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FOURTEENTH CENSUS OF THE UNITED STATES

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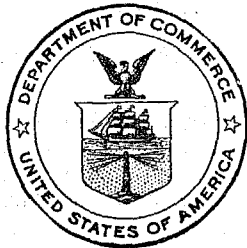
# MINES AND QUARRIES 1919

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SUMMARY OF THE CENSUS OF MINES AND QUARRIES  
FOR THE UNITED STATES

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## INTRODUCTION AND GENERAL EXPLANATION.

The statistics for mines and quarries taken as a part of the Fourteenth Decennial Census are presented in this bulletin. It contains a general summary and analysis of the statistics and general tables which bring together the principal statistics. The data are classified and presented by states and by industries and are compared with the corresponding data presented by the censuses of 1909, 1902, and 1889.

**Scope of the census.**—Census statistics of mines and quarries and petroleum and natural-gas wells were 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.

**Territory covered.**—The census of mines and quarries for 1919, taken in connection with the Fourteenth Decennial Census, covered the United States proper, also Alaska, Hawaii, and Porto Rico.

**Industries and enterprises canvassed.**—The Fourteenth Census covered all classes of mines, quarries, and mineral milling or reduction works (not including smelters and refineries operated in connection with mines and quarries), and petroleum and natural-gas wells and natural-gas gasoline plants that were in operation during any portion of the year 1919. The canvass of mines, quarries, and petroleum and natural-gas wells covered both producing enterprises and those whose operations were confined to development work. Mines, quarries, or wells that were idle during the entire year 1919 were omitted from the canvass and enterprises producing less than \$500 worth of products or, in the case of bituminous-coal mines, producing less than 1,000 tons of coal were also omitted. Operations confined to development work on which expenditures amounted to less than \$5,000 during the calendar year 1919 were likewise omitted. The following operations were specifically omitted: The mining of placer gold and the hunting for precious stones by itinerant individuals and miners employing

no help; prospecting; the digging or dredging of sand and gravel; the digging and preparation of peat; the digging and preparation of marls, both calcareous and greensand; the production of natural mineral waters; and mining of minor and rare minerals, unless conducted as part of an established industry producing other mineral products.

**Relation of the statistics of mines and quarries, etc., and of manufactures.**—The census of the mining industries (including the quarrying and the petroleum and natural-gas industries which are for convenience spoken of as mining industries) was taken coincidentally with the census of manufactures for 1919.

Sharp distinction between mining operations and manufacturing operations which prepare the mine product for use is impossible in the case of many plants. Mining ceases as soon as substances have been removed from the earth, and all the processes thereafter performed on those substances are in the nature of manufacturing. Such distinction can not be made strictly for all census statistics, and not at all without undue dependence on estimates. Therefore, the census of mines and quarries includes with mining those processes conducted at or near the mine by the mine operator for the purpose of preparing the crude mine product for use or for market. Such operations, designated beneficiating processes, include crushing; cleaning by washing or screening; grading and sorting by size; separation from associated worthless material; concentration; burning; calcining or roasting; grinding; and cutting and polishing. Although much of such work is theoretically in the nature of manufacture, it is not ordinarily considered as manufacture by the operators, especially when of simple character and conducted by them at the mines or quarries. For the purposes of the Thirteenth and Fourteenth Censuses such business, as a whole, was treated as pertaining to the mining and quarrying industries.

Some of these industries are also included in the statistics of manufactures for two reasons: First, because similar processes are conducted strictly as manufacturing on purchased raw materials by concerns which do not operate mines and quarries; therefore, a complete review of manufacturing industries in these lines requires inclusion of those operations carried on by concerns that also do mining. Second, because the censuses of manufactures for 1904, 1909,

and 1914 included these industries they are, therefore, included in the 1919 census for the sake of complete comparability.

The treatment of natural gas or so-called "casing-head gas" for the extraction of gasoline has been included with the statistics on mining as a part of the petroleum and natural-gas industries, for the reason that a large part of this industry has been conducted by the operators of the gas-producing wells, and in connection with their business of gas distribution. The trend in this new industry seems, however, to indicate that the gasoline-extraction business is to be more generally conducted by separate enterprises. The complete segregation of the 1919 statistics relating to the production of natural-gas gasoline as a distinct industry was not possible because many reports were consolidated with reports on well operations.

On the other hand, some mining industries have been treated as a part of manufacturing industries and have not been included in any way in the statistics of mines and quarries. This was chiefly for the reason that the manufacturing phases are predominant in these industries, and accuracy in reporting could not be secured by estimated segregation of the data for mining from those for manufacturing. There was also the further reason of preserving comparability between the censuses of manufactures for the years 1904, 1914, and 1919. This class of operations excluded from the statistics for mines and quarries includes chiefly: The mining of clay and the manufacturing of clay products at the same locality when carried on in the same establishment; the quarrying of limestone and the burning of the stone into lime carried on in the same establishment; the quarrying of limestone, shale, and cement rock, and the manufacture of these into Portland cement by the same establishment; the mining of salt or the raising of brines and their conversion into commercial salt.

The actual practice of the Bureau of the Census at the Fourteenth Census with respect to industries on the border line between mining and manufacturing has been as follows:

1. In the brick and tile, pottery, cement, and lime industries the digging of clay and the quarrying of stone are a simple and minor part of the business in which much the greater part of the activities are of a manufacturing character. Statistics for establishments in these industries, engaged in both mining and manufacturing, are included only in the census of manufactures.

2. In the coal and coke industry complete segregation was made of all coal-mining statistics and coke-manufacturing statistics. If the operating establishment did not keep separate accounts by means of which absolute segregation of data could be obtained, an estimated segregation was made.

3. In the copper and lead and zinc industries mining statistics were completely segregated from manufacturing, i. e., smelting and refining, by estimate, as for coal and coke, if necessary.

4. On the other hand, in other industries in which establishments conducted both mining or quarrying operations and more or less elaborate manufacturing operations, segregated reports for each class of operations were secured whenever possible. When this was not possible the data for each such establishment as a whole has been included in both the census of mines and quarries and also in the census of manufactures. Industries in this category include basalt or trap rock, granite, limestone, marble, sandstone, and slate quarrying, the mining of abrasive materials, feldspar, fuller's earth, graphite, gypsum, mineral pigments, quartz or silica, talc and soapstone. In the stone-quarrying industries the establishments included in both the mining and manufacturing statistics were chiefly producers of crushed and ground stone and were classified by the census of manufactures as in the roofing and paving-material industries. There were also included, moreover, in both sets of statistics full data on a few establishments cutting and dressing stone for construction and other purposes which did not report separately for mining and for manufacturing, and for which no basis for segregation was available. In the other industries, above enumerated, the data on most of the establishments which mined and prepared their product by processes of grinding, calcining, etc., necessarily were included in both the mining and manufacturing tabulations.

The practice of the Census Bureau at the Fourteenth Census with respect to industries on the border line between mining and manufacturing differed from that at the preceding census by entirely excluding from the mines and quarries statistics data on coke making and smelting and refining, and further, in that in other border-line industries the effort was made to segregate for separate tabulations, so far as possible, the statistics relating properly to mining and to manufacturing. Thus, the amounts which have been included in the statistics for mines and quarries and for manufactures have been reduced to a minimum. Had such duplication in the coal and coke and mining and metallurgical industries alone been eliminated in the 1909 Census, the amounts included in both sets of statistics for that year would have been reduced by approximately 85 per cent—that is, from involving approximately 18 per cent to less than 2 per cent of the total value of products reported by the census of mines and quarries. As duplication in other industries has also been materially reduced in the 1919 statistics, it is evident that the remaining duplication can not amount to as much as 2 per cent of the total value of products reported by the census of mines and quarries and one-



tenth of 1 per cent of the total value of products reported by the census of manufactures. For this reason no special tabulation has been made to determine the precise extent of duplication of statistics in 1919.

**The enterprise.**—As used in the text and tables the term enterprise represents one or more mines and quarries, well 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 below—"Classification by 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, was considered as a single mine or quarry. Many individual openings, therefore, were not counted as individual mines. The total number reported comprised those in productive operation or in the course of development during the year 1919. For petroleum and natural-gas wells the individual wells were counted and the total number productive December 31, 1919, is the number generally used in this report. 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.

**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 or decrease in the volume of business.

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

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

The number of employees other than wage earners thus reported for the representative date has been treated as equivalent to the average for the year, since the number of employees of this class does not ordinarily vary much from month to month. The average number 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 average thus obtained is generally less than the number of wage earners reported for the representative day and more nearly approximates the number of wage earners that would be required to perform the work done if all were continuously employed during the year. 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 which was made 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 by each enterprise. Occasional variations in hours in an establishment for one part of the year to another were disregarded, and no attention was paid to the fact that a few wage earners might have hours differing from those of the majority. All the wage earners of each enterprise are therefore counted in the class within which the enterprise itself falls. In most enterprises, however, practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

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

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

**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 figures for wage earners, as already explained,

are averages based on the number employed on the 15th day of each month and, although 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 or natural gas 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 and materials, fuel, and power.

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

**Taxes.**—The taxes include all Federal, state, county, and local taxes. The data compiled with 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 capital stock, income, and excess-profits taxes on mining separately. For many of these corporations no data have been obtained; for others satisfactory segregation of mining could not be made.

**Expenditures for development work.**—The expenses reported, as defined above, include costs of both productive operation and development work. 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 is shown as expenditures for development work. In the statistics on producing enterprises the part of expenses ascribed to development is relatively small, but in the statistics for nonproducing enterprises it is a large part of the total of all expenses reported.

**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 1919 product under the terms by which it was disposed of, and also includes the value at point of production of products used by the operating company.

The total value of products reported includes, in addition to the value of the principal mineral produced as indicated by the industry designation, also the value of other mineral or other products, and amounts re-

ceived for power sold or work or miscellaneous services for other enterprises. It is to be noted, particularly with respect to the industries producing metal-liferous ores, that amounts received by the producers, i. e., the value of products as reported by the census, stand in no readily discernible relation to quantity and market value of products recoverable from the materials mined. The census figures on the value of products for the copper-mining industry, for example must not be taken as value of copper produced, but only as the value at the mine of ores, concentrates, etc.

**Quantity of products.**—Statistics on quantities of mineral products are presented only in the special reports on the several mining industries. They are for the most part, and except as explained in those special reports, the statistics which have been tabulated by the United States Geological Survey. More detailed and elaborate statistics on quantities of all mineral products will be found in the reports of the United States Geological Survey.

**Differences between products reported by the Bureau of the Census and the Geological Survey.**—The statistics showing the quantities and values of mineral products were obtained by the Bureau of the Census in cooperation with the Geological Survey, but the two bureaus followed different methods in compiling and presenting these statistics. Between these methods there is—first, the fundamental difference that the Bureau of the Census endeavors to present the total actual output and its value to the producer for the calendar year, whereas the Geological Survey reports “marketed production,” sales, or shipments, including the amount used by the producers; the two sets of statistics may therefore be quite different; and second, the Geological Survey shows separately the quantity and value of each mineral product, whereas the Bureau of the Census presents the value of products of each mining industry or group of mining enterprises, classified for purposes of tabulation as an industry. Thus the Bureau of the Census figures for an industry include the value of some products not indicated by the industry designation, whereas the Geological Survey tabulates the value of each product under its proper designation, irrespective of its source.

For example, the crude or mine products of a metal-liferous-lode-mining enterprise include varying combinations of the metals gold, silver, copper, lead, and zinc, and sometimes other metals. The Bureau of the Census classifies each of such enterprises according to the metal of predominant worth in ores produced, and tabulates the amount received by the producer for ore and concentrates, etc., as the total value of products in the industry classification to which the particular enterprise is assigned. The Geological Survey, on the other hand, presents separately the quantity and value of the several metals recoverable from ores, etc. Therefore the statistics compiled by the two bureaus

for the gold, silver, copper, lead, and zinc-mining industries are not comparable. Similar differences in presenting results apply also to the rare-metals-mining industry. Again, the total value of all products of the mica mines is not identical with the value of the output of mica, but, as reported by the Bureau of the Census, includes the value of some feldspar or other products mined in connection with the principal product.

Another cause contributing to the difference in the reports of the two bureaus is the fact that in nearly all industries some enterprises report raw or crude mine or quarry products, and other enterprises in the same industry report milled, dressed or otherwise beneficiated products. Except where a distinct and separate report on the finishing operations was obtained for inclusion in the tabulations by the census of manufactures all operations involving milling, dressing, or other beneficiation were included in the tabulation of the census of mines and quarries, as explained in the paragraphs on the relation between statistics of mines and quarries and of manufactures. The Geological Survey did not in all cases follow the same rules, sometimes reporting only raw products where the Bureau of the Census reported finished products, or vice versa. Thus, the Geological Survey reports value of gypsum in all finished gypsum products, whereas the Bureau of the Census reports value of gypsum rock and the value of only such gypsum products as were reported in a schedule inseparably combining mining and milling operations. On the other hand, the Geological Survey reports only the value of crude magnesite produced, whereas the census of mines and quarries tabulates the value of both crude and calcined magnesite as reported by the producers.

Another difference of considerable moment in the minor industries, but affecting also all industries, is that the Geological Survey included in its tabulations products reported by establishments not included in the census tabulations. These were of four kinds: Governmental, penal, and eleemosynary institutions which are omitted from the general tables presented by the census of mines and quarries; small enterprises not within the scope of the census; nonproducing enterprises which marketed or used previously mined product; and enterprises from which the Bureau of the Census was unable to obtain financial and other data called for by its schedule, or could secure only a defective report which was not tabulated, whereas the Geological Survey was able to obtain the desired information on product.

In addition to the foregoing general differences in method, there are differences peculiar to certain industries. Thus, in the natural-gas industry the Bureau of the Census used only reports of producing or well-operating companies, whereas the Geological Survey

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made use of and to some extent included in its statistics the reports of distributing companies which purchased their natural gas from producing companies. In the sandstone industry the Bureau of the Census includes enterprises which crushed the stone to sand at the quarries, while the Geological Survey includes this production under sand and gravel only. Other special differences which were significantly large for

1919 are explained in footnotes appended to the following table. This table shows the value of products as given in the general tables of this report, and as published by the Geological Survey in its report "Mineral Resources of the United States, 1919." The differences existing between the two reports are shown by amount and by the per cent these amounts are of the total reported by the Geological Survey.

TABLE SHOWING DIFFERENCES IN VALUE OF PRODUCTS AS REPORTED BY THE BUREAU OF THE CENSUS IN "MINES AND QUARRIES, 1919," AND BY THE GEOLOGICAL SURVEY IN "MINERAL RESOURCES OF THE UNITED STATES, 1919."

