.		GRANITE.		SANDSTONE.		BASALT.		SLATE.		MARBLE.
	Using quarrying machinery.[1]	Without quarrying machinery.	Using quarrying machinery.	Without quarrying machinery.	Using quarrying machinery.	Without quarrying machinery.	Using quarrying machinery.	Without quarrying machinery.	Using quarrying machinery.	Without quarrying machinery.	Using quarrying machinery.	Without quarrying machinery.	Using quarrying machinery.[1]
Number of enterprises	1,367	453	677	218	266	92	148	107	134	29	94	7	48
Number of quarries	1,460	462	703	222	287	94	167	109	144	30	97	7	62
Proprietors and firm members, total	838	450	437	196	207	121	75	104	57	20	55	9	7
Number performing manual labor	237	180	114	61	76	69	13	40	14	6	17	4	3
Wage earners (av. number)	39,259	3,727	19,902	2,167	7,626	423	3,550	737	3,047	289	3,402	111	1,732
Power used (aggregate h. p.)	350,131	26,677	196,754	16,963	53,474	2,200	30,678	3,191	33,680	3,618	19,908	705	15,628
Capital	$137,453,131	$11,306,402	$76,070,711	$6,053,656	$17,798,872	$1,025,108	$16,403,861	$2,551,460	$11,423,057	$1,476,114	$6,723,108	$200,064	$9,033,522
Wages	41,684,178	3,850,620	21,654,621	2,271,711	8,173,445	414,214	3,732,904	715,907	3,636,044	355,263	3,034,724	93,525	1,452,440
Cost of supplies and materials	17,115,618	1,325,841	10,101,192	867,028	2,505,616	87,424	1,461,531	202,901	1,874,713	156,156	620,127	12,332	552,439
Fuel and purchased power	7,028,332	452,973	3,879,134	297,256	1,054,137	40,684	801,167	47,095	663,870	56,118	405,639	11,820	224,385
Contract work	805,627	190,349	510,444	155,113	113,397	5,240	29,065	25,096	40,806	600	91,333	4,300	20,582
Value of products	94,202,202	7,482,717	48,482,984	4,460,940	17,468,346	810,999	9,351,090	1,333,879	8,917,856	740,121	5,584,014	136,778	4,397,912

[1] Includes 2 establishments, without quarrying machinery, to avoid disclosure of individual operations.

FUEL USED.

Table 24 shows for producing quarry enterprises in the United States as a whole and for each of the stone industries by states the quantity of the various kinds of fuel used in quarrying operations. Bituminous coal was the fuel chiefly used in the stone industries. Although small quantities of anthracite and some wood and fuel oils or gasoline were reported by each of the industries, the quantities reported were relatively insignificant.

TABLE 24.—FUEL USED BY PRODUCING ENTERPRISES: 1919.

INDUSTRY AND STATE.	COAL.		Coke (tons, 2,000 lbs.).	Wood (cords)	Fuel oils (bbls.).	Gasoline and other volatile oils (bbls.)	Natural gas (1,000 cu. ft.)
	Anthracite (tons, 2,240 lbs.).	Bituminous (tons, 2,000 lbs.).					
ALL INDUSTRIES	20,621	1,067,848	2,522	11,888	70,432	16,022	151,830
Limestone	5,409	673,989	937	4,765	33,221	11,397	5,887
Granite	1,723	115,250	55	4,297	13,164	2,411	.....
Sandstone	2,418	128,832	1,530	160	8,621	1,423	145,943
Basalt	2,099	84,566	.....	2,129	15,390	620	.....
Slate	8,762	34,053	.....	214	36	1	.....
Marble	210	31,158	.....	323	.....	170	.....
LIMESTONE.							
Alabama	.....	28,640	397	30	.....	.....	.....
Arizona	.....	.....	.....	.....	236	17	.....
Arkansas	.....	3,301	.....	550	.....	10	.....
California	.....	.....	.....	.....	6,781	368	.....
Colorado	.....	2,353	.....	.....	.....	257	.....
Florida	.....	390	.....	2,052	.....	.....	.....
Georgia	.....	1,710	.....	.....	.....	.....	.....
Illinois	.....	67,618	.....	.....	53	507	.....
Indiana	1,366	64,798	10	.....	.....	342	.....
Iowa	.....	8,374	.....	115	.....	495	.....
Kansas	.....	5,126	.....	.....	3,275	320	.....
Kentucky	.....	14,960	.....	70	9	322	.....
Maryland	.....	2,603	.....	60	.....	19	.....
Minnesota	.....	1,578	.....	30	.....	7	.....
Missouri	.....	22,484	.....	194	1,517	366	.....
Montana	.....	1,065	.....	42	.....	36	.....
New Jersey	160	7,579	139	21	66	102	.....
New York	270	34,704	25	.....	261	484	.....
Ohio	100	137,879	187	139	120	2,075	1,476
Oklahoma	.....	3,615	.....	.....	13,518	275	331
Oregon	.....	.....	.....	272	.....	321	.....
Pennsylvania	702	130,886	179	237	201	3,408	4,080
Tennessee	.....	8,354	.....	28	.....	206	.....
Utah	.....	760	.....	.....	736	34	.....
Vermont	.....	887	.....	2	.....	2	.....
Virginia	61	27,994	.....	518	590	212	.....
West Virginia	.....	13,997	.....	50	.....	9	.....
Wisconsin	.....	12,066	.....	202	100	468	.....
All other states	2,750	70,208	.....	153	5,758	735	.....
GRANITE.							
Arizona	.....	.....	.....	36	6,096	251	.....
California	5	1	.....	.....	6,890	92	.....
Connecticut	22	2,345	.....	100	.....	100	.....
Georgia	.....	11,766	.....	30	.....	178	.....
Maine	.....	9,097	.....	75	.....	193	.....
Maryland	.....	10,157	.....	5	.....	127	.....
Massachusetts	37	14,602	50	190	5	56	.....
Minnesota	.....	6,315	.....	125	.....	266	.....
Montana	.....	5	.....	.....	85	2	.....
New Hampshire	50	4,853	.....	124	88	142	.....
New Jersey	.....	826	.....	.....	.....	.....	.....
GRANITE—continued.							
New York	15	1,225	.....	.....	.....	5	.....
North Carolina	.....	15,157	5	.....	.....	.....	.....
Pennsylvania	.....	3,662	.....	.....	.....	149	.....
Rhode Island	18	5,098	.....	.....	.....	125	.....
South Carolina	.....	5,288	.....	432	.....	12	.....
Vermont	1,561	14,537	.....	140	.....	15	.....
Virginia	.....	2,246	.....	.....	.....	.....	.....
Washington	.....	673	.....	291	.....	100	.....
Wisconsin	15	5,334	.....	1,534	.....	1	.....
All other states	.....	2,063	.....	1,215	.....	597	.....
SANDSTONE.							
California	.....	.....	.....	.....	48	.....	.....
Colorado	.....	75	.....	.....	.....	.....	.....
Illinois	.....	32,829	400	.....	240	114	.....
Kentucky	.....	2,040	.....	35	.....	.....	.....
New Jersey	.....	519	.....	.....	.....	10	.....
New York	30	2,255	.....	.....	20	144	.....
Ohio	.....	23,954	130	.....	40	110	.....
Pennsylvania	2,388	41,648	.....	87	3	285	145,627
South Dakota	.....	603	.....	.....	.....	1	.....
West Virginia	.....	10,383	.....	.....	.....	.....	316
Wisconsin	.....	1,196	.....	.....	160	72	.....
All other states	.....	13,330	1,000	38	8,110	687	.....
BASALT.							
California	.....	.....	.....	.....	5,309	14	.....
Connecticut	26	7,455	.....	35	.....	4	.....
Maryland	.....	5,104	.....	.....	.....	4	.....
Massachusetts	32	6,710	.....	.....	24	.....	.....
New Jersey	2,041	22,058	.....	.....	4	228	.....
Oregon	.....	250	.....	1,752	4,220	6	.....
Pennsylvania	.....	30,847	.....	.....	303	83	.....
Washington	.....	534	.....	336	3,180	104	.....
All other states	.....	11,608	.....	6	2,350	177	.....
SLATE.							
Maryland	2	965	.....	.....	.....	.....	.....
New York	100	1,419	.....	.....	.....	.....	.....
Pennsylvania	8,504	24,106	.....	.....	36	1	.....
Vermont	156	3,578	.....	39	.....	.....	.....
Virginia	.....	3,637	.....	.....	.....	.....	.....
All other states	.....	348	.....	175	.....	.....	.....
MARBLE.							
New York	4	1,928	.....	.....	.....	18	.....
Tennessee	.....	20,704	.....	.....	.....	1	.....
Vermont	206	2,035	.....	23	.....	.....	.....
All other states	.....	6,491	.....	300	.....	151	.....