INDUSTRY.	Report of Bureau of the Census.	Report of Geological Survey.	DIFFERENCE. <sup>1</sup>		INDUSTRY.	Report of Bureau of the Census.	Report of Geological Survey.	DIFFERENCE. <sup>1</sup>	
			Amount.	Per cent.				Amount.	Per cent.
<b>FUELS:</b>					<b>MISCELLANEOUS:</b>				
Coal, anthracite.....	\$364,084,142	\$364,976,950	-\$842,808	-0.2	Abrasive materials.....	\$721,728	\$1,484,915	-\$763,187	-51.4
Coal, bituminous.....	1,145,977,555	1,160,616,013	-14,638,448	-1.3	Asbestos.....	249,839	251,265	-1,426	-0.5
Petroleum and natural gas..	* 931,793,423	* 956,951,063	-25,157,640	-2.6	Asphalt.....	749,520	682,989	+66,531	+9.7
<b>METALLIFEROUS ORES:</b>					Barytes.....	1,592,245	* 1,727,522	-135,277	-7.8
Iron.....	218,217,905	* 197,296,282	+20,921,623	+10.6	Bauxite.....	2,190,279	2,201,747	-11,468	-0.5
Copper.....	(*)	(*)			Chromite.....	103,841	123,302	-23,461	-18.1
Gold and silver, lode mines..	(*)	(*)			Clay.....	10,086,298	* 7,095,631	+2,995,667	+42.2
Gold, placer mines.....	(*)	(*)			Feldspar.....	584,295	585,200	-904	-0.2
Lead and zinc.....	(*)	(*)			Fluorspar.....	3,334,880	3,525,574	-190,694	-5.4
Manganese.....	2,188,312	* 3,343,355	-1,161,043	-34.7	Fuller's earth.....	2,013,226	1,998,825	+20,397	+1.0
Quicksilver.....	1,803,484	1,933,500	-130,076	-6.7	Graphite.....	899,403	977,857	-78,454	-8.7
Rare metals.....	(*)	(*)			Gypsum.....	6,805,949	15,727,907	-8,921,957	-56.7
<b>STONE:</b>					Magnesite.....	2,162,571	* 1,248,415	+921,156	+73.8
Basalt.....	9,657,977	8,944,686	+713,291	+8.0	Mica.....	667,025	541,651	+65,374	+12.1
Granite.....	18,279,345	19,345,714	-1,066,369	-5.5	Millstones.....	64,631	66,372	-2,341	-3.5
Limestone.....	52,943,924	53,171,701	-227,777	-0.4	Mineral pigments.....	480,798	(*)		
Marble.....	4,397,912	* 8,042,297	-3,644,385	-45.3	Phosphate rock.....	10,360,198	11,591,268	-1,231,070	-11.1
Sandstone.....	10,684,969	* 5,283,842	+5,401,127	+102.2	Pyrite.....	2,408,048	2,558,172	-149,524	-5.8
Slate.....	5,720,792	6,030,648	-309,856	-5.1	Silica.....	371,638	378,571	-1,933	-0.5
					Sulphur.....	17,935,882	* 10,252,000	+7,683,882	+75.0
					Talc and soapstone.....	2,302,393	2,352,675	-50,282	-2.1

<sup>1</sup> The plus (+) or minus (-) signs indicate the amounts by which the Bureau of the Census figures exceed or fall below those published by the Geological Survey.

<sup>2</sup> Includes natural-gas gasoline. Difference due to different bases of tabulation.

<sup>3</sup> Differences partly due to different classifications of ores as manganese iron ores and iron ores.

<sup>4</sup> Comparable statistics not available as the Bureau of the Census reports net value to producers of mine products, and the Geological Survey reports the gross value of metals in ores produced.

<sup>5</sup> Includes value of dressed and finished products for which the Bureau of the Census reports only the value of rough stone.

<sup>6</sup> Not including value (approximately \$5,000,000) of sandstone classified as such by the Bureau of the Census, but crushed and ground by the producers and therefore classified as sand by the Geological Survey.

<sup>7</sup> Total value of abrasive materials as reported by the Geological Survey is \$2,887,902 from which has been deducted the value of millstones separately reported by the census of mines and quarries, and the value of grindstones and pulpstones reported by the census of manufactures; the balance—\$1,484,915—includes the value of a relatively large amount of other material not included by the census of mines and quarries with abrasive materials.

<sup>8</sup> Includes, in addition to amounts reported by producers, data from other sources covering output by small producers not canvassed.

<sup>9</sup> Only raw clay sold as such and does not include production by clay-products manufacturers who made separate reports to the census of mines and quarries.

<sup>10</sup> Includes value of manufactured products which are not included in the value reported by the census of mines and quarries.

<sup>11</sup> Based on valuation of crude magnesite, whereas the census of mines and quarries includes the value of crude and calcined products as reported by the producer.

<sup>12</sup> Not reported.

<sup>13</sup> Marketed production without regard to large output held in stocks.

**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 those connected with mine and quarry operation; 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 the horsepower of motors, principally electric, and of other equipment operated by power purchased from other concerns. It does not cover the power of electric motors taking their current from generators operated by prime movers reported 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, fuel and other heavy oils, gasoline or other volatile oils, and natural 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.

# SUMMARY OF RESULTS FOR THE UNITED STATES.

## PRINCIPAL STATISTICS.

**Summary for continental United States and outlying possessions: 1919.**—Table 1 presents the results of the Fourteenth Census which relate to the mining industries in 1919 and shows the principal statistics for all mines and quarries and petroleum and natural-gas

wells within the area of enumeration. This area included, in addition to continental United States, the outlying territories of Alaska, Hawaii, and Porto Rico. The figures here given include nonproducing as well as producing mines, quarries, and petroleum and natural-gas enterprises, and constitute the most general summary of results of the canvass.

TABLE 1.—SUMMARY OF PRINCIPAL STATISTICS: 1919.

	Total.	Continental United States.	Alaska.	Hawaii.	Porto Rico.
Number of enterprises.....	22,301	21,997	346	5	13
Number of mines and quarries.....	14,802	14,417	367	5	13
Number of petroleum and natural-gas wells.....	257,681	257,673	8		
Number of natural-gas gasoline plants.....	1,115	1,115			
Persons engaged.....	1,088,444	1,084,796	3,287	155	226
Proprietors and firm members, total.....	22,769	22,155	593	4	17
Number performing manual labor.....	5,783	5,272	505		6
Salaried employees.....	75,088	75,457	199	6	26
Wage earners (average number).....	989,957	987,184	2,475	145	183
Wage earners Dec. 15, or nearest representative day.....	1,100,186	1,096,458	13,379	140	209
Above ground.....	389,523	386,932	2,242	140	209
Below ground.....	710,663	709,526	1,137		
Power used (aggregate horsepower).....	6,816,814	6,786,475	29,979	325	35
Capital.....	\$7,225,446,992	\$7,108,623,496	\$116,626,441	\$112,882	\$84,173
Principal expenses.....	2,556,682,424	2,545,925,350	10,493,020	171,850	92,204
Salaries.....	151,820,643	151,272,451	533,078	5,533	9,583
Wages.....	1,309,565,597	1,304,409,342	5,010,611	89,365	56,279
Supplies and materials.....	531,688,470	528,853,639	2,786,755	34,423	10,653
Cost of ore, coal, and natural gas purchased as material or for resale.....	85,905,352	85,905,352			
Fuel and purchased power.....	124,610,053	123,509,588	1,080,348	14,560	5,557
Royalties and rents.....	176,478,995	176,129,858	314,066	26,282	8,789
Taxes.....	141,878,154	141,567,734	307,390	1,687	1,343
Contract work.....	82,696,872	82,239,098	457,774		
Value of products.....	3,174,507,462	3,158,463,966	15,634,801	250,538	158,157

<sup>1</sup> For Alaska a report for Sept. 15 was requested.

Less than 2 per cent of the total number of enterprises reported and less than one-third of 1 per cent of the persons engaged in the mining industries were in Alaska. The mining operations in Hawaii and Porto Rico were insignificant. The value of products of the mining industries in the outlying territories was approximately one-half of 1 per cent of the aggregate for the United States and its territories. Owing to the fact that there were few mining enterprises in Alaska, Hawaii, and Porto Rico and that the operations conducted by them were relatively unimportant, and to the additional fact that the canvass made in the territories was somewhat different in scope and form of inquiry from the canvass made in continental United States, the discussion and presentation of statistics relating to mining operations are confined in this section of the report, except in Table 1, to the data reported for the continental United States (referred to simply as the United States). The statistics for Alaska are presented in a separate bulletin relating to that territory whereas those for Hawaii and Porto Rico are presented only in the preceding table.

**Principal statistics for producing and nonproducing enterprises: 1919.**—At the Fourteenth Census 21,280 producing mining enterprises were reported for the

United States. These employed an average of 981,560 wage earners, used power equipment rated at 6,750,000 horsepower and had invested capital amounting to approximately \$7,000,000,000. The principal expenses of these enterprises in 1919 amounted to more than \$2,500,000,000, of which \$311,000,000 was for development work, and the products were valued at more than \$3,158,000,000. The census also reported 717 nonproducing enterprises which, in 1919, employed an average of 5,624 wage earners, had invested capital amounting to \$153,000,000. The principal expenses of this class of enterprises amounted to over \$25,000,000, of which nearly \$23,000,000 was for development work. Table 2 compares the principal statistics for producing and nonproducing enterprises in the United States and shows the per cent which the amount of each item reported for nonproducing operations is of the total. The most satisfactory index of the relative importance of the two classes of enterprises is the average number of wage earners employed, the figures for nonproducing enterprises representing six-tenths of 1 per cent of the total. It will be seen that for 1919 nonproducing enterprises, that is, those whose activities were limited to development or exploration in anticipation of productive operations, were relatively unimportant.

TABLE 2.—PRINCIPAL STATISTICS, PRODUCING AND NONPRODUCING ENTERPRISES: 1919.

	All enterprises.	Producing enterprises.	NONPRODUCING ENTERPRISES.	
			Number or amount.	Per cent of total.
Number of enterprises.....	21,997	21,280	717	3.3
Number of mines and quarries.....	14,417	13,844	573	4.0
Number of petroleum and natural-gas wells.....	257,673	257,673		
Number of natural-gas gasoline plants.....	1,115	1,115		
Persons engaged.....	1,084,796	1,077,675	7,121	0.7
Proprietors and firm members.....	22,155	21,918	237	1.1
Number performing manual labor.....	5,272	5,245	27	0.5
Salaried employees.....	75,457	74,197	1,260	1.7
Wage earners (average number).....	987,184	981,560	5,624	0.6
Wage earners, Dec. 15, or nearest representative day.....	1,096,458	1,088,189	8,269	0.8
Above ground.....	386,932	382,766	4,166	1.1
Below ground.....	709,526	705,423	4,103	0.6
Power used (aggregate horsepower).....	6,786,475	6,723,786	62,689	0.9
Capital.....	\$7,108,623,496	\$6,955,466,831	\$153,156,665	2.2
Principal expenses:				
Salaries.....	151,272,451	149,322,985	1,943,466	1.3
Wages.....	1,304,409,342	1,295,936,226	8,473,116	0.6
Supplies and materials.....	528,853,639	519,593,676	9,259,963	1.8
Cost of ore, coal, and natural gas purchased as material or for resale.....	35,905,352	35,907,352		
Fuel and purchased power.....	123,569,588	122,105,939	1,463,648	1.1
Royalties and rents.....	176,129,858	175,293,984	835,874	0.5
Taxes.....	141,567,734	140,999,626	568,108	0.4
Contract work.....	82,239,098	79,380,177	2,858,921	3.5
Expenditures for development (included in the above items).....	334,015,265	311,276,508	22,738,757	6.8
Value of products.....	3,158,463,966	3,158,463,966		

Although of minor importance the data relating to nonproducing enterprises are necessarily included in a complete canvass of mining activities, but a distinction between nonproducing and producing enterprises and a separate presentation of data relating to them is necessary to preserve the proper balance between the various items reported, and especially to keep the figures in regard to production in proper relation to figures on various factors of operation, such as the number of persons employed, power used, and expenses of operation, etc. For purposes of comparison, moreover, especially between states, industries, or censuses, it is necessary to confine the statistical presentations and discussions to the data for producing enterprises. Therefore, as well as because of the small importance of nonproducing activities in 1919, the remaining text and tables in this section will deal only with producing enterprises.

**Principal mining industries.**—In Table 3 the principal mining industries in 1919 are ranked according to value of products. This table shows the number of enterprises in each industry, the average number of wage earners employed, and the value of products with the per cent distribution for the last two items.

Statistics are presented for 12 industries which in 1919 had products exceeding \$10,000,000 in value. These 12 industries contributed 98 per cent of the total value of products of the mining industries and employed 97.6 per cent of the total average number of wage earners engaged in producing enterprises.

Statistics are also given for five other mining industries having products between \$4,000,000 and \$10,000,000 in value. The 17 industries shown separately in this table employed 98.9 per cent of the total average number of wage earners in productive mining enterprises, and contributed 99.2 per cent of the total value of products of the mining industries.

TABLE 3.—PRINCIPAL INDUSTRIES, PRODUCING ENTERPRISES, RANKED BY VALUE OF PRODUCTS: 1919.

INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.	
		Average number.	Per cent distribution.	Amount.	Per cent distribution.
All industries.....	21,280	981,560	100.0	\$3,158,463,966	100.0
Coal.....	6,890	693,170	70.6	1,510,061,707	47.8
Anthracite.....	254	147,372	15.0	364,084,142	11.5
Bituminous.....	6,636	545,798	55.6	1,145,977,565	36.3
Petroleum and natural gas.....	9,814	93,205	9.5	931,793,423	29.5
Iron ore.....	290	45,741	4.7	218,217,905	6.9
Copper.....	195	43,717	4.5	181,258,087	5.7
Lead and zinc.....	432	21,884	2.2	75,579,347	2.4
Gold and silver, lode mines.....	740	15,436	1.6	58,832,330	1.9
Limestone.....	895	22,069	2.2	52,943,924	1.7
Granite.....	358	8,049	0.8	18,279,345	0.6
Sulphur.....	4	1,129	0.1	17,935,882	0.6
Sandstone.....	255	4,287	0.4	10,684,969	0.3
Phosphate rock.....	48	4,373	0.4	10,300,198	0.3
Clay.....	345	5,453	0.6	10,086,298	0.3
Basalt.....	163	3,336	0.3	9,657,977	0.3
Gold, placer mines.....	112	1,380	0.1	9,368,561	0.3
Gypsum.....	47	2,191	0.2	6,805,940	0.2
Slate.....	101	3,513	0.4	5,720,792	0.2
Marble.....	48	1,732	0.2	4,397,912	0.1
All other.....	543	16,895	1.1	26,539,369	0.8

Coal mining far outranked all other industries in importance. In 1919 it contributed nearly one-half of the total value of products reported, and it furnished occupation to more than 70 per cent of all the wage earners employed by producing mining, quarrying, and well operations. Anthracite mines furnished approximately one-fourth and the bituminous coal mines three-fourths of the total value of coal produced, but the anthracite mines employed only a little more than one-fifth of the average number of wage earners while bituminous mines employed four-fifths of that number. The other industry producing mineral fuel—petroleum and natural gas—ranked second in importance in value of products, with nearly three-tenths of the total for the United States. This industry also ranked second in the number of wage earners employed which number was, however, less than one-tenth of the total for the United States.

The industries next in importance on the basis of the value of products, in the order named, were the mining of iron ore, copper ores, lead and zinc ores, and gold and silver ores. The quarrying of limestone, which ranked next to gold and silver mining in value of products, outranked both lead and zinc and gold and silver mining in the number of wage earners employed. Taken collectively, the stone-quarrying industries—limestone, granite, sandstone, basalt, slate, and marble—ranked fifth, that is, next after copper mining, in



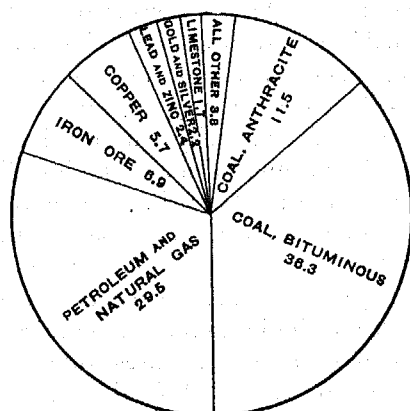
# SUMMARY OF RESULTS.

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both the number of wage earners employed and value of products.

The relative importance of the value of products of the several mining industries in 1919 are shown graphically by the diagram following.

PERCENTAGE DISTRIBUTION OF VALUE OF PRODUCTS, BY INDUSTRIES: 1919.



**By-products.**—The values of products given in the foregoing table and discussion include, in addition to the values of the minerals indicated by the name of the industry, the value of by-products. The term "by-products" is here used to designate collectively mineral and other products and the receipts for custom milling or other processes, for power sold, and for work or miscellaneous services furnished other enterprises, all of which were incident to the production of the principal mineral product.

Table 4 shows the value of the different classes of by-products for all industries combined and for each industry separately. Table 5 shows the value of the different classes of by-products reported for the United States and for each state separately. Table 6 shows the various by-products, the number of states, enterprises, and industries reporting each by-product.

TABLE 4.—VALUE OF BY-PRODUCTS, BY CLASSES, FOR EACH INDUSTRY: 1919.

INDUSTRY.	Total.	Mineral.	Not specified.	Custom milling, etc.	Power sold and work or miscellaneous services for other enterprises.
All industries.....	\$9,569,113	\$2,153,489	\$490,684	\$1,110,265	\$5,814,675
Coal:					
Anthracite.....	139,368		8,750		130,618
Bituminous.....	1,654,918	489,831	6,194		1,161,893
Petroleum and natural gas.....	3,095,608				3,095,608
Iron ore.....	268,594	150,756	7,134		110,704
Copper.....	995,982	5,433		271,897	718,652
Lead and zinc.....	325,827	83,706	99,338	41,484	101,299
Gold and silver, lode mines.....	1,022,013	90,734	1,201	793,189	136,889
Gold, placer mines.....	69,241	67,675		1,000	566
Stone:					
Limestone.....	976,407	589,884	148,814		237,709
Granite.....	31,728		6,250		25,478
Sandstone.....	12,835		400		12,435
Basalt.....	227,449	33	190,646		36,770
Slate.....	788				788
Marble.....	12,059	12,059			

TABLE 4.—VALUE OF BY-PRODUCTS, BY CLASSES, FOR EACH INDUSTRY: 1919—Continued.

INDUSTRY.	Total.	Mineral.	Not specified.	Customs milling, etc.	Power sold and work or miscellaneous services for other enterprises.
Abrasive materials.....	\$17,038	\$16,344			\$694
Barytes.....	18,316	18,316			
Clay.....	373,657	349,054	\$4,535		20,068
Feldspar.....	8,788	2,273	2,926		3,589
Fluorspar.....	48,224	45,823		\$215	2,186
Graphite.....	750		750		
Magnesite.....	210				210
Manganese.....	32,959	32,440			519
Mica.....	599	224			375
Mineral pigments.....	20,276	15,493	1,183		3,600
Phosphate rock.....	7,208	197			7,011
Pyrite.....	193,509	180,946	12,563		
Rare metals.....	2,480			2,480	
Silica.....	4,699	4,699			
Sulphur.....	1,614				1,614
Talc and soapstone.....	6,019	569			5,450

TABLE 5.—VALUE OF BY-PRODUCTS, BY CLASSES, FOR EACH STATE: 1919.

	Total.	Mineral.	Not specified.	Custom milling, etc.	Power sold and work or miscellaneous services for other enterprises.
United States.....	\$9,569,113	\$2,153,489	\$490,684	\$1,110,265	\$5,814,675
Alabama.....	33,610	33,610			
Arizona.....	732,152	3,597		31,417	717,138
Arkansas.....	13,916				13,916
California.....	1,145,719	224,578	1,374	67,434	852,333
Colorado.....	599,012	98,492	92,313	361,433	46,774
Connecticut.....	6,250				
Delaware.....	19,020		4,520		14,500
Florida.....	5,000	197			4,803
Georgia.....	31,621	17,500	13,746		375
Idaho.....	8,216			8,193	23
Illinois.....	222,000	108,124	11,434		102,442
Indiana.....	61,801	38,073			23,728
Iowa.....	10,211				10,211
Kansas.....	67,814				67,814
Kentucky.....	127,138	6,355		215	120,568
Louisiana.....	86,032				86,032
Maine.....	3,598	672	2,926		
Maryland.....	23,275	23,023			252
Massachusetts.....	3,015	33			2,982
Michigan.....	323,339	118,971		175,006	29,362
Minnesota.....	44,672				44,672
Missouri.....	52,150	19,599	10,995	1,766	19,820
Montana.....	215,159	115,660		4,817	94,682
Nebraska.....	694				694
Nevada.....	468,655		450	450,624	17,581
New Hampshire.....	224	224			
New Jersey.....	93,655	11,534			82,121
New Mexico.....	45,308			1,338	43,970
New York.....	84,636	35,316	9,949		39,371
North Carolina.....	8,350	4,800			3,550
North Dakota.....	779				779
Ohio.....	976,086	795,592	3,653		176,841
Oklahoma.....	1,076,195				1,076,195
Oregon.....	4,966	4,841	15		110
Pennsylvania.....	1,883,763	353,607	253,371		1,276,785
Rhode Island.....	1,634				1,634
South Carolina.....	6,229				6,229
South Dakota.....	3,289			3,289	
Tennessee.....	70,375	5,711			64,664
Texas.....	310,340				310,340
Utah.....	74,905	1,946		74	72,885
Vermont.....	5,925				5,925
Virginia.....	21,640				21,640
Washington.....	70,769	7,330			63,439
West Virginia.....	391,986	100,528	3,000		288,458
Wisconsin.....	96,326	14,818	76,688	4,059	161
Wyoming.....	17,634	8,758			8,876

TABLE 6.—BY-PRODUCTS: 1919.

BY-PRODUCT.	Number of states reporting.	Number of enterprises reporting.	Number of industries reporting.	Value.
Total.....	47	1 508	30	\$9,599,113
Mineral by-products.....				2,153,489
Barytes.....	1	1	1	7,600
Clay.....	7	37	5	340,965
Coal, bituminous <sup>2</sup> .....	6	33	2	342,228
Coke.....	3	3	1	96,016
Copper.....	2	2	2	170,502
Feldspar.....	2	3	3	3,793
Fuller's earth.....	1	1	1	33
Gold and silver.....	3	3	2	33,693
Iron.....	1	1	1	693
Lead and zinc.....	4	8	3	65,011
Lime.....	5	12	1	574,688
Limestone.....	4	4	3	19,040
Manganese.....	5	5	3	210,128
Marble.....	1	2	1	3,849
Mica.....	2	5	2	3,301
Mineral pigments.....	3	4	3	41,706
Platinum.....	2	14	1	67,675
Pyrite.....	6	17	4	140,067
Sandstone.....	3	3	3	26,918
Silica.....	2	2	2	997
Talc and soapstone.....	1	1	1	1,699
Tungsten (rare metals).....	1	1	1	2,887
Products not specified.....	14	35	15	490,684
Custom milling, etc.....	13	31	9	1,110,265
Power, work, and miscellaneous services:				
Mines and quarries.....	40	315	23	2,719,067
Petroleum and natural-gas industry.....	14	( <sup>1</sup> )	1	3,095,608

<sup>1</sup> Enterprises reporting by-products in the petroleum and natural-gas industry were not enumerated.

<sup>2</sup> Quantity—139,607 net tons.

#### PROGRESS OF THE INDUSTRIES.

Comparative summary for producing enterprises: 1919, 1909, 1902, and 1889.—Table 7 gives the prin-

cipal statistics, in so far as comparable figures are available, for producing mines, quarries, and petroleum and natural-gas wells in the United States as reported at the census of 1919 and the three preceding censuses of mines and quarries. Even for the figures given there is not entire comparability because of different classifications in the mining industries at the different censuses. At the census of 1909 the conversion of coal into coke at the coal mines was included, but at the census of 1919 and the censuses for the two earlier years the coke industry was not included in the census of mines and quarries. The making of cement in 1902 and the burning of limestone into lime at the quarries in 1889 and 1902 were included in the statistics of mines and quarries in the censuses for those years, but were classified as manufacturing at the later censuses. No attempt has been made to adjust the figures in order to eliminate these and other differences.

Table 7 shows marked increases from 1889 to 1902 and from 1902 to 1909. It further shows that between 1909 and 1919 there was practically no increase in the number of enterprises, a decrease in the number of mines and quarries, and only a negligible increase in the number of wage earners employed. Large increases are shown for horsepower used, capital invested, and the principal expenses of operation, but the increases in expenses are mainly due to price increases, except the increase in "taxes," which is due to the impost of Federal income tax and special state taxes on mining since 1909.

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

	1919	1909	1902	1889	PER CENT OF INCREASE. <sup>1</sup>		
					1909-1919	1902-1909	1889-1902
Number of enterprises.....	21,280	21,268	45,858	( <sup>2</sup> )	0.1	-54.6	.....
Number of mines and quarries.....	13,844	18,164	17,039	22,084	-23.8	6.6	-22.8
Number of petroleum and natural-gas wells.....	257,673	166,320	123,200	37,410	54.9	35.0	229.3
Number of natural-gas gasoline plants.....	1,116						
Persons engaged.....	1,077,675	1,041,682			3.5		
Proprietors and firm members, total.....	21,918	29,922	( <sup>2</sup> )	( <sup>2</sup> )	-26.7		
Number performing manual labor.....	5,245	8,861	( <sup>2</sup> )	( <sup>2</sup> )	-40.8		
Salaried employees.....	74,197	44,127	38,128	6,541	68.1	15.7	482.9
Wage earners (average number).....	981,560	967,633	581,728	536,043	1.4	66.3	8.5
Wage earners, December 15, or nearest representative day.....	1,088,189	1,065,283	581,728	536,043	2.2		8.5
Above ground.....	382,766	366,962	221,505	244,127	4.3	65.7	-9.3
Below ground.....	705,423	698,321	360,223	291,916	1.0	93.9	23.4
Power used (aggregate horsepower).....	6,723,786	4,608,253	2,867,562	( <sup>4</sup> )	45.9	60.7	.....
Capital.....	\$0,955,469,831	\$3,350,525,841	( <sup>2</sup> )	\$1,310,535,318	105.8		
Principal expenses:							
Salaries.....	149,323,985	53,393,551	\$39,020,552	5,520,600	179.7	36.8	606.8
Wages.....	1,295,936,226	586,774,079	369,959,900	222,041,887	103.8	58.6	66.6
Supplies and materials.....	519,593,676	173,411,438	123,814,967	86,075,925	199.6		43.8
Cost of ore, coal, and natural gas purchased as material or for resale.....	35,905,852	29,318,316	( <sup>4</sup> )	( <sup>4</sup> )	22.5		
Fuel and purchased power.....	122,105,930	45,136,550	( <sup>4</sup> )	( <sup>4</sup> )	170.5		
Royalties and rents.....	175,293,984	63,973,685	34,530,713	( <sup>4</sup> )	174.0	85.3	
Taxes.....	140,999,626	17,796,763	( <sup>4</sup> )	( <sup>4</sup> )	692.3		
Contract work.....	79,380,177	28,887,898	20,677,938	( <sup>4</sup> )	174.8	39.7	
Value of products.....	3,158,463,966	1,238,410,322	796,826,417	438,111,548	155.0	55.4	81.9

<sup>1</sup> A minus sign (-) denotes decrease. Percentages are omitted where figures are not comparable.

<sup>2</sup> Not reported.

<sup>3</sup> Average number.

<sup>4</sup> Comparable figures not available.

<sup>5</sup> Includes cost of fuel.



Comparative statistics in detail for the years 1919 and 1909, by industries, are given in the first of the general tables, page 30. Table 8 gives for the leading mining and quarrying industries the value of products in 1919, 1909, and 1902 with the percentages of increase, and the same information is presented graphically by the diagram herewith.

TABLE 8.—COMPARISON OF VALUE OF PRODUCTS FOR THE LEADING MINING INDUSTRIES: 1919, 1909, AND 1902.