GENERAL TABLE.

Table 25 presents in detail for 1919 the statistics for producing quarry enterprises in the United States as a whole, for each stone industry separately, and for each state which can be shown in each industry without disclosure of individual operations. As but two quarrying enterprises reported operations for development only, statistics on nonproducing operations can not be shown.

The table gives the number of enterprises and quarries, the number of those operating mills and dressing plants; the acreage of land controlled according to kind, and the tenure of mineral land; the capital invested; the principal expenses of operation and development; the value of products; the persons engaged in the industries by classes and occupations; and the number and horsepower of power equipment.

TABLE 25.—DETAILED STATISTICS FOR THE STONE-QUARRYING

		Number of enterprises.	Number of quarries.	Enterprises operating mills and dressing plants.	Land controlled (acres). Mineral land. Total operated.	Owned.	Held under lease.	Timber and other lands.	Persons engaged in industry. Aggregate.	Proprietors and officials. Total.	Proprietors and firm members. Total.	Performing manual labor.	Salaried officers.	Superintendents and managers.	Technical employees.	Clerks and other subordinate salaried employees. Male.	Female.
1	**United States—All industries.**	**1,820**	**1,922**	**354**	**252,242**	**165,872**	**88,103**	**77,569**	**48,087**	**3,532**	**1,288**	**417**	**833**	**1,307**	**104**	**1,135**	**434**
2	**Limestone**	**895**	**925**	**44**	**122,820**	**84,717**	**38,306**	**52,963**	**24,705**	**1,727**	**633**	**175**	**375**	**672**	**47**	**701**	**208**
3	**Granite**	**358**	**381**	**152**	**30,659**	**23,799**	**6,950**	**6,998**	**8,951**	**696**	**328**	**145**	**137**	**197**	**34**	**133**	**73**
4	**Sandstone**	**255**	**276**	**66**	**48,729**	**34,726**	**15,435**	**6,641**	**4,897**	**434**	**179**	**53**	**106**	**143**	**6**	**115**	**61**
5	**Basalt**	**163**	**174**	**6**	**15,625**	**7,139**	**8,486**	**1,889**	**3,791**	**310**	**77**	**20**	**85**	**138**	**10**	**103**	**42**
6	**Slate**	**101**	**104**	**61**	**5,440**	**3,673**	**1,767**	**2,805**	**3,852**	**269**	**64**	**21**	**84**	**117**	**4**	**45**	**25**
7	**Marble**	**48**	**62**	**25**	**28,969**	**11,818**	**17,159**	**6,273**	**1,891**	**96**	**7**	**3**	**46**	**40**	**3**	**38**	**25**
	LIMESTONE.																
8	Alabama	15	15	1	4,171	3,991	180	497	901	37	3	.....	6	27	1	27	2
9	Arizona	4	4	.....	688	688	.....	.....	48	2	1	.....	.....	1	.....	1	.....
10	Arkansas	6	6	1	2,622	2,295	327	1,600	139	23	10	.....	7	6	.....	2	.....
11	California	13	13	.....	3,515	887	2,628	1,000	275	19	8	2	6	4	1	9	2
12	Colorado	14	14	.....	3,004	2,121	883	.....	246	15	8	5	.....	7	.....	3	.....
13	Florida	4	6	.....	236	106	130	.....	124	11	3	2	3	5	.....	1	1
14	Georgia	5	5	.....	242	120	122	.....	99	14	1	.....	7	6	.....	5	.....
15	Illinois	41	41	1	14,922	14,348	574	37,978	1,448	110	14	3	42	49	5	73	21
16	Indiana	67	71	13	4,825	4,128	697	6	2,106	163	44	22	44	65	10	114	29
17	Iowa	25	25	.....	836	704	132	190	307	40	21	7	5	13	1	17	4
18	Kansas	35	35	.....	1,208	672	536	20	563	59	45	12	4	9	1	18	2
19	Kentucky	47	50	1	1,984	1,731	253	175	754	67	39	10	13	15	.....	8	3
20	Maryland	11	11	.....	232	51	181	205	169	11	9	.....	.....	2	.....	6	3
21	Minnesota	10	10	3	371	359	12	.....	176	15	8	1	2	5	.....	5	.....
22	Missouri	70	71	6	1,303	889	414	732	1,327	121	43	13	33	39	6	28	7
23	Montana	7	7	2	1,823	1,680	143	.....	99	10	6	2	.....	4	.....	2	.....
24	New Jersey	10	10	.....	428	325	103	69	273	10	2	.....	2	6	.....	2	3
25	New York	55	56	2	5,304	5,046	258	825	1,932	127	31	4	47	49	.....	51	15
26	Ohio	90	91	1	9,437	8,849	756	1,154	2,599	196	65	20	36	92	3	102	39
27	Oklahoma	13	13	.....	1,099	394	705	.....	351	37	9	1	5	21	2	33	3
28	Oregon	4	4	.....	1,509	1,219	290	.....	72	3	1	.....	.....	2	.....	.....	.....
29	Pennsylvania	184	200	3	31,175	6,165	25,045	2,221	6,036	334	105	44	49	113	7	91	38
30	Tennessee	21	21	1	594	462	132	.....	385	34	12	5	13	8	1	2	.....
31	Utah	7	8	.....	1,931	1,809	122	.....	159	9	.....	.....	.....	9	.....	1	1
32	Vermont	4	4	1	80	80	.....	3	52	8	3	.....	.....	4	1	1	3
33	Virginia	31	32	2	3,275	2,793	482	1,776	848	49	21	8	8	20	.....	17	5
34	West Virginia	17	17	.....	2,585	869	1,716	1,943	1,063	36	8	2	6	21	1	17	7
35	Wisconsin	33	33	3	1,348	1,322	26	232	462	57	23	5	15	18	1	19	4
36	All other [2]	52	52	3	22,073	20,614	1,459	2,337	1,692	110	30	7	22	52	6	46	16
	GRANITE.																
37	Arizona	3	5	1	232	83	149	50	61	3	.....	.....	3	.....	.....	.....	.....
38	California	17	18	7	2,944	2,830	114	160	199	27	15	8	8	4	.....	8	2
39	Connecticut	11	11	7	410	434	21	85	116	19	9	3	2	7	1	2	3
40	Georgia	20	20	8	5,072	385	4,697	8	631	40	15	3	13	9	3	10	1
41	Maine	42	42	33	2,016	1,609	442	2,075	839	78	50	35	5	19	4	7	7
42	Maryland	9	9	2	396	216	180	442	259	16	3	2	6	7	.....	7	1
43	Massachusetts	42	43	23	3,384	3,262	122	576	1,167	91	42	10	23	22	4	28	14
44	Minnesota	27	34	8	1,074	1,027	47	78	445	41	25	18	7	4	5	7	5
45	Montana	3	3	2	425	405	20	.....	7	3	3	2	.....	.....	.....	.....	.....
46	New Hampshire	23	24	21	4,688	4,655	33	491	657	59	29	17	6	22	2	4	5
47	New Jersey	4	6	.....	250	225	25	55	52	4	2	1	1	1	.....	.....	.....
48	New York	7	7	3	301	267	34	10	115	11	3	1	1	6	1	2	1
49	North Carolina	16	18	5	688	654	34	148	1,025	48	10	6	14	20	4	17	1
50	Pennsylvania	29	30	4	480	402	78	9	252	49	37	5	5	7	.....	4	2
51	Rhode Island	8	8	2	433	377	56	764	296	24	4	.....	3	11	6	4	6
52	South Carolina	10	10	3	2,364	2,310	54	10	356	26	9	2	10	6	1	6	2
53	Vermont	27	31	3	1,987	1,932	55	761	1,138	53	16	7	14	21	2	11	12
54	Virginia	7	7	.....	315	300	15	5	176	16	5	.....	4	7	.....	2	1
55	Washington	5	5	3	157	157	.....	32	53	10	5	1	1	4	.....	1	.....
56	Wisconsin	14	16	9	712	565	147	548	798	26	1	1	10	14	1	11	8
57	All other [3]	34	34	8	2,331	1,704	627	691	309	52	45	23	1	6	.....	2	2
	SANDSTONE.																
58	California	6	7	.....	176	73	103	21	34	7	6	.....	.....	1	.....	.....	.....
59	Colorado	7	8	.....	504	461	43	.....	19	5	5	4	.....	.....	.....	.....	.....
60	Illinois	15	15	4	1,327	622	705	114	353	45	13	3	22	10	.....	9	11
61	Kentucky	5	5	2	440	437	3	210	66	9	1	.....	4	2	2	.....	1
62	New Jersey	5	6	1	67	37	30	41	26	6	5	1	.....	1	.....	.....	.....
63	New York	22	26	17	246	199	47	403	192	37	22	15	5	9	1	8	1
64	Ohio	21	23	10	2,978	2,689	289	116	968	41	2	.....	19	19	1	31	21
65	Pennsylvania	100	107	18	31,469	26,253	5,226	5,424	1,808	168	78	20	34	56	.....	40	17
66	South Dakota	5	6	1	128	113	15	.....	96	5	.....	.....	2	3	.....	2	.....
67	West Virginia	15	16	6	8,878	738	8,140	100	385	33	9	2	8	16	.....	7	2
68	Wisconsin	12	12	3	403	220	273	75	154	15	6	.....	2	7	.....	5	1
69	All other [4]	42	45	4	2,023	2,884	561	137	706	63	32	8	10	19	2	13	7