INDUSTRY.	1919	1909	1902	PER CENT OF INCREASE. <sup>1</sup>	
				1909-1919	1902-1909
Coal:					
Anthracite.....	\$364,084,142	\$149,180,471	\$76,173,586	144.1	95.8
Bituminous.....	1,145,977,565	427,902,464	290,858,483	167.8	47.1
Petroleum and natural gas	931,793,423	185,416,684	102,265,602	402.5	71.6
Iron ore.....	218,217,905	106,947,082	65,465,321	104.0	63.4
Copper.....	181,258,087	134,616,987	51,178,036	34.6	163.0
Lead and zinc.....	75,579,347	31,363,094	14,600,177	141.0	114.8
Gold and silver, lode mines	58,832,330	83,885,928	77,154,326	-29.9	8.7
Limestone.....	52,943,924	29,832,492	30,441,801	-77.5	-2.0
Granite.....	18,279,345	18,997,976	18,257,944	-3.8	4.1
Sandstone.....	10,684,969	9,296,829	11,022,460	15.0	-15.7
Phosphate rock.....	10,300,198	10,781,192	4,922,943	-4.5	119.0
Gold, placer mines.....	9,348,561	10,237,262	5,327,726	-8.5	92.2

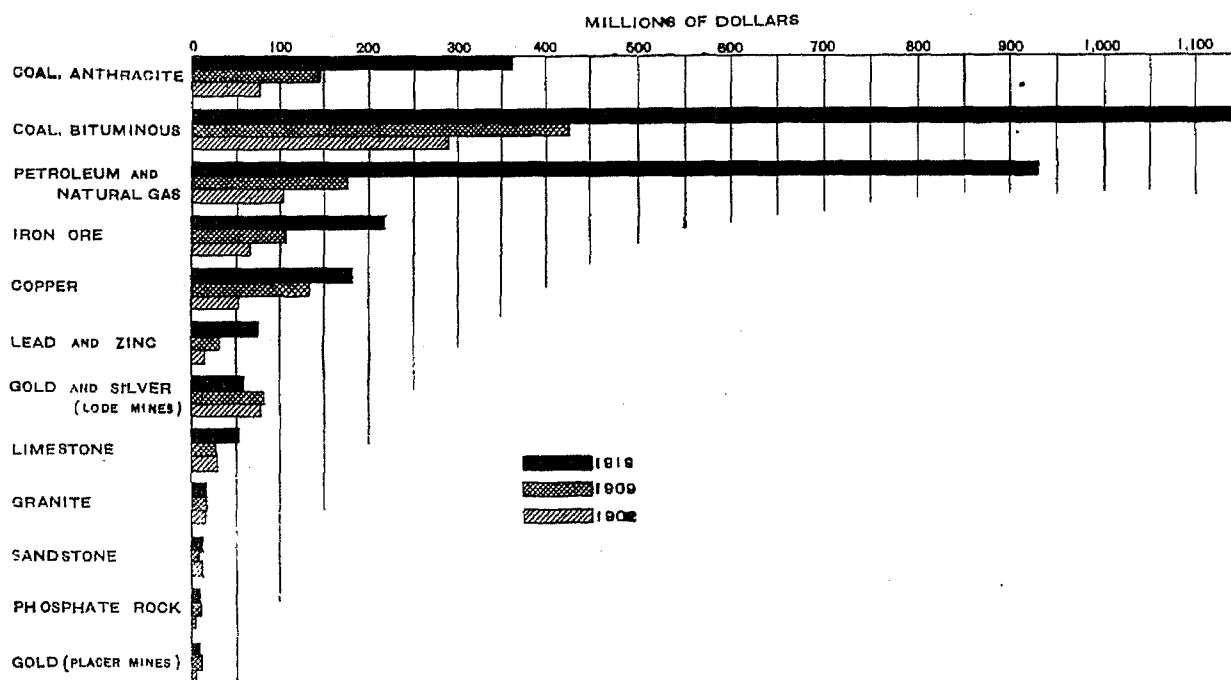
<sup>1</sup> A minus sign (-) denotes decrease.

The greatest relative increase in the seven-year period, 1902-1909, was in the copper-mining industry. This increase is, however, misleading because the value for 1909 includes the value of smelter and refinery products, whereas the value for 1902 is limited to mine products. The next greatest relative increase for the period was in the phosphate-rock mining industry. The greatest decrease for the period 1909 to 1919 is

shown for gold and silver-lode mining which, with the placer-mining industry, suffered because of the fixed price of their principal product. The increases shown for the decennial period 1909 to 1919 are exaggerated and the decreases are understated because of the rise in prices. There were, nevertheless, large actual increases in coal-mining, petroleum, and natural-gas production. In the copper-mining industry the actual increase is masked in the table because smelter and refinery statistics were included with mining statistics for 1909. There were also smaller increases in iron-ore and lead and zinc mining and in limestone quarrying.

Comparative statistics in detail for the years 1919 and 1909, by states, are given in the second of the general tables, page 32. Table 9 gives for the leading states the value of products of the mining industries in 1919, 1909, and 1902, and the same information is shown by the diagram on page 14. The greatest relative increases for the seven-year period 1902-1909 were in Louisiana and Oklahoma, where there was great development of the oil and gas industry, and in Nevada where there was large increase in metal mining during that period. The greatest increases for the period 1909-1919 were shown in Texas and the next greatest in Oklahoma, Kentucky, and Louisiana, for which the great expansion in the petroleum and natural-gas industry were responsible. Notable increases are also shown for Kansas, Wyoming, West Virginia, New Mexico, and Virginia, and are ascribable largely, if not entirely, to growth in the coal-mining and petroleum and natural-gas industry. All these

VALUE OF PRODUCTS, LEADING MINING INDUSTRIES: 1919, 1909, AND 1902.



## MINES AND QUARRIES.

increases are, of course, exaggerated by the price increases during the decade. Very small increases are shown for Colorado and Missouri and decreases are

shown for Montana and Nevada. These changes were the result of depression in the metal-mining industries during 1919.

VALUE OF PRODUCTS, MINING INDUSTRIES, BY STATES: 1919, 1909, AND 1902.

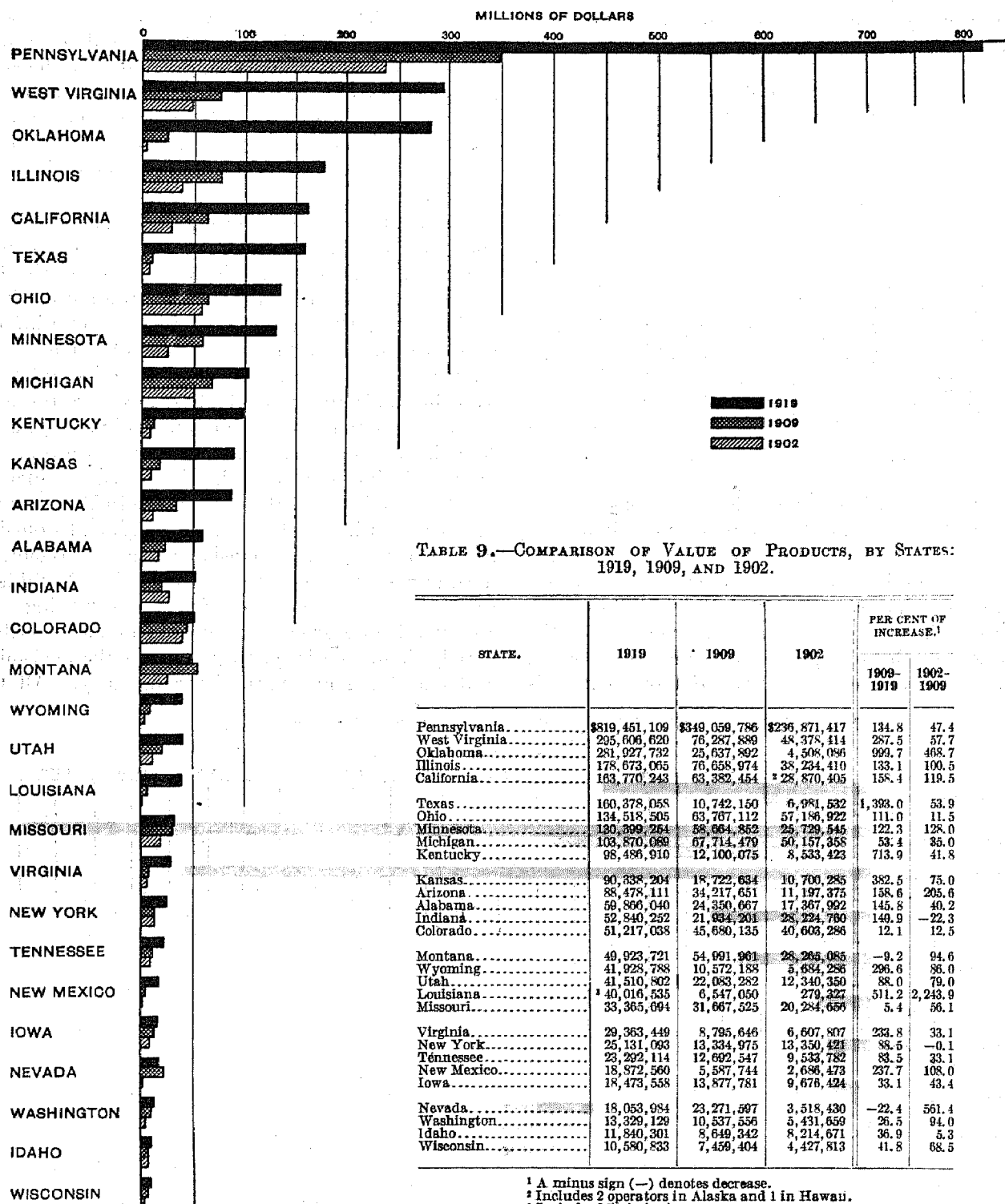


TABLE 9.—COMPARISON OF VALUE OF PRODUCTS, BY STATES: 1919, 1909, AND 1902.

STATE.	1919	1909	1902	PER CENT OF INCREASE. <sup>1</sup>	
				1909-1919	1902-1909
Pennsylvania.....	\$819,451,109	\$349,059,786	\$236,871,417	134.8	47.4
West Virginia.....	255,606,620	76,287,889	48,378,114	287.5	57.7
Oklahoma.....	281,927,732	25,637,892	4,508,096	993.7	468.7
Illinois.....	178,673,065	76,658,974	38,234,410	133.1	100.5
California.....	163,770,243	63,882,454	28,870,405	158.4	119.5
Texas.....	160,378,058	10,742,150	6,981,532	1,393.0	53.9
Ohio.....	134,518,505	63,767,112	57,196,922	111.0	11.5
Minnesota.....	130,599,264	58,664,862	28,729,546	122.3	128.0
Michigan.....	103,870,089	67,714,479	50,157,358	53.4	35.0
Kentucky.....	98,486,910	12,100,075	8,533,423	713.9	41.8
Kansas.....	90,338,204	18,722,634	10,700,285	382.5	75.0
Arizona.....	88,478,111	34,217,651	11,197,375	158.6	205.6
Alabama.....	58,806,040	24,350,667	17,367,992	145.8	40.2
Indiana.....	52,840,252	21,834,201	28,224,780	140.9	-22.3
Colorado.....	51,217,038	45,690,135	40,603,286	12.1	12.5
Montana.....	40,923,721	54,991,961	28,265,085	-9.2	94.6
Wyoming.....	41,928,788	10,572,188	5,684,286	296.6	36.0
Utah.....	41,510,802	22,083,282	12,340,350	88.0	79.0
Louisiana.....	40,016,535	6,847,050	279,327	511.2	2,243.9
Missouri.....	33,365,694	31,667,525	20,284,659	5.4	56.1
Virginia.....	29,363,449	8,795,646	6,607,807	233.8	33.1
New York.....	25,131,063	13,334,975	13,350,421	88.5	-0.1
Tennessee.....	23,292,114	12,692,547	9,533,782	83.5	33.1
New Mexico.....	18,872,560	5,887,744	2,688,473	237.7	108.0
Iowa.....	18,473,558	13,877,781	9,676,424	33.1	43.4
Nevada.....	18,053,984	23,271,597	3,518,430	-22.4	561.4
Washington.....	13,329,129	10,537,556	5,431,659	26.5	94.0
Idaho.....	11,840,301	8,649,342	8,214,671	36.9	5.3
Wisconsin.....	10,580,833	7,459,404	4,427,813	41.8	68.5

<sup>1</sup> A minus sign (—) denotes decrease.

<sup>2</sup> Includes 2 operators in Alaska and 1 in Hawaii.

<sup>3</sup> Includes Mississippi.

## GEOGRAPHIC DISTRIBUTION.

Distribution of mining enterprises by geographic divisions: 1919.—The distribution of the mining industries by geographic divisions is shown in Table 10 and by states in Table 11. These tables give the number of enterprises, mines, quarries, and wells and also the average number of wage earners employed and the value of products with the per cent distribution for wage earners and value of products.

TABLE 10.—STATISTICS FOR PRODUCING ENTERPRISES, BY GEOGRAPHIC DIVISIONS: 1919.

DIVISION.	Number of enterprises.	Number of mines and quarries.	Number of wells.	WAGE EARNERS.		VALUE OF PRODUCTS.	
				Average number.	Per cent of total.	Amount.	Per cent of total.
United States.....	21,280	13,844	257,673	981,560	100.0	\$3,158,463,966	100.0
New England.....	302	334	.....	7,213	0.7	18,723,573	0.6
Middle Atlantic.....	6,604	3,870	91,511	334,175	34.0	853,891,104	27.0
East North Central.....	3,776	2,324	54,413	190,011	19.4	480,482,744	15.2
West North Central.....	1,722	1,270	12,681	62,253	6.3	280,111,296	8.9
South Atlantic.....	2,284	1,978	27,363	129,707	13.2	352,073,775	11.1
East South Central.....	1,405	1,475	5,228	90,612	9.2	181,645,064	5.8
West South Central.....	2,821	495	56,087	60,936	6.2	490,726,862	15.5
Mountain.....	1,508	1,508	1,183	81,519	8.3	321,825,305	10.2
Pacific.....	858	502	9,197	29,134	2.6	178,984,243	5.7

The Middle Atlantic division easily ranked first among the several geographic divisions, the value of its mineral products during 1919 amounting to \$853,891,104, or 27 per cent of the total value for the United States. Next in order was the West South Central division, with products valued at \$490,726,862, or

15.5 per cent of the total. The mineral products of the first division consisted largely of coal and of the second, mainly of petroleum and natural gas. Other divisions with considerable mineral production are the East North Central, South Atlantic, and the Mountain divisions. The percentage distribution of the value of products by geographic divisions for 1919 is shown graphically by the diagram herewith.

PERCENTAGE DISTRIBUTION OF VALUE OF PRODUCTS, BY GEOGRAPHIC DIVISIONS: 1919.

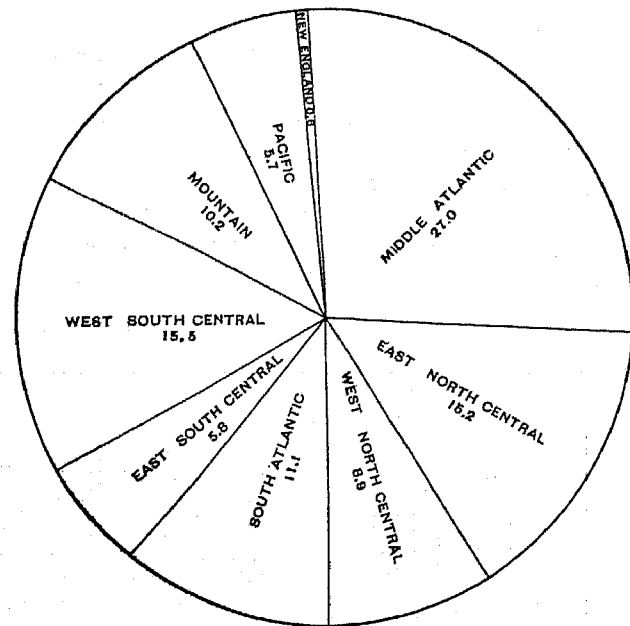


TABLE 11.—STATISTICS FOR PRODUCING ENTERPRISES, BY STATES: 1919.

STATE.	Number of enterprises.	Number of mines and quarries.	Number of wells.	WAGE EARNERS.		VALUE OF PRODUCTS.	
				Average number.	Per cent of total.	Amount.	Per cent of total.
United States.....	21,280	13,844	257,673	981,560	100.0	\$3,158,463,966	100.0
Alabama.....	264	348	.....	32,579	3.3	59,866,040	1.9
Arizona.....	155	172	.....	15,268	1.6	88,478,111	2.8
Arkansas.....	126	126	124	3,630	0.4	8,404,537	0.3
California.....	725	357	9,197	19,344	2.0	163,770,243	5.2
Colorado.....	477	523	70	16,790	1.7	51,217,038	1.6
Connecticut.....	41	47	.....	543	0.1	1,649,003	0.1
Delaware.....	7	8	.....	116	(1)	243,647	(1)
District of Columbia.....	3	3	.....	12	(1)	15,627	(1)
Florida.....	36	55	.....	3,372	0.3	8,976,413	0.3
Georgia.....	74	82	.....	2,397	0.2	4,082,152	0.1
Idaho.....	82	83	.....	2,455	0.3	11,840,301	0.4
Illinois.....	772	590	16,498	79,123	8.1	178,673,065	5.7
Indiana.....	503	398	2,456	26,751	2.7	52,840,252	1.7
Iowa.....	198	226	.....	11,274	1.1	18,473,558	0.6
Kansas.....	814	238	12,660	16,136	1.6	90,338,204	2.9
Kentucky.....	938	864	5,214	43,563	4.4	98,486,910	3.1
Louisiana and Mississippi.....	137	4	2,479	5,228	0.5	40,016,535	1.3
Maine.....	50	51	.....	979	0.1	1,823,442	0.1
Maryland.....	129	161	.....	5,628	0.6	9,698,577	0.3
Massachusetts.....	74	79	.....	1,704	0.2	4,176,699	0.1
Michigan.....	122	165	19	31,292	3.2	103,870,089	3.3
Minnesota.....	135	196	.....	17,265	1.8	130,399,254	4.1
Missouri.....	468	494	.....	14,857	1.5	33,365,694	1.1
Montana.....	259	269	28	16,129	1.6	\$49,923,721	1.6
Nebraska.....	9	9	.....	162	(1)	292,766	(1)
Nevada.....	203	207	.....	4,231	0.4	18,053,984	0.6
New Hampshire.....	30	33	.....	682	0.1	1,568,195	(1)
New Jersey.....	97	102	.....	4,576	0.5	9,308,902	0.3
New Mexico.....	85	103	1	7,100	0.7	18,872,560	0.6
New York.....	700	147	14,186	6,202	0.6	25,131,093	0.8
North Carolina.....	102	106	.....	1,890	0.2	2,736,543	0.1
North Dakota.....	79	79	.....	774	0.1	1,927,304	0.1
Ohio.....	2,283	1,064	35,440	49,298	5.0	134,518,505	4.3
Oklahoma.....	1,934	284	44,735	33,914	3.5	281,927,732	8.9
Oregon.....	50	52	.....	740	0.1	1,884,871	0.1
Pennsylvania.....	5,807	3,621	77,325	323,397	32.9	819,451,106	25.9
Rhode Island.....	14	15	.....	369	(1)	952,204	(1)
South Carolina.....	20	20	.....	933	0.1	1,350,747	(1)
South Dakota.....	23	28	1	1,785	0.2	5,314,516	0.2
Tennessee.....	203	263	14	14,470	1.5	23,292,114	0.7
Texas.....	624	81	8,749	18,164	1.9	160,378,058	5.1
Utah.....	141	154	.....	9,847	1.0	41,510,802	1.3
Vermont.....	93	109	.....	2,936	0.3	8,555,030	0.3
Virginia.....	202	216	.....	14,547	1.5	29,363,449	0.9
Washington.....	83	93	.....	5,050	0.5	13,329,129	0.4
West Virginia.....	1,714	1,325	27,363	100,812	10.3	295,606,620	9.3
Wisconsin.....	92	107	.....	3,547	0.4	10,580,833	0.3
Wyoming.....	106	87	1,084	9,699	1.0	41,928,788	1.3

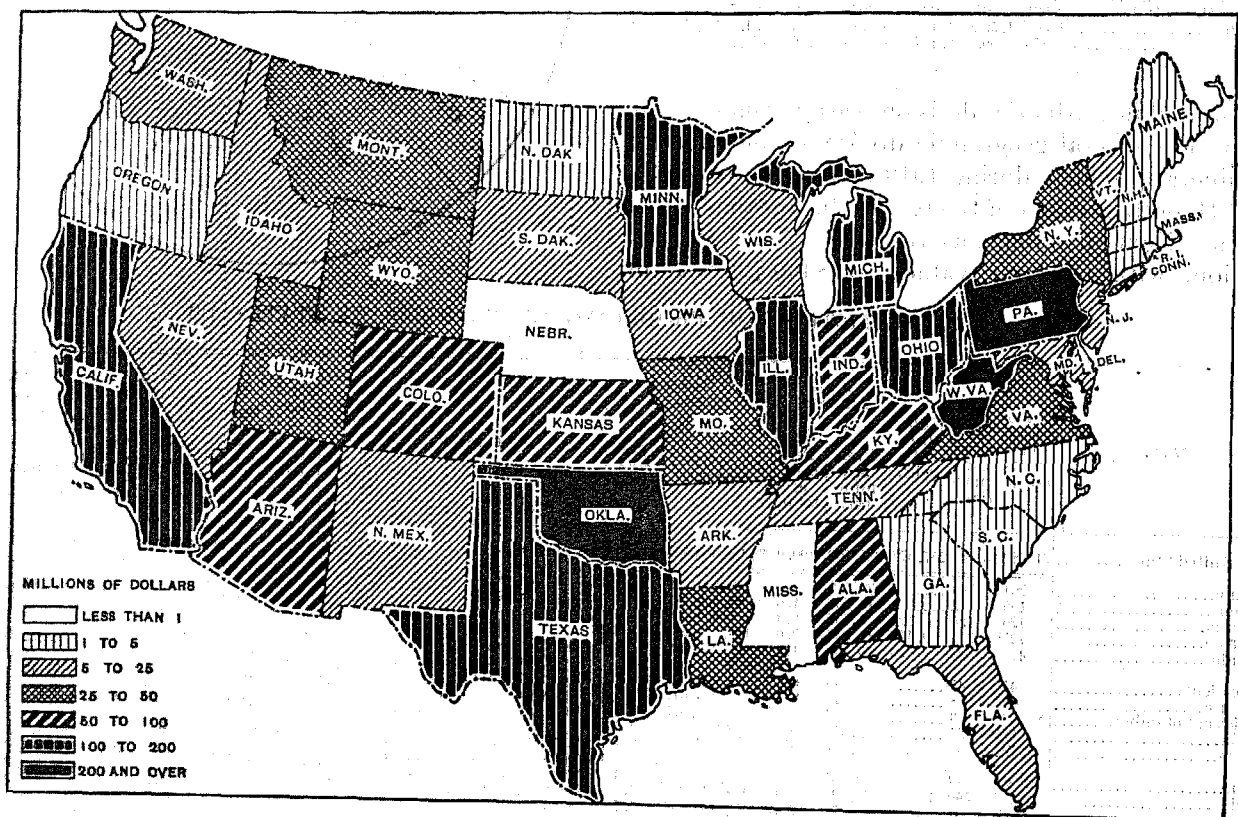
¹ Less than one-tenth of 1 per cent.

The prominence of the Middle Atlantic division in mineral production is due wholly to the state of Pennsylvania, which, as shown in Tables 9 and 11, with products (mainly coal) valued at over \$800,000,000, in 1919 reported more than one-fourth of the value of all mineral products in the United States. No other state approaches Pennsylvania in importance in the mining industries. West Virginia, which ranks second, had products valued at nearly \$300,000,000, about two-thirds of which was the value of coal and about one-third the value of petroleum and natural gas. The total value of products for this state was a little more than one-third of the value shown for Pennsylvania and 9.3 per cent of the total shown for the United States. Oklahoma ranked third with products, mainly petroleum and natural gas, valued at nearly \$282,000,000, or a little more than one-third of the value shown for Pennsylvania and 8.9 per cent of the total for the United States. Other states having mineral products valued at more than \$100,000,000

in 1919 were Illinois, California, Texas, Ohio, Minnesota, and Michigan. The nine states named, reported in 1919, 71.8 per cent of the value of all mineral products for the United States.

There are several states in which the mineral production is quite insignificant—Connecticut, Delaware, District of Columbia, Maine, Mississippi, Nebraska, New Hampshire, North Carolina, North Dakota, Oregon, Rhode Island, and South Carolina each contributing less than one-tenth of 1 per cent of the value of mineral products. The value of products for Arkansas, Florida, Georgia, Idaho, Maryland, Massachusetts, New Jersey, South Dakota, Vermont, Washington, and Wisconsin were each less than one-half of 1 per cent of the total for the United States. The combined value of products of these 23 states was less than 4 per cent of the total for the United States. The map following shows the relative value of products of the mining industries in the several states.

VALUE OF PRODUCTS, MINING INDUSTRIES, BY STATES: 1919.



The distribution of wage earners employed in producing mining enterprises follows approximately the distribution of the total value of products except, however, that where coal is the chief mineral product the average number of wage earners is relatively greater, and where petroleum and natural gas are the principal products, the average number of wage earners is relatively less. Thus, as shown by Table 10, the Middle Atlantic division reported 34 per cent of all

wage earners, a considerably greater percentage than its share of the total value of products. An excess in percentage of total wage earners over percentage of total value of products was also reported for the coal-producing East North Central and South Atlantic divisions, which ranked second and third, respectively, on the basis of wage earners employed. The reverse is markedly the case in the West South Central division, in which petroleum and natural gas produc-

# SUMMARY OF RESULTS.

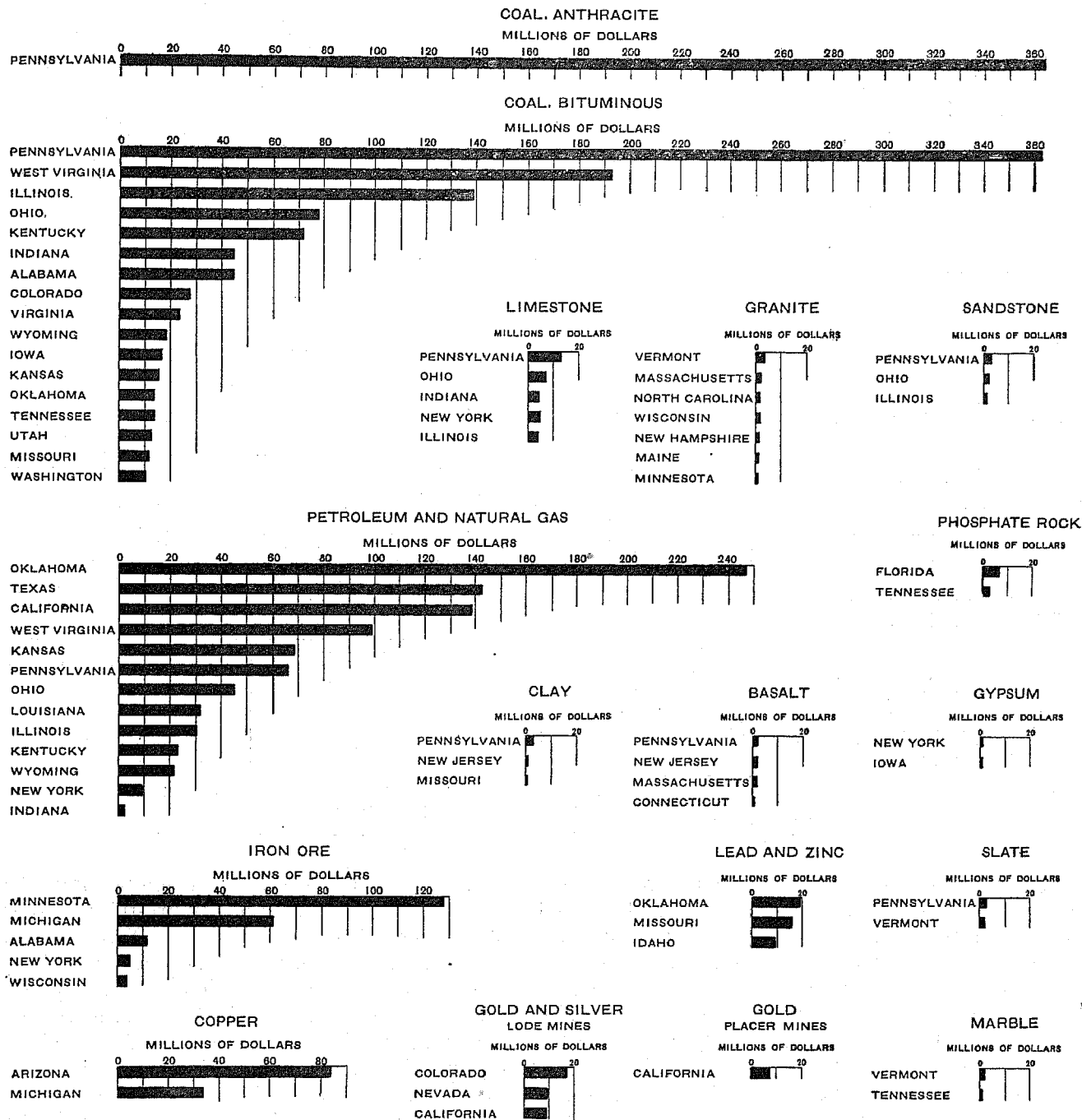
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tion was the principal industry, and which ranked seventh in the average number of wage earners, but second in value of products.

Distribution of the principal industries by states: 1919.—Table 12 gives the number of enterprises, the average number of wage earners, and the value of

products for the leading states for each of 16 leading mining industries, and shows for each industry and state the per cent distribution of the total number of wage earners and total value of products. The same data on value of products are presented graphically by the diagram herewith.

VALUE OF PRODUCTS, LEADING MINING INDUSTRIES, BY STATES: 1919.



Pennsylvania contributed nearly one-third of the value of products of the bituminous coal mines in 1919, and the group of six contiguous states, Pennsylvania, West Virginia, Illinois, Ohio, Kentucky, and Indiana, together reported more than three-fourths of the total. The table shows altogether 17 states in all parts of

the United States each of which produced bituminous coal valued at more than \$10,000,000 and which together accounted for 96.5 per cent of the total.

The anthracite coal production is practically confined to the state of Pennsylvania and is shown separately for that state only.