[1] Same number reported for one or more other months.
[2] Includes enterprises in states as follows: Connecticut, 1; Idaho, 3; Louisiana, 1; Maine, 1; Massachusetts, 1; Michigan, 11; Nebraska, 8; Nevada, 1; North Carolina, 2; South Dakota, 3; Texas, 12; Wyoming, 8.

INDUSTRIES, BY STATES, PRODUCING ENTERPRISES: 1919.

PERSONS ENGAGED IN INDUSTRY—continued.																				
Wage earners.			Wage earners, Dec. 15, or nearest representative day.																	
Average number.	Number 15th day of— Maximum month.	Number 15th day of— Minimum month.	Total. Above ground.	Total. Below ground.	Foremen, bosses, etc. Above ground.	Foremen, bosses, etc. Below ground.	Enginemen, hoistmen, etc. Above ground.	Enginemen, hoistmen, etc. Below ground.	Quarrymen, drillmen, etc. Above ground.	Quarrymen, drillmen, etc. Below ground.	Trackmen, men engaged in hauling, etc. Above ground.	Trackmen, men engaged in hauling, etc. Below ground.	Muckers, laborers, and others not classified. Above ground.	Muckers, laborers, and others not classified. Below ground.	In mills and dressing plants (above ground).	Under 16 years of age (above ground).	Females (above ground).	Capital.	
42,986	Au 49,378	Fe 32,990	47,196	1,511	1,876	46	5,535	56	16,462	692	3,211	158	14,885	559	5,227	16	15	$148,759,533	1
22,069	Au 25,655	Fe 17,398	24,272	780	957	10	3,278	53	8,433	204	1,930	104	8,716	409	958	9	10	82,124,367	2
8,049	Au 9,228	Ja 6,669	9,166	.....	379	.....	858	.....	3,738	.....	544	.....	1,621	.....	2,028	2	1	18,823,980	3
4,287	Au 4,961	Fe 3,305	4,861	.....	197	.....	405	.....	1,599	.....	304	.....	1,621	.....	735	1	2	18,955,321	4
3,336	Au 4,097	Ja [1] 2,037	3,799	.....	144	.....	473	.....	1,120	.....	192	.....	1,828	.....	42	.....	2	12,899,171	5
3,513	De 3,927	Ja 2,852	3,242	731	133	36	371	3	811	488	200	54	792	150	935	4	.....	6,923,172	6
1,732	Oc 1,875	Ja 1,459	1,856	.....	66	.....	150	.....	763	.....	41	.....	307	.....	529	.....	.....	9,033,522	7
835	Se 901	Jy 730	703	117	24	2	136	33	166	33	171	26	291	23	5	.....	.....	1,039,505	8
45	Ja 78	De 28	28	.....	2	.....	2	.....	16	.....	.....	.....	8	.....	.....	.....	.....	108,810	9
114	Se 140	Ja 73	126	.....	9	.....	19	.....	35	.....	2	.....	57	.....	4	.....	.....	737,167	10
245	Ja 283	Se 225	333	.....	11	.....	47	.....	112	.....	14	.....	149	.....	.....	.....	.....	1,323,063	11
228	Ja 327	No 73	285	.....	9	.....	16	.....	92	.....	53	.....	115	.....	.....	.....	.....	736,551	12
111	Mh [1] 122	Se [1] 102	102	.....	5	.....	12	.....	47	.....	6	.....	32	.....	.....	.....	.....	116,374	13
80	Fe 95	Oc 61	102	.....	3	.....	8	.....	.....	.....	11	.....	80	.....	.....	.....	.....	303,980	14
1,244	My 1,488	Fe 810	1,342	.....	62	.....	249	.....	387	.....	118	.....	523	.....	3	.....	.....	8,810,097	15
1,800	Au 2,419	Fe 915	2,481	.....	83	.....	340	.....	703	.....	52	.....	681	.....	622	.....	1	7,156,592	16
246	Se 343	Ja 109	321	.....	17	.....	44	.....	148	.....	10	.....	102	.....	.....	.....	.....	945,783	17
484	Je 637	De 281	507	.....	10	.....	44	.....	235	.....	35	.....	183	.....	.....	.....	.....	768,585	18
676	Au 903	Ja 345	886	.....	31	.....	40	.....	415	.....	195	.....	187	.....	18	.....	.....	975,318	19
149	Au 192	Mh 105	177	.....	3	.....	8	.....	63	.....	13	.....	90	.....	.....	.....	.....	219,873	20
156	Je 217	Ja 52	201	.....	7	.....	21	.....	112	.....	.....	.....	37	.....	24	.....	.....	497,618	21
1,171	Se 1,414	Fe 826	1,341	.....	57	.....	139	.....	543	.....	153	.....	399	.....	50	.....	.....	2,447,811	22
87	Je 115	De 69	86	.....	7	.....	7	.....	32	.....	1	.....	24	.....	15	.....	.....	445,931	23
258	Ja 299	My 222	272	.....	11	.....	40	.....	84	.....	10	.....	127	.....	.....	.....	.....	1,586,492	24
1,739	Au 2,111	Fe 1,184	1,801	.....	95	.....	282	.....	440	.....	166	.....	801	.....	17	.....	.....	11,185,460	25
2,202	Au 2,659	Fe 1,878	2,482	.....	94	.....	419	.....	917	.....	100	.....	862	.....	90	.....	.....	10,087,803	26
278	Au 301	Jy 217	307	.....	11	.....	44	.....	72	.....	33	.....	237	.....	.....	.....	.....	699,356	27
69	De 142	Ap 19	158	.....	3	.....	8	.....	57	.....	20	.....	70	.....	.....	.....	1	372,501	28
5,573	Au 6,181	Fe 5,051	5,217	663	194	8	720	20	2,072	171	400	78	1,769	386	62	5	.....	12,941,066	29
349	Mh 380	No 301	414	.....	21	.....	15	.....	179	.....	49	.....	141	.....	9	.....	.....	350,106	30