## MINES AND QUARRIES.

TABLE 12.—PRINCIPAL INDUSTRIES, BY STATES, RANKED BY VALUE OF PRODUCTS, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND STATE.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.		INDUSTRY AND STATE.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.	
		Average number.	Per cent of total.	Amount.	Per cent of total.			Average number.	Per cent of total.	Amount.	Per cent of total.
COAL, ANTHRACITE.....	254	147,372	100.0	\$394,084,142	100.0	LIMESTONE <sup>1</sup> .....	895	22,069	100.0	\$52,943,924	100.0
Pennsylvania.....	254	147,372	100.0	394,084,142	100.0	Pennsylvania.....	184	5,573	25.3	12,881,213	24.3
COAL, BITUMINOUS.....	6,636	545,798	100.0	1,145,977,565	100.0	Ohio.....	90	2,262	10.2	6,742,496	12.7
Pennsylvania.....	1,933	154,992	28.4	362,973,952	31.7	Indiana.....	67	1,800	8.2	4,619,801	8.7
West Virginia.....	926	87,095	16.0	193,108,343	16.9	New York.....	55	1,739	7.9	4,597,942	8.7
Illinois.....	447	73,780	13.5	138,707,835	12.1	Illinois.....	41	1,244	5.6	3,776,626	7.1
Ohio.....	788	40,452	7.4	77,988,602	6.8	GRANITE.....	358	8,049	100.0	18,279,345	100.0
Kentucky.....	635	39,769	7.3	72,482,849	6.3	Vermont.....	27	1,062	13.2	3,563,734	19.5
Indiana.....	295	24,479	4.5	45,492,726	4.0	Massachusetts.....	42	1,034	12.8	2,405,165	13.2
Alabama.....	188	24,048	4.5	45,359,441	4.0	North Carolina.....	16	959	11.9	1,570,250	8.6
Colorado.....	161	11,252	2.1	28,342,195	2.5	Wisconsin.....	14	753	9.4	1,484,979	8.1
Virginia.....	108	11,215	2.1	23,763,440	2.1	New Hampshire.....	23	589	7.3	1,427,979	7.8
Wyoming.....	49	7,091	1.3	18,723,451	1.6	Maine.....	42	747	9.3	1,300,996	7.1
Iowa.....	167	10,584	1.9	16,963,358	1.5	Minnesota.....	27	392	4.9	1,135,391	6.2
Kansas.....	129	8,084	1.5	15,748,535	1.4	SANDSTONE.....	255	4,287	100.0	10,684,969	100.0
Oklahoma.....	84	7,040	1.3	14,477,317	1.3	Pennsylvania.....	100	1,673	39.0	3,534,563	33.1
Tennessee.....	167	9,550	1.8	14,024,452	1.2	Ohio.....	21	875	20.4	2,759,352	25.8
Utah.....	27	3,647	0.7	12,632,035	1.1	Illinois.....	15	288	6.7	1,329,389	12.4
Missouri.....	179	7,285	1.3	12,077,845	1.1	PHOSPHATE ROCK.....	48	4,373	100.0	10,300,198	100.0
Washington.....	35	4,413	0.8	10,737,650	0.9	Florida.....	23	2,330	53.3	6,678,888	64.8
PETROLEUM AND NATURAL GAS.....	9,814	93,205	100.0	931,793,423	100.0	Tennessee.....	19	1,568	35.9	3,139,671	30.5
Oklahoma.....	1,699	21,180	22.7	247,497,450	26.6	CLAY <sup>2</sup> .....	345	5,453	100.0	10,086,298	100.0
Texas.....	553	13,599	14.6	143,337,362	15.4	Pennsylvania.....	62	1,337	24.5	2,546,485	25.2
California.....	403	12,344	13.2	139,018,663	14.9	New Jersey.....	35	868	15.9	1,482,358	14.7
West Virginia.....	751	12,362	13.2	99,518,304	10.7	Missouri.....	41	622	11.4	1,420,585	14.1
Kansas.....	615	6,305	6.8	68,515,138	7.4	BASALT.....	163	3,336	100.0	9,657,977	100.0
Pennsylvania.....	3,140	9,065	9.7	66,271,961	7.1	Pennsylvania.....	29	721	21.6	2,298,791	23.8
Ohio.....	1,333	5,123	5.5	45,453,525	4.9	New Jersey.....	36	637	19.1	1,928,025	20.0
Louisiana.....	133	4,841	5.2	32,016,085	3.4	Massachusetts.....	21	547	16.4	1,548,611	16.0
Illinois.....	296	2,752	3.0	31,263,593	3.4	Connecticut.....	20	363	10.9	1,262,579	13.1
Kentucky.....	196	2,119	2.3	23,329,521	2.5	GOLD, PLACER MINES.....	112	1,389	100.0	9,368,561	100.0
Wyoming.....	39	2,167	2.3	21,669,937	2.4	California.....	60	1,102	79.9	7,937,654	84.7
New York.....	561	868	0.9	9,900,804	1.1	GYPSUM.....	47	2,191	100.0	6,805,940	100.0
Indiana.....	131	403	0.4	2,604,395	0.3	New York.....	6	400	18.3	1,110,463	16.3
IRON ORE.....	89	45,741	100.0	218,217,905	100.0	Iowa.....	5	444	20.3	1,092,920	16.1
Minnesota.....	80	16,236	35.5	128,377,174	58.8	SLATE.....	101	3,513	100.0	5,720,792	100.0
Michigan.....	65	16,160	35.3	60,906,662	27.9	Pennsylvania.....	42	1,892	53.9	2,651,533	46.3
Alabama.....	39	6,485	14.2	12,261,766	5.6	Vermont.....	38	1,089	29.6	2,057,388	36.0
New York.....	7	1,811	4.0	5,264,443	2.4	MARBLE.....	48	1,732	100.0	4,397,912	100.0
Wisconsin.....	6	1,145	2.5	3,826,872	1.8	Vermont.....	15	570	32.9	2,108,872	48.0
COPPER <sup>1</sup> .....	195	43,717	100.0	181,258,087	100.0	Tennessee.....	13	540	31.2	1,088,131	24.7
Arizona.....	75	14,237	32.6	84,217,141	46.5						
Michigan.....	22	12,235	28.0	34,476,336	19.0						
LEAD AND ZINC <sup>2</sup> .....	432	21,884	100.0	75,579,347	100.0						
Oklahoma.....	111	5,253	24.0	15,979,726	25.1						
Missouri.....	93	4,793	21.9	15,879,177	21.0						
Idaho.....	20	1,820	8.3	9,529,723	12.6						
GOLD AND SILVER, LODE MINES <sup>3</sup> .....	740	15,436	100.0	58,832,330	100.0						
Colorado.....	198	3,495	22.6	16,785,716	28.5						
Nevada.....	148	2,084	13.5	9,687,431	16.5						
California.....	99	2,881	18.7	8,773,737	14.9						

<sup>1</sup> Montana and Utah, ranking 3 and 4, respectively, not shown in order to avoid disclosure of individual operations.<sup>2</sup> Montana, ranking 4, not shown in order to avoid disclosure of individual operations.<sup>3</sup> Utah, ranking 4, not shown in order to avoid disclosure of individual operations.<sup>4</sup> Michigan, ranking 6, not shown in order to avoid disclosure of individual operations.<sup>5</sup> Ohio, ranking 4, not shown in order to avoid disclosure of individual operations.

The production of petroleum and natural gas was chiefly from three areas—in eastern, central, and western parts of the country. The central area, mainly in Kansas, Oklahoma, and Texas, reported nearly one-half of the total value of these products, and Oklahoma lead with 26.6 per cent of the total value of petroleum and natural-gas products for the United States. The eastern area was mainly in Pennsylvania, Ohio, and West Virginia, which states together reported nearly one-fourth of the total value. The area third in importance was in California, which reported a little more than one-seventh of the total value.

Localization of the metal-mining industry is more marked than for the fuel producing industries. Nearly one-half of the copper production was in Arizona and

nearly one-fifth in Michigan. These two states leading in this industry reported nearly two-thirds of the value of products of the copper mines. Nearly one-half of the value of lead and zinc mines was reported in Oklahoma and Missouri and with the Kansas production (not shown in the table) added to these more than one-half of the total value is accounted for in this central region. Gold and silver mining is practically limited to the Western states. The three leading states, Colorado, Nevada, and California, together reported three-fifths, and Colorado alone reported more than one-fourth of the total value of products of this industry. Nearly three-fifths of the value of iron ore mined was reported by one state, Minnesota, and the value of iron ore produced in the adjacent states, Michigan and Wisconsin, brought the total for this northern central

region to nearly nine-tenths of the total for the United States.

Stone-quarrying enterprises are very widely distributed throughout the country, but as shown by the value of products for the states, the industries are much more important in New England and Middle Atlantic states than elsewhere. The phosphate-rock industry is practically all concentrated in Florida and Tennessee.

## CHARACTER OF ORGANIZATION.

Table 13 presents a classification of mining enterprises according to the character, corporate or other, of the organizations operating them. The table gives, for all industries combined and for each of the leading industries separately, the number of enterprises operated by each form of organization and shows the average number of wage earners employed and the value of products with the distribution by classes.

TABLE 13.—CHARACTER OF ORGANIZATION, PRODUCING ENTERPRISES: 1919.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprise.	Enterprises.	Wage earners.	Value of products.
ALL INDUSTRIES.....	21,280	981,560	\$3,158,463,966	\$148,424	100.0	100.0	100.0
Corporation.....	10,879	924,421	2,954,789,792	271,605	51.1	94.2	93.6
Individual.....	4,312	24,107	71,982,739	16,694	20.3	2.5	2.3
Firm.....	5,249	28,916	101,683,684	19,733	24.7	2.9	3.3
Other.....	840	4,116	28,007,751	33,343	3.9	0.4	0.9
COAL, ANTHRACITE.....	254	147,372	361,084,142	1,433,402	100.0	100.0	100.0
Corporation.....	170	143,615	355,328,907	2,090,170	65.9	97.5	97.6
Individual.....	37	431	962,441	25,012	14.6	0.3	0.3
Firm.....	42	2,879	6,741,024	160,501	15.5	2.0	1.9
Other.....	5	447	1,051,770	210,354	2.0	0.3	0.3
COAL, BITUMINOUS.....	6,636	545,798	1,145,977,565	172,691	100.0	100.0	100.0
Corporation.....	4,325	515,692	1,085,004,874	250,868	65.2	94.5	94.7
Individual.....	1,181	13,844	28,343,865	24,000	17.8	2.5	2.5
Firm.....	1,095	14,847	30,100,087	27,489	16.5	2.7	2.6
Other.....	35	1,415	2,528,639	72,247	0.5	0.3	0.2
PETROLEUM AND NATURAL GAS.....	9,814	93,205	931,793,423	94,945	100.0	100.0	100.0
Corporation.....	3,685	83,399	828,633,805	224,867	37.5	89.5	88.9
Individual.....	2,063	3,242	28,759,093	13,940	21.0	3.5	3.1
Firm.....	3,296	5,002	51,758,029	15,708	33.6	5.4	5.6
Other.....	770	1,562	22,642,493	29,406	7.8	1.7	2.4
IRON ORE.....	290	45,741	218,217,905	752,476	100.0	100.0	100.0
Corporation.....	267	45,152	216,718,813	\$11,681	92.1	98.7	99.3
Individual.....	12	221	390,551	32,546	4.1	0.5	0.2
Firm.....	11	368	1,108,541	100,776	3.8	0.8	0.5
COPPER.....	195	43,717	181,258,087	929,529	100.0	100.0	100.0
Corporation.....	141	43,470	180,735,466	1,281,812	72.3	99.4	99.7
Individual.....	24	150	310,336	12,931	12.3	0.3	0.2
Firm.....	30	97	212,285	7,076	15.4	0.2	0.1
LEAD AND ZINC.....	432	21,884	75,579,347	174,952	100.0	100.0	100.0
Corporation.....	287	20,508	70,551,148	245,823	66.4	93.7	93.3
Individual.....	40	372	1,510,296	37,757	9.3	1.7	2.0
Firm.....	100	870	3,156,133	31,561	23.1	4.0	4.2
Other.....	5	134	361,770	72,354	1.2	0.6	0.5
GOLD AND SILVER, LODE MINES.....	740	15,436	58,832,330	79,503	100.0	100.0	100.0
Corporation.....	396	14,448	55,715,104	140,695	53.5	93.6	94.7
Individual.....	138	401	802,301	5,814	18.6	2.6	1.4
Firm.....	198	480	1,963,422	9,916	26.8	3.1	3.3
Other.....	8	107	351,503	43,938	1.1	0.7	0.6
LIMESTONE.....	895	22,069	52,943,924	59,155	100.0	100.0	100.0
Corporation.....	462	18,324	45,890,065	99,330	51.6	83.0	86.7
Individual.....	289	2,011	3,705,252	12,821	32.3	9.1	7.0
Firm.....	140	1,635	3,112,907	22,235	15.6	7.4	5.9
Other.....	4	99	235,160	58,790	0.4	0.4	0.4
GRANITE.....	358	8,049	\$18,279,345	\$51,060	100.0	100.0	100.0
Corporation.....	152	6,392	14,504,529	95,425	42.5	79.4	79.3
Individual.....	129	938	2,109,442	16,742	35.2	11.7	11.5
Firm.....	80	719	1,665,374	20,817	22.3	8.9	9.1
SULPHUR.....	4	1,129	17,935,882	4,483,971	100.0	100.0	100.0
Corporation.....	4	1,129	17,935,882	4,483,971	100.0	100.0	100.0
SANDSTONE.....	255	4,287	10,684,939	41,902	100.0	100.0	100.0
Corporation.....	142	3,574	9,405,088	66,233	55.7	83.4	88.0
Individual.....	61	279	500,761	8,209	23.9	6.5	4.7
Firm.....	32	434	779,140	14,983	20.4	10.1	7.3
PHOSPHATE ROCK.....	48	4,373	10,300,198	214,587	100.0	100.0	100.0
Corporation.....	39	4,058	9,546,209	244,775	81.3	92.8	92.7
Individual.....	4	95	187,858	46,965	8.3	2.2	1.8
Firm.....	5	220	566,131	113,236	10.4	5.0	5.5
CLAY.....	345	5,453	10,086,298	29,236	100.0	100.0	100.0
Corporation.....	212	4,480	8,034,433	37,898	61.4	82.2	79.7
Individual.....	98	644	1,454,977	14,847	28.4	11.8	14.4
Firm.....	35	329	596,888	17,054	10.1	6.0	5.9
BASALT.....	163	3,336	9,657,977	59,251	100.0	100.0	100.0
Corporation.....	104	2,809	8,327,873	80,076	63.8	84.2	86.2
Individual.....	40	356	973,250	24,331	24.5	10.7	10.1
Firm.....	16	149	336,073	21,005	9.8	4.5	3.5
Other.....	3	22	20,781	6,927	1.8	0.7	0.2
GOLD, PLACER MINES.....	112	1,389	9,368,561	83,648	100.0	100.0	100.0
Corporation.....	45	1,259	8,065,148	199,226	40.2	91.2	95.7
Individual.....	33	78	338,015	10,243	29.5	5.7	3.6
Firm.....	34	43	65,398	1,923	30.4	3.1	0.7
GYPSUM.....	47	2,191	6,805,940	144,807	100.0	100.0	100.0
Corporation.....	43	2,176	6,782,826	157,740	91.5	99.3	99.7
Individual.....	4	15	23,114	5,779	8.7	0.7	0.3
SLATE.....	101	3,513	5,720,792	56,642	100.0	100.0	100.0
Corporation.....	71	3,007	5,021,062	70,719	70.3	85.6	87.8
Individual.....	8	131	187,699	23,462	7.9	3.7	3.3
Firm.....	22	375	512,031	23,274	21.8	10.7	9.0
MARBLE.....	48	1,732	4,397,912	91,623	100.0	100.0	100.0
Corporation.....	44	1,672	4,318,737	98,153	91.7	96.5	98.2
Individual.....	4	60	79,175	19,794	8.3	3.5	1.8

<sup>1</sup> Includes 1 "other" form of organization.

<sup>2</sup> Includes 2 "other" forms of organization.

<sup>3</sup> Includes 2 firms.

Among 21,280 enterprises of producing mines, quarries, and wells 10,879, or slightly more than half, were conducted by corporations. These enterprises employed 94.2 per cent of the total average number of persons engaged in the mining enterprises and reported 93.6 per cent of the total value of products. Individuals conducted about one-fifth, firms and partner-

ships about one-fourth, and other forms of organizations only a very small part of the total number of enterprises, and the number of wage earners employed and the value of products reported by these classes were quite unimportant. Furthermore, the average value of products was \$271,605 per enterprise for those enterprises operated by corporations and only one-



eighth as much or less for enterprises operated by any other form of organization. Corporations were in the majority in each of the leading industries except petroleum and natural gas, granite, and gold-placer mining, and in these three they outnumbered organizations of other character and conducted the larger and more important enterprises.

## SCALE OF OPERATION.

Size of enterprises by value of products.—Table 14 gives for all mining industries combined and for 16 leading mining industries separately a classification of enterprises according to value of products, and shows for each class the number of enterprises and the value of products with the per cent distribution.

TABLE 14.—SIZE OF PRODUCING ENTERPRISES, BY VALUE OF PRODUCTS: 1919.

INDUSTRY AND VALUE OF PRODUCTS PER ENTERPRISE.	Num-ber.	Per cent dis-tribution.	VALUE OF PRODUCTS.		INDUSTRY AND VALUE OF PRODUCTS PER ENTERPRISE.	Num-ber.	Per cent dis-tribution.	VALUE OF PRODUCTS.	
			Amount.	Per cent dis-tribution.				Amount.	Per cent dis-tribution.
<b>ALL INDUSTRIES.....</b>	<b>21,280</b>	<b>100.0</b>	<b>\$3,158,463,966</b>	<b>100.0</b>	<b>GOLD AND SILVER, LOSE MINES.....</b>	<b>740</b>	<b>100.0</b>	<b>\$58,832,330</b>	<b>100.0</b>
Less than \$5,000.....	6,586	30.9	15,228,604	0.5	Less than \$5,000.....	381	51.5	695,409	1.2
\$5,000 to \$20,000.....	5,539	26.0	58,745,473	1.9	\$5,000 to \$20,000.....	149	20.1	1,500,964	2.6
\$20,000 to \$100,000.....	4,990	23.5	237,600,990	7.5	\$20,000 to \$100,000.....	113	15.3	5,149,322	8.8
\$100,000 to \$500,000.....	3,005	14.1	686,788,422	21.7	\$100,000 to \$500,000.....	67	9.1	14,986,545	25.5
\$500,000 to \$1,000,000.....	684	3.2	472,131,636	14.9	\$500,000 to \$1,000,000.....	19	2.6	13,255,565	22.5
\$1,000,000 to \$5,000,000.....	392	1.8	754,160,595	23.9	\$1,000,000 and over <sup>2</sup> .....	11	1.6	23,244,525	39.5
\$5,000,000 and over.....	84	0.4	933,808,246	29.6					
<b>COAL.....</b>	<b>6,890</b>	<b>100.0</b>	<b>1,510,061,707</b>	<b>100.0</b>	<b>LIMESTONE.....</b>	<b>895</b>	<b>100.0</b>	<b>52,943,924</b>	<b>100.0</b>
Less than \$5,000.....	855	12.4	2,801,020	0.2	Less than \$5,000.....	208	23.2	507,076	1.0
\$5,000 to \$20,000.....	1,656	24.0	18,054,536	1.2	\$5,000 to \$20,000.....	259	28.9	2,915,075	5.5
\$20,000 to \$100,000.....	2,049	29.7	102,223,269	6.8	\$20,000 to \$100,000.....	310	34.6	14,420,913	27.3
\$100,000 to \$500,000.....	1,090	21.5	396,152,362	26.2	\$100,000 to \$500,000.....	103	11.5	20,834,355	39.4
\$500,000 to \$1,000,000.....	409	5.9	281,472,982	18.6	\$500,000 to \$1,000,000.....	10	1.1	6,904,529	13.0
\$1,000,000 to \$5,000,000.....	204	3.0	372,478,693	24.7	\$1,000,000 to \$5,000,000.....	5	0.6	7,352,376	13.9
\$5,000,000 and over.....	27	0.4	336,878,848	22.3					
<b>ANTHRACITE.....</b>	<b>254</b>	<b>100.0</b>	<b>364,084,142</b>	<b>100.0</b>	<b>GRANITE.....</b>	<b>358</b>	<b>100.0</b>	<b>18,279,345</b>	<b>100.0</b>
Less than \$5,000.....	37	14.6	89,997	(1)	Less than \$5,000.....	90	25.1	241,093	1.3
\$5,000 to \$20,000.....	38	15.0	440,045	0.1	\$5,000 to \$20,000.....	104	29.1	1,027,383	5.6
\$20,000 to \$100,000.....	43	16.9	1,843,631	0.5	\$20,000 to \$100,000.....	110	30.7	4,780,424	26.2
\$100,000 to \$500,000.....	39	15.4	10,076,964	2.8	\$100,000 to \$500,000.....	50	14.0	9,344,547	51.1
\$500,000 to \$1,000,000.....	32	12.6	24,276,649	6.7	\$500,000 and over <sup>2</sup> .....	4	1.1	2,879,898	15.8
\$1,000,000 to \$5,000,000.....	48	18.9	85,086,309	22.8	<b>SANDSTONE.....</b>	<b>255</b>	<b>100.0</b>	<b>10,684,900</b>	<b>100.0</b>
\$5,000,000 and over.....	17	6.7	244,270,547	67.1	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 <sup>4</sup> .....	26	10.2	6,610,935	61.9
<b>BITUMINOUS.....</b>	<b>6,636</b>	<b>100.0</b>	<b>1,145,977,565</b>	<b>100.0</b>	<b>PHOSPHATE ROCK.....</b>	<b>48</b>	<b>100.0</b>	<b>10,300,198</b>	<b>100.0</b>
Less than \$5,000.....	818	12.3	2,711,023	0.2	Less than \$20,000 <sup>5</sup> .....	8	16.7	66,217	0.6
\$5,000 to \$20,000.....	1,618	24.4	17,614,491	1.5	\$20,000 to \$100,000.....	16	33.3	897,741	8.7
\$20,000 to \$100,000.....	2,006	30.2	100,379,635	8.8	\$100,000 to \$500,000.....	17	35.4	4,052,511	39.3
\$100,000 to \$500,000.....	1,651	24.9	386,075,398	33.7	\$500,000 and over <sup>2</sup> .....	7	14.6	5,283,729	51.3
\$500,000 to \$1,000,000.....	377	5.7	257,196,333	22.4	<b>CLAY.....</b>	<b>345</b>	<b>100.0</b>	<b>10,086,298</b>	<b>100.0</b>
\$1,000,000 to \$5,000,000.....	156	2.4	289,892,384	25.3	Less than \$5,000.....	82	23.8	192,739	1.9
\$5,000,000 and over.....	10	0.2	92,608,301	8.1	\$5,000 to \$20,000.....	118	34.2	1,248,365	12.4
<b>PETROLEUM AND NATURAL GAS.....</b>	<b>9,814</b>	<b>100.0</b>	<b>931,793,423</b>	<b>100.0</b>	\$20,000 to \$100,000.....	127	36.8	5,949,044	59.0
Less than \$5,000.....	4,348	44.3	9,531,235	1.0	\$100,000 to \$500,000.....	18	5.2	2,606,150	26.7
\$5,000 to \$20,000.....	2,797	28.5	28,919,564	3.1	<b>BASALT.....</b>	<b>163</b>	<b>100.0</b>	<b>9,657,977</b>	<b>100.0</b>
\$20,000 to \$100,000.....	1,696	17.3	75,785,417	8.1	Less than \$5,000.....	20	12.3	48,034	0.5
\$100,000 to \$500,000.....	684	7.0	150,748,376	16.2	\$5,000 to \$20,000.....	40	24.5	490,470	5.1
\$500,000 to \$1,000,000.....	156	1.6	109,951,280	11.8	\$20,000 to \$100,000.....	77	47.2	3,850,020	39.9
\$1,000,000 to \$5,000,000.....	96	1.0	204,187,367	21.9	\$100,000 and over <sup>6</sup> .....	26	16.0	5,269,453	54.6
\$5,000,000 and over.....	37	0.4	352,670,184	37.8	<b>GOLD, PLACER MINES.....</b>	<b>112</b>	<b>100.0</b>	<b>9,368,561</b>	<b>100.0</b>
<b>IRON ORE.....</b>	<b>290</b>	<b>100.0</b>	<b>218,217,905</b>	<b>100.0</b>	Less than \$5,000.....	74	66.1	119,809	1.3
Less than \$5,000.....	15	5.2	36,040	(1)	\$5,000 to \$20,000.....	12	10.7	112,178	1.2
\$5,000 to \$20,000.....	29	10.0	392,775	0.2	\$20,000 to \$100,000.....	12	10.7	798,005	8.5
\$20,000 to \$100,000.....	69	23.8	3,774,321	1.7	\$100,000 to \$500,000.....	11	9.8	2,611,707	27.9
\$100,000 to \$500,000.....	98	33.8	26,453,784	12.1	\$500,000 and over <sup>2</sup> .....	8	2.7	5,726,262	61.1
\$500,000 to \$1,000,000.....	41	14.1	28,239,920	12.9	<b>GYPSUM.....</b>	<b>47</b>	<b>100.0</b>	<b>6,805,940</b>	<b>100.0</b>
\$1,000,000 to \$5,000,000.....	35	12.1	63,674,560	29.2	Less than \$5,000.....	3	6.4	5,042	0.1
\$5,000,000 and over.....	3	1.0	95,646,505	43.8	\$5,000 to \$20,000.....	5	10.6	69,164	1.0
<b>COPPER.....</b>	<b>195</b>	<b>100.0</b>	<b>181,258,087</b>	<b>100.0</b>	\$20,000 to \$100,000.....	18	38.3	941,620	13.8
Less than \$5,000.....	60	30.8	103,183	0.1	\$100,000 to \$500,000.....	18	38.3	4,100,134	60.2
\$5,000 to \$20,000.....	33	16.9	369,280	0.2	\$500,000 to \$1,000,000.....	3	6.4	1,689,980	24.8
\$20,000 to \$100,000.....	33	16.9	1,911,892	1.1	<b>SLATE.....</b>	<b>101</b>	<b>100.0</b>	<b>5,720,792</b>	<b>100.0</b>
\$100,000 to \$500,000.....	28	14.4	6,799,421	3.8	Less than \$5,000.....	13	12.9	36,448	0.6
\$500,000 to \$1,000,000.....	9	4.6	6,350,924	3.5	\$5,000 to \$20,000.....	21	20.8	270,824	4.8
\$1,000,000 to \$5,000,000.....	19	9.7	43,121,957	23.8	\$20,000 to \$100,000.....	55	54.5	2,704,500	48.3
\$5,000,000 and over.....	13	6.7	122,601,430	67.6	\$100,000 and over <sup>6</sup> .....	12	11.9	2,043,020	46.2
<b>LEAD AND ZINC.....</b>	<b>432</b>	<b>100.0</b>	<b>75,579,347</b>	<b>100.0</b>	<b>MARBLE.....</b>	<b>48</b>	<b>100.0</b>	<b>4,397,912</b>	<b>100.0</b>
Less than \$5,000.....	135	31.3	261,492	0.3	Less than \$5,000.....	4	8.3	10,702	0.2
\$5,000 to \$20,000.....	80	18.5	817,185	1.1	\$5,000 to \$20,000.....	8	16.7	81,157	1.8
\$20,000 to \$100,000.....	85	19.7	4,494,519	5.9	\$20,000 to \$100,000.....	25	52.1	1,255,344	28.5
\$100,000 to \$500,000.....	102	23.6	25,190,455	33.3	\$100,000 and over <sup>2</sup> .....	11	22.9	3,050,709	69.4
\$500,000 to \$1,000,000.....	17	3.9	11,617,808	15.4					
\$1,000,000 and over <sup>2</sup> .....	13	3.0	33,197,588	43.9					

<sup>1</sup> Less than one-tenth of 1 per cent.

<sup>2</sup> Includes the group "\$5,000,000 and over."

<sup>3</sup> Includes the group "\$1,000,000 to \$5,000,000."

<sup>4</sup> Includes the groups "\$500,000 to \$1,000,000" and "\$1,000,000 to \$5,000,000."

<sup>5</sup> Includes the group "Less than \$5,000."

<sup>6</sup> Includes the group "\$500,000 to \$1,000,000."



## SUMMARY OF RESULTS.

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The relative importance of large scale and small scale production in mining is shown by the fact that 6,586 enterprises, or 30.9 per cent of the total, reported products valued at less than \$5,000 each, with an aggregate of \$15,228,604, or only five-tenths of 1 per cent of the total value of products; whereas 476 enterprises reporting products valued at more than \$1,000,000, although they constituted only 2.2 per cent of the total number of enterprises, reported over \$1,600,000,000, or 53.5 per cent of the total value of products. The part contributed by enterprises reporting more than \$1,000,000 worth of products was 33.4 per cent for bituminous coal and 89.9 per cent for anthracite coal;

59.7 per cent in the petroleum and natural-gas industry; ranged, in the metal-mining industries, from 39.5 per cent for gold and silver, lode mines, to 91.4 per cent for copper-mining enterprises; and was 73 per cent in the iron-ore-mining industry.

**Size of enterprises by number of wage earners.**—Table 15 gives, for all mining industries combined and for the 17 leading industries separately, a classification of producing enterprises according to the average number of wage earners employed and shows for each class the number and per cent distribution of wage earners and enterprises.