148	Se 166	Oc 112	159	.....	7	.....	10	.....	53	.....	7	.....	82	.....	.....	.....	.....	194,530	31
40	My 61	De 28	51	.....	2	.....	4	.....	4	.....	11	.....	28	.....	2	.....	.....	151,061	32
777	My 892	Fe 611	848	.....	42	.....	119	.....	279	.....	62	.....	332	.....	14	1	3	1,825,288	33
1,003	Au 1,095	Ja 907	1,037	.....	38	.....	72	.....	448	.....	35	.....	444	.....	.....	.....	.....	1,275,947	34
382	Jy 517	Ja 178	477	.....	19	.....	42	.....	174	.....	12	.....	219	.....	11	1	.....	2,260,160	35
1,520	.....	.....	1,848	.....	80	.....	371	.....	548	.....	191	.....	646	.....	12	2	5	12,561,539	36
58	Mh [1] 112	Jy [1] 26	82	.....	4	.....	10	.....	18	.....	10	.....	40	.....	.....	.....	.....	62,400	37
102	De 247	Je 134	236	.....	9	.....	33	.....	63	.....	2	.....	57	.....	72	.....	.....	1,027,730	38
92	Je 111	Fe 67	117	.....	9	.....	18	.....	39	.....	23	.....	7	.....	21	.....	.....	367,209	39
580	Au 710	Ja 441	651	.....	24	.....	45	.....	296	.....	25	.....	124	.....	137	.....	.....	882,638	40
747	Je 1,044	Fe 244	964	.....	42	.....	100	.....	318	.....	113	.....	72	.....	319	.....	.....	1,044,000	41
235	Au 314	Fe 122	279	.....	10	.....	36	.....	117	.....	16	.....	91	.....	9	.....	.....	627,625	42
1,034	Jy 1,212	Fe 635	1,181	.....	52	.....	133	.....	387	.....	100	.....	193	.....	316	1	.....	3,146,126	43
392	No 444	Ja 333	436	.....	19	.....	25	.....	313	.....	5	.....	16	.....	58	.....	.....	771,586	44
4	Au 8	No [1] 2	9	.....	1	.....	.....	.....	4	.....	2	.....	.....	.....	2	.....	.....	33,025	45
589	Oc 780	Ja 260	690	.....	18	.....	72	.....	221	.....	13	.....	48	.....	318	1	.....	1,455,786	46
48	Oc 81	Ja 27	72	.....	2	.....	5	.....	29	.....	3	.....	33	.....	.....	.....	.....	86,900	47
101	Au 158	Fe 26	120	.....	5	.....	7	.....	69	.....	.....	.....	13	.....	26	.....	.....	439,047	48
959	Se [1] 1,026	Ja 843	1,015	.....	35	.....	50	.....	206	.....	120	.....	309	.....	295	.....	.....	702,994	49
197	Jy 261	Fe 129	237	.....	12	.....	12	.....	131	.....	18	.....	54	.....	10	.....	.....	475,238	50
292	Se 316	Ja 192	307	.....	17	.....	38	.....	114	.....	5	.....	63	.....	70	.....	.....	553,866	51
322	No 351	Je 294	363	.....	17	.....	34	.....	194	.....	.....	.....	110	.....	8	.....	.....	994,240	52
1,002	Au 1,185	Ja 855	1,112	.....	62	.....	141	.....	668	.....	23	.....	135	.....	83	.....	.....	3,202,754	53
157	Au 188	Ja 84	177	.....	7	.....	17	.....	61	.....	24	.....	68	.....	.....	.....	.....	368,500	54
42	Au 51	De 34	61	.....	5	.....	6	.....	23	.....	.....	.....	16	.....	11	.....	.....	208,492	55
753	Se 860	Ja 583	772	.....	21	.....	58	.....	304	.....	39	.....	130	.....	220	.....	.....	1,790,740	56
253	.....	.....	285	.....	8	.....	18	.....	161	.....	3	.....	42	.....	53	.....	1	583,084	57
27	Au 53	Ja 14	61	.....	5	.....	3	.....	15	.....	.....	.....	38	.....	.....	.....	.....	113,602	58
14	Se 31	De 4	21	.....	2	.....	.....	.....	17	.....	.....	.....	2	.....	.....	.....	.....	64,450	59
288	No 328	Ap 247	298	.....	19	.....	59	.....	41	.....	33	.....	62	.....	84	.....	2	3,788,564	60
56	Se 82	Ja 5	83	.....	3	.....	8	.....	50	.....	.....	.....	5	.....	17	.....	.....	189,242	61
20	Ap 30	Ja [1] 7	36	.....	4	.....	1	.....	5	.....	.....	.....	23	.....	3	.....	.....	25,000	62
146	Se 211	Ja 40	204	.....	11	.....	11	.....	72	.....	11	.....	46	.....	53	.....	.....	534,031	63
875	My 1,008	Fe 687	818	.....	29	.....	45	.....	338	.....	21	.....	156	.....	239	.....	.....	4,026,782	64
1,073	Au 1,042	Fe 1,268	1,872	.....	77	.....	164	.....	596	.....	168	.....	640	.....	227	.....	.....	6,775,667	65
89	Au 141	Ja 40	101	.....	3	.....	10	.....	16	.....	1	.....	67	.....	4	.....	.....	194,507	66
343	Au 395	Fe 201	427	.....	16	.....	31	.....	145	.....	30	.....	137	.....	68	.....	.....	1,226,569	67
133	Au 181	Ja 60	169	.....	4	.....	9	.....	94	.....	.....	.....	46	.....	16	.....	.....	341,560	68
623	.....	.....	771	.....	24	.....	64	.....	220	.....	40	.....	399	.....	24	1	.....	1,675,347	69

[3] Includes enterprises in states as follows: Arkansas, 2; Colorado, 8; Delaware, 2; District of Columbia, 3; Missouri, 2; Oklahoma, 6; Oregon, 2; South Dakota, 1; Texas, 8.

[4] Includes enterprises in states as follows: Alabama, 2; Arizona, 2; Arkansas, 7; Connecticut, 3; Idaho, 2; Indiana, 1; Maryland, 2; Massachusetts, 1; Michigan, 2; Minnesota, 1; Missouri, 4; Montana, 2; North Carolina, 1; Oklahoma, 2; Tennessee, 2; Utah, 2; Virginia, 2; Washington, 1; Wyoming, 3.

TABLE 25.—DETAILED STATISTICS FOR THE STONE-QUARRYING

		Number of enterprises.	Number of quarries.	Enterprises operating mills and dressing plants.	Land controlled (acres). Mineral land. Total operated.	Owned.	Held under lease.	Timber and other lands.	Persons engaged in industry. Aggregate.	Proprietors and officials. Total.	Proprietors and firm members. Total.	Performing manual labor.	Salaried officers.	Superintendents and managers.	Technical employees.	Clerks and other subordinate salaried employees. Male.	Female.
	BASALT.																
70	California	16	17	.....	1,407	1,171	236	.....	294	25	7	2	5	13	.....	4	3
71	Connecticut	20	22	1	2,317	2,221	96	35	425	43	11	1	15	14	3	13	6
72	Maryland	10	10	.....	244	205	39	760	210	23	14	2	.....	9	.....	3	1
73	Massachusetts	21	23	.....	690	525	165	.....	601	36	4	.....	16	13	3	14	4
74	New Jersey	36	36	2	1,445	981	464	244	727	62	14	7	20	26	2	21	7
75	Oregon	9	9	.....	3,871	262	3,609	.....	142	13	3	2	3	7	.....	5	.....
76	Pennsylvania	29	32	3	4,258	733	3,525	500	823	63	14	4	18	30	1	26	13
77	Washington	8	10	.....	212	188	24	.....	115	11	5	2	1	4	1	5	.....
78	All other [1]	14	15	.....	1,181	853	328	350	454	34	5	.....	7	22	.....	12	8
	SLATE.																
79	Maryland	4	4	1	401	401	.....	.....	93	6	.....	.....	1	5	.....	1	1
80	New York	9	10	4	448	266	182	.....	148	13	8	.....	.....	5	.....	1	.....
81	Pennsylvania	42	42	38	1,054	629	425	337	2,051	128	17	9	47	63	1	24	7
82	Vermont	38	39	16	1,355	825	530	968	1,171	103	38	11	25	37	3	16	13
83	Virginia	4	5	.....	636	556	80	.....	224	10	.....	.....	6	4	.....	3	1
84	All other [3]	4	4	2	1,546	996	550	1,500	165	9	1	1	5	3	.....	.....	3
	MARBLE.																
85	New York	6	6	1	107	97	10	246	115	9	1	.....	6	2	.....	5	1
86	Tennessee	13	17	8	1,244	997	255	60	590	37	.....	.....	19	18	.....	7	6
87	Vermont	15	25	11	9,448	8,408	1,040	222	610	10	.....	.....	3	6	1	16	14
88	All other [4]	14	14	5	18,170	2,316	15,854	5,745	576	40	6	3	18	14	2	10	4

		Principal expenses. Total.	Salaries and wages. Salaried officials, superintendents, managers, and technical employees.	Clerks and other subordinate salaried employees.	Wage earners.	Supplies and materials.	Cost of fuel.	Cost of purchased power.	Royalties and rents.	Taxes—Federal, state, county, and local.	Contract work.
1	**United States—All industries.**	**$83,091,301**	**$5,358,186**	**$1,810,117**	**$45,534,798**	**$18,441,459**	**$5,267,846**	**$2,213,459**	**$1,381,290**	**$2,088,170**	**$995,976**
2	**Limestone**	**45,250,704**	**2,614,748**	**1,111,845**	**23,926,332**	**10,968,220**	**2,897,432**	**1,278,958**	**667,751**	**1,119,861**	**665,557**
3	**Granite**	**14,107,461**	**982,092**	**214,364**	**8,587,659**	**2,593,040**	**833,636**	**261,185**	**130,202**	**377,646**	**118,637**
4	**Sandstone**	**8,173,578**	**630,306**	**200,327**	**4,448,811**	**1,664,432**	**597,353**	**250,909**	**131,970**	**195,309**	**54,161**
5	**Basalt**	**7,983,629**	**598,157**	**153,090**	**3,991,307**	**2,030,869**	**562,827**	**157,161**	**250,199**	**198,613**	**41,406**
6	**Slate**	**4,914,081**	**341,487**	**67,768**	**3,128,249**	**632,459**	**228,954**	**188,505**	**157,788**	**73,238**	**95,633**
7	**Marble**	**2,661,848**	**191,396**	**62,723**	**1,452,440**	**552,439**	**147,644**	**76,741**	**34,380**	**123,503**	**20,582**
	LIMESTONE.										
8	Alabama	1,216,032	83,140	34,707	663,914	306,537	94,479	17,532	5,058	8,334	2,841
9	Arizona	145,172	6,000	2,200	41,941	16,090	1,152	7,310	.....	122	70,357
10	Arkansas	208,553	32,749	1,020	92,009	52,498	15,272	600	10,540	2,965	.....
11	California	499,621	27,019	16,520	289,693	122,176	16,861	18,746	1,000	6,106	1,500
12	Colorado	502,734	14,109	5,206	279,758	78,558	14,108	3,428	4,350	500	102,717
13	Florida	151,730	13,366	1,671	81,651	34,399	9,002	4,438	5,583	720	.....
14	Georgia	143,787	22,316	1,655	59,337	23,056	8,294	9,364	5,059	381	14,325
15	Illinois	3,152,121	283,175	115,634	1,447,647	835,598	231,915	158,053	34,501	45,598	.....
16	Indiana	3,417,832	374,746	142,052	1,767,636	700,469	214,987	112,222	31,974	66,274	7,472
17	Iowa	509,801	29,454	25,910	282,561	108,008	37,009	8,872	15,315	2,672	.....
18	Kansas	786,509	33,529	31,263	500,783	128,655	38,822	8,284	20,034	6,009	19,130
19	Kentucky	885,915	44,314	8,405	526,099	215,319	65,073	9,249	7,557	8,233	1,666
20	Maryland	205,626	5,284	7,580	128,148	42,480	14,085	1,738	2,905	3,316	.....
21	Minnesota	267,963	13,978	5,397	158,665	27,642	11,747	9,267	9,906	8,069	23,292
22	Missouri	1,983,730	145,401	40,540	1,181,826	364,251	126,078	68,527	20,717	16,826	19,564
23	Montana	194,213	7,734	3,624	110,806	55,678	7,114	6,820	.....	2,437	.....
24	New Jersey	449,648	19,923	3,956	255,293	109,198	37,580	480	14,053	8,835	330
25	New York	4,034,313	245,388	78,895	2,109,671	1,119,461	177,672	159,800	47,125	87,343	8,958
26	Ohio	5,414,548	316,871	193,330	2,327,159	1,339,758	494,038	200,673	64,009	358,289	120,421
27	Oklahoma	497,419	56,361	48,172	210,489	117,656	40,167	2,625	16,920	5,029	.....
28	Oregon	140,429	4,350	.....	60,868	63,083	7,109	269	3,926	824	.....
29	Pennsylvania	11,595,884	371,936	148,866	6,824,164	2,758,379	559,646	255,957	234,488	247,700	194,748
30	Tennessee	443,352	49,179	3,823	243,393	95,398	29,658	7,354	9,735	3,430	1,382
31	Utah	260,619	15,347	1,031	187,171	41,189	5,488	7,227	2,000	1,216	.....
32	Vermont	75,021	4,815	2,478	35,793	24,460	5,600	990	.....	795	.....
33	Virginia	1,395,645	49,834	24,213	682,902	437,142	117,151	15,496	28,808	27,653	12,446
34	West Virginia	1,682,967	62,786	30,243	979,624	419,472	69,933	58,213	11,384	51,312	.....
35	Wisconsin	951,980	77,314	25,863	533,189	158,011	70,439	48,920	10,897	21,094	6,253
36	All other [5]	4,036,940	204,330	106,601	1,864,142	1,173,640	375,963	76,504	49,817	127,779	58,155

[1] Includes enterprises in states as follows: Delaware, 1; Idaho, 1; Michigan, 1; New York, 4; Rhode Island, 4; Texas, 1; Wisconsin, 2.
[2] Same number reported for one or more other months.
[3] Includes enterprises in states as follows: Maine, 3; Utah, 1.
[4] Includes enterprises in states as follows: Alabama, 2; California, 3; Georgia, 1; Maryland, 2; Massachusetts, 3; Michigan, 1; Missouri, 1; Texas, 1.

INDUSTRIES, BY STATES, PRODUCING ENTERPRISES: 1919—Continued.

PERSONS ENGAGED IN INDUSTRY—continued.																						
Wage earners.				Wage earners, Dec. 15, or nearest representative day.																		
Average number.	Number 15th day of— Maximum month.		Number 15th day of— Minimum month.		Total. Above ground.	Total. Below ground.	Foremen, bosses, etc. Above ground.	Foremen, bosses, etc. Below ground.	Enginemen, hoistmen, etc. Above ground.	Enginemen, hoistmen, etc. Below ground.	Quarrymen, drillmen, etc. Above ground.	Quarrymen, drillmen, etc. Below ground.	Trackmen, men engaged in hauling, etc. Above ground.	Trackmen, men engaged in hauling, etc. Below ground.	Muckers, laborers, and others not classified. Above ground.	Muckers, laborers, and others not classified. Below ground.	In mills and dressing plants (above ground.)	Under 16 years of age (above ground).	Females (above ground).	Capital.	
262	No	327	Fe	155	337	.....	14	.....	38	.....	75	.....	36	.....	174	.....	.....	.....	.....	1,367,933	70
363	Jy	406	Fe	277	408	.....	17	.....	55	.....	124	.....	20	.....	190	.....	2	.....	.....	2,976,339	71
183	Je	249	Ja	69	218	.....	9	.....	13	.....	71	.....	.....	.....	125	.....	.....	.....	.....	336,217	72
547	Se	708	Fe	287	586	.....	17	.....	57	.....	148	.....	24	.....	340	.....	.....	.....	.....	1,026,570	73
637	Jy	808	Fe	352	721	.....	26	.....	91	.....	221	.....	1	.....	374	.....	8	.....	.....	1,373,890	74
124	Se	214	Ja	58	173	.....	9	.....	24	.....	33	.....	35	.....	72	.....	.....	.....	2	477,054	75
721	My	862	Ja	499	710	.....	28	.....	121	.....	212	.....	49	.....	268	.....	32	.....	.....	3,552,049	76
99	Oc	108	Fe	33	153	.....	6	.....	7	.....	100	.....	.....	.....	40	.....	.....	.....	.....	183,113	77
400	.....	.....	.....	.....	493	.....	18	.....	67	.....	136	.....	27	.....	245	.....	.....	.....	.....	1,606,006	78
85	Fe [1]	98	My	69	84	21	1	2	13	1	36	11	4	.....	19	7	11	.....	.....	652,142	79
134	De	200	Mh	65	159	40	11	2	23	.....	18	18	6	.....	45	20	56	.....	.....	461,660	80
1,892	Oc	2,106	Ja	1,373	1,724	340	48	16	168	.....	321	270	127	33	500	21	560	4	.....	2,829,629	81
1,039	Jy	1,180	Au	871	994	208	65	8	128	2	404	148	7	.....	160	50	230	.....	.....	2,212,813	72
210	Au	237	Ja	162	155	71	3	3	19	.....	20	14	49	21	64	33	.....	.....	.....	289,024	83
153	.....	.....	.....	.....	126	51	5	5	20	.....	12	27	7	.....	4	19	78	.....	.....	477,904	84
100	Au [2]	128	Ja	51	128	.....	7	.....	15	.....	48	.....	20	.....	25	.....	13	.....	.....	416,076	85
540	Jy	586	Fe	462	589	.....	19	.....	22	.....	169	.....	12	.....	157	.....	210	.....	.....	1,604,393	86
570	My	614	Ja	506	599	.....	20	.....	33	.....	341	.....	9	.....	18	.....	178	.....	.....	3,627,551	87
522	.....	.....	.....	.....	540	.....	20	.....	80	.....	205	.....	.....	.....	107	.....	128	.....	.....	3,385,502	88

Expenditures for development (included in principal expenses).	Value of product.	POWER USED. Aggregate horsepower.	Prime movers. Total horsepower.	Steam engines (not turbines). Number.	Steam engines (not turbines). Horsepower.	Steam turbines. Number.	Steam turbines. Horsepower.	Internal-combustion engines. Number.	Internal-combustion engines. Horsepower.	Water wheels and turbines. Number.	Water wheels and turbines. Horsepower.	Equipment operated by purchased power. Electric motors. Number.	Equipment operated by purchased power. Electric motors. Horsepower.	ELECTRIC MOTORS RUN BY CURRENT GENERATED BY THE ENTERPRISE REPORTING. Number.	ELECTRIC MOTORS RUN BY CURRENT GENERATED BY THE ENTERPRISE REPORTING. Horsepower.	
$1,241,343	$101,684,919	376,808	219,938	3,397	194,477	23	14,286	440	9,045	18	2,130	3,971	[5] 156,870	490	19,210	1
764,673	52,943,924	213,717	126,387	1,776	109,778	17	10,701	252	5,043	9	865	2,046	87,330	287	11,421	2
156,870	18,279,345	55,674	34,711	744	30,231	3	2,360	84	1,343	4	777	450	[5] 20,963	34	1,520	3
96,555	10,684,909	33,869	21,197	340	19,081	.....	.....	71	2,116	.....	.....	386	12,672	155	4,696	4
131,800	9,657,977	37,307	22,844	259	21,099	3	1,225	30	520	.....	.....	255	14,463	11	1,049	5
60,531	5,720,792	20,613	8,778	193	8,669	.....	.....	1	8	2	101	426	11,835	4	44	6
30,914	4,397,912	15,628	6,021	85	5,619	.....	.....	2	15	3	387	408	9,607	19	480	7
26,230	1,340,961	5,457	3,930	48	3,630	2	300	.....	.....	.....	.....	26	1,527	4	160	8
47,580	153,211	255	55	.....	.....	.....	.....	2	55	.....	.....	3	200	.....	.....	9
.....	220,070	1,158	1,133	12	1,130	.....	.....	1	2	.....	.....	3	25	4	7	10
13,488	540,987	1,778	156	2	80	.....	.....	4	76	.....	.....	40	1,622	.....	.....	11
45,703	526,738	521	273	4	160	.....	.....	5	113	.....	.....	6	248	.....	.....	12
.....	177,201	490	325	7	325	.....	.....	.....	.....	.....	.....	11	165	.....	.....	13
.....	174,821	1,135	435	4	435	.....	.....	.....	.....	.....	.....	4	700	.....	.....	14
13,483	3,776,626	22,325	11,260	161	9,125	5	1,953	18	282	.....	.....	222	10,965	.....	.....	15
127,970	4,619,801	21,642	11,161	142	10,836	1	150	11	175	.....	.....	359	10,481	58	1,212	16
19,001	476,550	3,901	2,485	38	2,433	.....	.....	9	52	.....	.....	30	1,506	.....	.....	17
3,250	835,147	2,252	1,686	20	1,046	.....	.....	11	640	.....	.....	12	566	15	360	18
1,500	1,126,109	4,485	3,569	55	3,329	.....	.....	12	240	.....	.....	25	916	4	240	19
500	241,638	542	390	14	390	.....	.....	.....	.....	.....	.....	6	152	.....	.....	20
3,324	311,180	1,594	605	14	599	.....	.....	1	6	.....	.....	33	989	.....	.....	21
31,918	2,355,736	8,305	4,052	69	3,491	.....	.....	16	561	.....	.....	145	4,253	8	218	22
.....	101,887	1,290	235	2	125	.....	.....	1	40	2	70	15	1,055	.....	.....	23
11,250	459,059	1,372	1,337	9	537	1	800	.....	.....	.....	.....	1	35	18	634	24
8,399	4,597,942	22,370	10,243	147	9,968	.....	.....	12	275	.....	.....	237	12,127	18	1,195	25
19,577	6,742,496	39,881	29,480	357	28,746	.....	.....	43	706	1	28	221	10,401	5	36	26
14,550	567,288	2,076	1,876	23	1,545	.....	.....	8	331	.....	.....	3	200	.....	.....	27
.....	138,708	35	10	.....	.....	.....	.....	2	10	.....	.....	1	25	.....	.....	28
199,199	12,881,213	30,155	15,641	378	14,516	1	275	55	800	2	50	358	14,514	9	225	29
3,000	534,848	1,996	1,231	22	1,150	1	80	1	1	.....	.....	11	765	.....	.....	30
3,000	291,234	260	75	3	60	.....	.....	1	15	.....	.....	3	235	.....	.....	31
.....	76,152	483	408	6	408	.....	.....	.....	.....	.....	.....	3	75	5	195	32
16,021	1,610,544	5,723	4,706	55	3,395	3	810	13	109	1	392	18	1,017	17	827	33
2,530	1,027,490	6,373	2,833	56	2,821	.....	.....	1	12	.....	.....	35	3,540	4	120	34
23,614	1,107,790	5,772	2,472	34	2,149	.....	.....	8	173	2	150	73	3,300	4	145	35
129,508	4,940,397	19,901	14,225	94	7,349	3	6,333	17	368	1	175	142	5,676	93	5,847	36

[5] Includes 60 horsepower for equipment operated by purchased compressed air, distributed as follows: Colorado, 5; Georgia, 30; Massachusetts, 5; Vermont, 20.

[1] Includes enterprises in states as follows: Connecticut, 1; Idaho, 3; Louisiana, 1; Maine, 1; Massachusetts, 1; Michigan, 11; Nebraska, 8; Nevada, 1; North Carolina, 2; South Dakota, 3; Texas, 12; Wyoming, 8.

TABLE 25.—DETAILED STATISTICS FOR THE STONE-QUARRYING

		PRINCIPAL EXPENSES.									
		Total.	Salaries and wages.			Supplies and materials.	Cost of fuel.	Cost of purchased power.	Royalties and rents.	Taxes—Federal, state, county, and local.	Contract work.
			Salaried officials, superintendents, managers, and technical employees.	Clerks and other subordinate salaried employees.	Wage earners.						
	GRANITE.										
37	Arizona	$107,359	$3,000	.....	$75,894	$14,624	$9,284	$1,900	$2,480	$177	.....
38	California	411,528	41,050	$11,977	167,992	148,179	14,898	18,743	785	7,654	$250
39	Connecticut	185,811	33,384	5,115	102,821	18,819	14,153	.....	3,313	5,206	3,000
40	Georgia	803,834	47,209	8,883	536,599	84,311	65,009	21,216	34,390	5,317	.....
41	Maine	1,110,409	65,385	8,812	805,865	116,060	71,353	17,067	5,242	17,825	2,800
42	Maryland	448,659	25,861	6,441	269,741	76,836	49,897	1,232	12,509	3,607	2,535
43	Massachusetts	1,852,838	126,987	48,557	1,237,888	237,897	110,504	26,215	12,450	48,204	4,136
44	Minnesota	720,831	30,870	10,050	477,028	98,962	55,475	33,074	4,371	17,865	2,136
45	Montana	8,861	.....	.....	5,006	2,548	635	.....	600	72	.....
46	New Hampshire	1,061,838	76,871	9,541	744,023	110,782	37,956	23,413	1,060	23,672	34,520
47	New Jersey	60,708	3,400	.....	42,531	6,480	5,560	.....	2,242	495	.....
48	New York	147,045	13,333	2,403	87,561	28,408	6,388	5,861	1,449	1,642	.....
49	North Carolina	1,224,809	102,711	15,593	808,657	185,227	96,181	3,119	8,518	10,803	.....
50	Pennsylvania	343,621	19,655	4,624	237,481	43,396	20,585	1,730	12,336	3,774	640
51	Rhode Island	511,993	46,729	16,846	280,227	122,500	30,909	7,293	5,645	7,754	.....
52	South Carolina	634,433	74,137	13,293	278,162	109,372	33,742	24,687	3,762	7,278	.....
53	Vermont	2,579,823	127,743	21,109	1,225,256	778,489	135,472	39,379	7,609	182,786	61,980
54	Virginia	195,045	18,040	2,200	135,435	18,248	12,252	525	2,434	5,911	.....
55	Washington	71,194	4,942	351	50,303	6,110	6,668	1,783	190	847	.....
56	Wisconsin	1,194,482	106,245	30,759	759,599	208,146	37,817	23,748	5,067	23,101	.....
57	All other [1]	423,340	15,140	3,810	259,590	87,646	23,908	10,200	12,750	3,656	6,640
	SANDSTONE.										
58	California	65,533	37	.....	39,041	20,202	669	1,631	2,300	1,653	.....
59	Colorado	38,840	.....	.....	14,903	3,791	400	48	304	329	19,065
60	Illinois	912,157	142,938	20,260	335,756	182,443	127,258	48,089	9,853	42,029	3,531
61	Kentucky	69,176	12,955	600	35,687	11,710	7,383	.....	71	770	.....
62	New Jersey	35,661	1,300	.....	27,209	1,218	3,500	.....	2,000	434	.....
63	New York	239,078	23,460	7,640	149,051	40,566	9,320	2,124	4,065	2,735	117
64	Ohio	1,675,129	136,938	80,042	965,151	288,557	92,720	22,927	15,869	47,991	24,934
65	Pennsylvania	3,034,748	161,984	54,583	1,688,674	695,265	215,423	82,522	58,206	75,607	2,484
66	South Dakota	158,961	8,710	3,294	98,303	35,850	3,689	6,605	1,175	1,335	.....
67	West Virginia	596,157	56,833	8,987	338,156	94,192	39,293	45,357	4,354	8,985	.....
68	Wisconsin	231,306	18,715	3,629	133,602	51,923	9,599	1,010	8,003	3,775	1,050
69	All other [2]	1,116,832	66,436	21,292	623,278	238,715	88,099	40,596	25,770	9,666	2,980
	BASALT.										
70	California	601,924	46,737	9,206	334,460	128,746	10,520	39,206	16,938	16,051	.....
71	Connecticut	923,263	76,724	15,788	450,960	231,885	45,778	41,565	2,817	38,409	19,337
72	Maryland	344,278	18,613	5,542	186,210	92,260	28,492	1,200	3,416	8,545	.....
73	Massachusetts	1,265,216	115,160	20,245	719,596	229,244	65,117	40,849	44,183	30,822	.....
74	New Jersey	1,601,440	99,034	31,441	759,006	427,846	142,358	10,420	99,954	20,819	19,562
75	Oregon	347,152	20,577	4,840	189,123	102,114	21,591	3,121	2,238	3,548	.....
76	Pennsylvania	1,853,633	125,504	39,466	792,637	618,709	152,792	10,277	50,635	61,046	2,507
77	Washington	186,900	14,539	4,200	102,382	42,408	18,519	940	2,244	1,608	.....
78	All other [3]	859,823	81,269	22,362	456,933	157,537	77,660	9,523	36,774	17,765	.....
	SLATE.										
79	Maryland	79,185	6,235	795	54,533	4,701	7,334	2,821	.....	2,766	.....
80	New York	254,843	8,867	1,630	135,826	60,436	10,239	25,765	2,206	6,391	3,483
81	Pennsylvania	2,564,734	176,295	32,580	1,655,082	297,941	164,461	42,234	110,931	33,168	52,033
82	Vermont	1,538,557	118,074	26,129	976,143	226,644	25,838	97,221	34,103	23,768	10,637
83	Virginia	206,304	16,790	2,719	152,491	7,453	16,497	.....	7,831	2,523	.....
84	All other [4]	270,458	15,226	3,906	154,174	35,284	4,585	20,464	2,717	4,622	29,480
	MARBLE.										
85	New York	200,556	9,217	6,614	102,097	34,313	17,340	4,952	1,282	5,478	19,263
86	Tennessee	855,866	72,565	16,832	407,912	249,623	81,834	6,244	5,201	15,655	.....
87	Vermont	950,807	44,413	25,554	553,076	180,320	13,349	37,211	10,700	86,185	.....
88	All other [5]	654,619	65,201	13,723	389,356	88,183	35,121	28,334	17,197	16,185	1,319

[1] Includes enterprises in states as follows: Arkansas, 2; Colorado, 8; Delaware, 2; District of Columbia, 3; Missouri, 2; Oklahoma, 6; Oregon, 2; South Dakota, 1; Texas, 8.

[2] Includes enterprises in states as follows: Alabama, 2; Arizona, 2; Arkansas, 7; Connecticut, 3; Idaho, 2; Indiana, 1; Maryland, 2; Massachusetts, 1; Michigan, 2; Minnesota, 1; Missouri, 4; Montana, 2; North Carolina, 1; Oklahoma, 2; Tennessee, 2; Utah, 2; Virginia, 2; Washington, 1; Wyoming, 3.

INDUSTRIES, BY STATES, PRODUCING ENTERPRISES: 1919—Continued.

Expenditures for development (included in principal expenses).	Value of product.	POWER USED. Aggregate horsepower.	Prime movers. Total horsepower.	Steam engines (not turbines). Number.	Steam engines (not turbines). Horsepower.	Steam turbines. Number.	Steam turbines. Horsepower.	Internal-combustion engines. Number.	Internal-combustion engines. Horsepower.	Water wheels and turbines. Number.	Water wheels and turbines. Horsepower.	Equipment operated by purchased power. Electric motors. Number.	Equipment operated by purchased power. Electric motors. Horsepower.	ELECTRIC MOTORS RUN BY CURRENT GENERATED BY THE ENTERPRISE REPORTING. Number.	ELECTRIC MOTORS RUN BY CURRENT GENERATED BY THE ENTERPRISE REPORTING. Horsepower.	
.....	$128,777	417	252	3	40	.....	.....	6	212	.....	.....	3	165	.....	.....	37
$8,250	503,485	2,479	257	12	201	.....	.....	3	31	1	25	60	2,222	.....	.....	38
.....	206,546	1,165	1,165	30	1,150	.....	.....	1	15	.....	.....	.....	.....	5	40	39
9,383	885,663	3,863	2,534	25	2,507	.....	.....	4	27	.....	.....	18	[3] 1,329	.....	.....	40
5,695	1,300,996	4,050	3,313	72	3,187	.....	.....	11	126	.....	.....	15	737	.....	.....	41
.....	495,651	2,393	2,258	34	1,450	1	750	3	58	.....	.....	4	135	13	775	42
6,441	2,405,165	6,580	4,737	149	4,707	.....	.....	2	30	.....	.....	49	[3] 1,843	.....	.....	43
15,735	1,135,391	3,675	1,770	48	1,620	.....	.....	5	150	.....	.....	42	1,905	.....	.....	44
1,000	12,944	75	75	.....	.....	.....	.....	3	75	.....	.....	.....	.....	.....	.....	45
14,814	1,427,979	4,121	2,458	64	2,415	.....	.....	4	43	.....	.....	49	1,663	.....	.....	46
.....	81,198	195	195	3	195	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	47
.....	173,404	2,208	808	16	803	.....	.....	1	5	.....	.....	18	1,400	.....	.....	48
5,000	1,576,250	2,025	1,890	35	1,890	.....	.....	.....	.....	.....	.....	4	135	12	155	49
18,700	435,654	1,232	852	30	708	.....	.....	9	84	.....	.....	5	380	.....	.....	50
11,200	733,683	2,460	1,520	49	1,520	.....	.....	.....	.....	.....	.....	21	940	.....	.....	51
.....	747,976	2,392	1,057	21	1,020	.....	.....	3	37	.....	.....	18	1,335	.....	.....	52
25,444	3,563,734	10,789	6,112	88	3,837	1	1,500	2	25	2	750	86	[3] 4,677	.....	.....	53
.....	259,569	650	600	9	600	.....	.....	.....	.....	.....	.....	1	50	.....	.....	54
3,000	74,958	246	176	4	136	.....	.....	2	40	.....	.....	6	70	.....	.....	55
6,892	1,484,979	2,850	1,175	26	1,175	.....	.....	.....	.....	.....	.....	33	1,675	4	550	56
25,316	585,343	1,809	1,507	26	1,010	1	110	25	385	1	2	18	[4] 302	.....	.....	57
.....	65,074	585	20	.....	.....	.....	.....	1	20	.....	.....	[5] 15	565	.....	.....	58
.....	45,723	87	83	2	83	.....	.....	.....	.....	.....	.....	1	4	.....	.....	59
16,450	1,329,389	3,806	1,916	31	1,774	.....	.....	14	142	.....	.....	70	1,890	8	341	60
.....	91,363	640	640	14	640	.....	.....	.....	.....	.....	.....	.....	.....	2	25	61
.....	46,775	89	89	4	74	.....	.....	1	15	.....	.....	.....	.....	.....	.....	62
5,625	301,315	1,234	981	16	842	.....	.....	10	139	.....	.....	6	253	8	233	63
19,499	2,759,352	5,431	3,529	36	3,419	.....	.....	5	110	.....	.....	47	1,902	96	2,222	64
39,411	3,534,503	10,844	8,268	149	7,057	.....	.....	28	1,211	.....	.....	100	2,576	20	1,165	65
.....	140,008	497	90	3	90	.....	.....	.....	.....	.....	.....	13	407	.....	.....	66
7,877	885,588	3,486	1,260	27	1,220	.....	.....	2	40	.....	.....	81	2,226	.....	.....	67
6,070	231,078	1,009	909	10	692	.....	.....	4	217	.....	.....	1	100	.....	.....	68
1,023	1,254,081	6,161	3,412	48	3,190	.....	.....	6	222	.....	.....	52	2,749	21	710	69
125	635,588	4,792	460	17	425	.....	.....	1	35	.....	.....	88	4,332	.....	.....	70
6,256	1,262,579	6,254	2,720	26	2,705	.....	.....	2	15	.....	.....	41	3,534	3	4	71
.....	369,075	1,285	1,210	14	1,210	.....	.....	.....	.....	.....	.....	1	75	.....	.....	72
10,750	1,548,611	4,721	2,165	31	2,165	.....	.....	.....	.....	.....	.....	39	2,556	1	10	73
25,995	1,928,025	6,340	5,298	51	5,011	1	125	14	162	.....	.....	20	1,042	.....	.....	74
420	204,812	1,285	692	18	686	.....	.....	1	6	.....	.....	10	593	.....	.....	75
85,254	2,298,791	6,058	5,147	53	5,000	.....	.....	6	147	.....	.....	28	911	.....	.....	76
.....	240,742	1,020	980	10	845	.....	.....	3	135	.....	.....	2	40	.....	.....	77
3,000	1,079,754	5,552	4,172	39	3,052	2	1,100	3	20	.....	.....	26	1,380	7	1,035	78
2,847	76,683	403	270	7	270	.....	.....	.....	.....	.....	.....	12	133	.....	.....	79
1,500	445,027	2,022	212	5	212	.....	.....	.....	.....	.....	.....	44	1,810	.....	.....	80
36,717	2,051,533	9,678	7,393	155	7,385	.....	.....	1	8	.....	.....	95	2,285	.....	.....	81
10,555	2,057,388	6,447	458	12	357	.....	.....	.....	.....	2	101	237	5,989	4	44	82
2,000	203,008	445	445	14	445	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	83
6,912	287,093	1,618	.....	.....	.....	.....	.....	.....	.....	.....	.....	38	1,618	.....	.....	84
.....	249,286	495	275	9	275	.....	.....	.....	.....	.....	.....	8	220	.....	.....	85
2,500	1,088,131	3,885	3,135	32	3,115	.....	.....	1	3	1	17	15	750	7	200	86
500	2,108,872	7,354	910	7	690	.....	.....	.....	.....	1	220	310	6,444	9	245	87
27,914	951,623	3,894	1,701	37	1,539	.....	.....	1	12	1	150	75	2,193	3	35	88

[3] Includes enterprises in states as follows: Delaware, 1; Idaho, 1; Michigan, 1; New York, 4; Rhode Island, 4; Texas, 1; Wisconsin, 2.
[4] Includes enterprises in states as follows: Maine, 3; Utah, 1.
[5] Includes enterprises in states as follows: Alabama, 2; California, 3; Georgia, 1; Maryland, 2; Massachusetts, 3; Michigan, 1; Missouri, 1; Texas, 1.