TABLE 15.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS: 1919.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Num- ber.	Per cent dis- trib- u- tion.	Average number.	Per cent dis- trib- u- tion.		Num- ber.	Per cent dis- trib- u- tion.	Average number.	Per cent dis- trib- u- tion.
<b>ALL INDUSTRIES.....</b>	21,280	100.0	981,560	100.0	<b>LIMESTONE.....</b>	895	100.0	22,069	100.0
No wage earners.....	3,722	17.5	.....	.....	No wage earners.....	25	2.8	.....	.....
1 to 5.....	7,912	37.2	16,761	1.7	1 to 5.....	288	32.2	713	3.2
6 to 20.....	3,948	18.6	44,506	4.5	6 to 20.....	301	33.6	3,445	15.6
21 to 50.....	2,309	10.9	76,040	7.7	21 to 50.....	179	20.0	5,456	24.7
51 to 100.....	1,372	6.4	98,621	10.0	51 to 100.....	59	6.6	4,109	18.6
101 to 500.....	1,743	8.2	377,339	38.4	101 to 500.....	43	4.8	8,340	37.8
501 to 1,000.....	182	0.9	125,278	12.8					
Over 1,000.....	92	0.4	243,015	24.8	<b>LEAD AND ZINC.....</b>	432	100.0	21,884	100.0
<b>COAL.....</b>	6,890	100.0	693,170	100.0	No wage earners.....	41	9.5	.....	.....
No wage earners.....	64	0.9	.....	.....	1 to 5.....	121	28.0	266	1.2
1 to 5.....	1,574	22.8	4,476	0.6	6 to 20.....	104	24.1	1,195	5.5
6 to 20.....	1,588	23.0	18,543	2.7	21 to 50.....	74	17.1	2,443	11.2
21 to 50.....	1,258	18.3	41,638	6.0	51 to 100.....	45	10.4	3,054	14.0
51 to 100.....	901	13.1	65,336	9.4	101 to 500.....	39	9.0	7,164	32.7
101 to 500.....	1,304	18.9	277,528	40.0	501 to 1,000.....	4	0.9	2,412	11.0
501 to 1,000.....	134	1.9	90,541	13.1	Over 1,000.....	4	0.9	5,350	24.4
Over 1,000.....	67	1.0	195,108	28.1	<b>GOLD AND SILVER, LODGE MINES.....</b>	740	100.0	15,436	100.0
<b>ANTHRACITE.....</b>	254	100.0	147,372	100.0	No wage earners.....	151	20.4	.....	.....
No wage earners.....	2	0.8	.....	.....	1 to 5.....	273	36.9	643	4.2
1 to 5.....	62	24.4	139	0.1	6 to 20.....	178	24.1	1,872	12.1
6 to 20.....	39	15.4	469	0.3	21 to 50.....	71	9.6	2,474	16.0
21 to 50.....	20	7.9	629	0.4	51 to 100.....	31	4.2	2,244	14.5
51 to 100.....	13	5.1	981	0.7	101 to 500.....	35	4.7	6,691	43.3
101 to 500.....	63	24.8	18,240	12.4	Over 1,000.....	1	0.1	1,512	9.8
501 to 1,000.....	33	13.0	21,894	14.8					
Over 1,000.....	22	8.7	105,110	71.3	<b>GRANITE.....</b>	358	100.0	8,049	100.0
<b>BITUMINOUS.....</b>	6,636	100.0	545,798	100.0	No wage earners.....	20	5.6	.....	.....
No wage earners.....	62	0.9	.....	.....	1 to 5.....	119	33.2	288	3.6
1 to 5.....	1,512	22.8	4,337	0.8	6 to 20.....	117	32.7	1,173	14.6
6 to 20.....	1,549	23.3	18,074	3.3	21 to 50.....	60	16.8	1,862	23.1
21 to 50.....	1,238	18.7	41,009	7.5	51 to 100.....	28	7.8	2,035	25.3
51 to 100.....	888	13.4	64,355	11.8	101 to 500.....	14	3.9	2,691	33.4
101 to 500.....	1,241	18.7	259,288	47.5					
501 to 1,000.....	101	1.5	68,737	12.6	<b>CLAY.....</b>	345	100.0	5,453	100.0
Over 1,000.....	45	0.7	89,998	16.5	No wage earners.....	26	7.5	.....	.....
<b>PETROLEUM AND NATURAL GAS.....</b>	9,814	100.0	93,205	100.0	1 to 5.....	108	31.3	273	5.0
No wage earners.....	3,292	33.5	.....	.....	6 to 20.....	131	38.0	1,457	27.3
1 to 5.....	4,925	50.2	8,852	9.5	21 to 50.....	57	16.5	1,824	33.4
6 to 20.....	1,034	10.5	11,036	11.8	51 to 100.....	19	5.5	1,270	23.8
21 to 50.....	296	3.0	9,874	10.6	101 to 500.....	4	1.2	599	11.0
51 to 100.....	133	1.4	9,592	10.3					
101 to 500.....	102	1.0	21,978	23.6	<b>PHOSPHATE ROCK.....</b>	48	100.0	4,373	100.0
501 to 1,000.....	24	0.2	17,358	18.6	No wage earners.....	1	2.1	.....	.....
Over 1,000.....	8	0.1	14,515	15.6	1 to 5.....	2	4.2	9	0.2
<b>IRON ORE.....</b>	290	100.0	45,741	100.0	6 to 20.....	10	20.8	122	2.8
No wage earners.....	5	1.7	.....	.....	21 to 50.....	11	22.9	360	8.2
1 to 5.....	21	7.2	63	0.1	51 to 100.....	10	20.8	679	15.5
6 to 20.....	43	14.8	574	1.3	101 to 500.....	14	29.2	3,203	73.2
21 to 50.....	57	19.7	2,180	4.8					
51 to 100.....	54	18.6	3,822	8.4	<b>SANDSTONE.....</b>	255	100.0	4,287	100.0
101 to 500.....	102	35.2	31,032	67.8	No wage earners.....	9	3.5	.....	.....
501 to 1,000.....	7	2.4	5,535	12.1	1 to 5.....	105	41.2	245	5.7
Over 1,000.....	1	0.3	2,535	5.5	6 to 20.....	89	34.9	1,032	24.1
<b>COPPER.....</b>	195	100.0	43,717	100.0	21 to 50.....	29	11.4	942	22.0
No wage earners.....	16	8.2	.....	.....	51 to 100.....	17	6.7	1,249	29.1
1 to 5.....	53	27.2	129	0.3	101 to 500.....	6	2.4	819	19.1
6 to 20.....	35	17.9	406	0.9					
21 to 50.....	27	13.8	859	2.0	<b>SLATE.....</b>	101	100.0	3,513	100.0
51 to 100.....	11	5.6	835	1.9	No wage earners.....	1	1.0	.....	.....
101 to 500.....	30	15.4	8,676	19.8	1 to 5.....	9	8.9	32	0.9
501 to 1,000.....	12	6.2	8,817	20.2	6 to 20.....	32	31.7	355	10.1
Over 1,000.....	11	5.6	23,995	54.9	21 to 50.....	39	38.6	1,291	36.7
					51 to 100.....	14	13.0	1,005	28.6
					101 to 500.....	6	5.9	830	23.6

TABLE 15.—SIZE OF PRODUCING ENTERPRISES, BY AVERAGE NUMBER OF WAGE EARNERS: 1919—Continued.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Num- ber.	Per cent dis- tribu- tion.	Average number.	Per cent dis- tribu- tion.		Num- ber.	Per cent dis- tribu- tion.	Average number.	Per cent dis- tribu- tion.
<b>BASALT.....</b>	163	100.0	3,336	100.0	<b>GOLD, PLACER MINES.....</b>	112	100.0	1,380	100.0
No wage earners.....	2	1.2	.....	.....	No wage earners.....	34	30.4	.....	.....
1 to 5.....	36	22.1	115	3.4	1 to 5.....	47	42.0	112	8.1
6 to 20.....	67	41.1	752	23.4	6 to 20.....	17	15.2	214	15.5
21 to 50.....	47	28.8	1,502	45.0	21 to 50.....	8	7.1	250	18.1
51 to 100.....	6	3.7	390	11.7	51 to 100.....	4	3.6	253	18.3
101 to 500.....	5	3.1	547	16.4	101 to 500.....	2	1.8	551	39.9
<b>GYPSEUM.....</b>	47	100.0	2,191	100.0	<b>SULPHUR.....</b>	4	100.0	1,120	100.0
1 to 5.....	4	8.5	11	0.5	6 to 20.....	1	25.0	14	1.2
6 to 20.....	14	29.8	190	8.7	101 to 500.....	2	50.0	500	44.3
21 to 50.....	15	31.9	505	23.1	501 to 1,000.....	1	25.0	615	54.5
51 to 100.....	8	17.0	518	23.6					
101 to 500.....	6	12.8	966	44.1					
<b>MARBLE.....</b>	48	100.0	1,732	100.0					
No wage earners.....	1	2.1	.....	.....					
1 to 5.....	4	8.3	12	0.7					
6 to 20.....	20	41.7	250	14.4					
21 to 50.....	16	33.3	531	30.7					
51 to 100.....	2	4.2	147	8.5					
101 to 500.....	5	10.4	792	45.7					

The very small enterprises, employing no wage earners or from 1 to 20 men each, were most numerous. Enterprises in these classes constituted nearly three-fourths of the total for the United States, but the wage earners employed were only 6.2 per cent of the total number of wage earners. In the mining and quarrying industries, exclusive of petroleum and natural gas, the very small enterprises constituted little more than half of the total number of enterprises and those enterprises having 1 to 20 wage earners employed 4.3 per cent of the average number of wage earners in these industries; whereas, in the petroleum and natural-gas industry the small enterprises constituted approximately 95 per cent of all enterprises, and the wage earners employed were 21.3 per cent of the total average number of wage earners in the industry. On the other hand, 76 per cent of the total average number of wage earners were employed by enterprises having more than 100 men although such enterprises constituted only 9.5 per cent of the total number of enterprises.

A relatively large number of small enterprises is characteristic of each of the mining industries, but the ratio of small enterprises to large enterprises varies in different industries. The percentage of small enterprises, that is, those having no wage earners or fewer than 101 each, ranged from 25 per cent in the sulphur-mining industry to 98.8 per cent in the clay industry. The industries in which very large enterprises, those employing more than 1,000 wage earners each, were relatively numerous were: Anthracite-coal mining in which 71.3 per cent of all wage earners were employed by 22 enterprises; copper mining in which 54.9 per cent were employed by 11 enterprises; lead and zinc mining in which 24.4 per cent were employed by 4 enterprises; and bituminous-coal mining in which 16.5 per cent of the total number

of wage earners were employed by 45 enterprises. In the petroleum and natural-gas industry the concentration of wage earners in large enterprises is not as marked as indicated in the table because the table is based on consolidated returns from large operators which combined data for several individual operations each of which was considerably smaller than the size shown for these larger enterprises in the table.

#### PERSONS ENGAGED IN MINING INDUSTRIES.

Persons according to occupational classes, sex, and age.—Table 16 shows the persons engaged in producing mining enterprises in the United States in various occupational classes and grouped according to sex, and also shows the number of wage earners over and under 16 years of age. For persons employed in clerical and supervisory capacities the numbers shown are for December 15 or the nearest representative day and for wage earners the number shown is the average number. The figures given for male and female wage earners and those under 16 years of age are estimated parts of the total average number of wage earners proportional to the numbers of females and persons under 16 years of age reported among the wage earners on December 15 or the nearest representative day.

TABLE 16.—PERSONS ENGAGED IN PRODUCING ENTERPRISES: 1919.

CLASS.	Total.	Male.	Female.
All classes.....	1,077,075	1,065,051	12,624
Proprietors and officials.....	60,400	58,330	2,070
Proprietors and firm members.....	21,918	20,231	1,687
Salaries officers of corporation.....	10,456	10,202	254
Superintendents and managers.....	21,704	21,648	56
Technical employees.....	6,331	6,249	82
Clerks and other subordinate salaried employees.....	35,706	25,649	10,057
Wage earners (average number).....	981,560	981,072	489
Wage earners 16 years of age and over.....	981,361	980,873	488
Wage earners under 16 years of age.....	199	199	.....

Women constituted only 1.2 per cent of the total number of persons in the industries. Approximately 80 per cent of them were employed as clerks or other subordinate salaried employees and a very few were reported as wage earners.

Of the whole number of persons engaged in producing enterprises, 2 per cent were proprietors and firm members, 1 per cent were salaried officers, 2 per cent were superintendents and managers, 3.3 per cent were clerks and other subordinate salaried employees, and 91.1 per cent were wage earners.

Table 17 shows for the 17 most important mining industries the principal classes of persons engaged in the producing enterprises and the per cent of the total in each group. The proportion of proprietors and officials is as a rule small and is less than 10 per cent in all industries except gold-placer mining and petroleum and natural-gas production. The proportion of clerks and other subordinate salaried employees is also small. The proportion of wage earners ranges from 74.5 per cent in the petroleum and natural-gas industry to 95.2 per cent in anthracite-coal mining. The proportion of wage earners employed in metal mining as a whole is somewhat smaller than the proportion in coal mining and slightly larger than the proportion in stone quarrying.

TABLE 17.—PERSONS ENGAGED IN PRODUCING ENTERPRISES, BY INDUSTRIES: 1919.

INDUSTRY.	Total.	Proprietors and officials.	Clerks and other subordinate salaried employees.	Wage earners (average number).	PER CENT OF TOTAL.		
					Proprietors and officials.	Clerks and other subordinate salaried employees.	Wage earners.
All industries.....	1,077,675	60,409	35,706	981,560	5.6	3.3	91.1
Coal:							
Anthracite.....	151,882	4,120	3,390	147,372	2.7	2.2	95.2
Bituminous.....	583,608	22,403	15,407	545,798	3.8	2.6	93.5
Petroleum and natural gas.....	125,110	22,187	9,718	93,205	17.7	7.8	74.5
Iron ore.....	48,767	1,286	1,740	45,741	2.6	3.6	93.8
Copper.....	46,999	1,601	1,681	43,717	3.4	3.6	93.0
Limestone.....	24,705	1,727	909	22,069	7.0	3.7	89.3
Lead and zinc.....	24,030	1,374	772	21,884	5.7	3.2	91.1
Gold and silver, lode mines.....	17,531	1,693	402	15,436	9.7	2.3	88.0
Granite.....	8,951	696	206	8,049	7.8	2.3	89.9
Clay.....	6,087	460	174	5,453	7.6	2.9	89.6
Sandstone.....	4,897	434	176	4,287	8.9	3.6	87.5
Phosphate rock.....	4,761	223	165	4,373	4.7	3.5	91.9
Slate.....	3,852	269	70	3,513	7.0	1.8	91.2
Basalt.....	3,791	310	145	3,336	8.2	3.8	88.0
Gypsum.....	2,477	103	183	2,191	4.2	7.4	88.5
Marble.....	1,891	96	63	1,732	5.1	3.3	91.6
Gold, placer mines.....	1,651	232	39	1,380	14.1	2.4	83.6
Sulphur.....	1,273	59	85	1,129	4.6	6.7	88.7

Proprietors performing manual labor.—Table 18 gives for 15 principal mining industries the number and percentage of proprietors and firm members who performed manual labor compared with the total number. It would appear from the fact that out of a total of 21,918 proprietors and firm members, 5,245, or nearly one-fourth, were personally performing manual labor in or about their enterprises in 1919, that

there was a considerable number of enterprises operated without the assistance of hired help or with little help. The industries in which proprietors performing manual labor were relatively most numerous include copper mining, gold, and silver lode-mining, and placer mining, in each of which industries more than half of the proprietors and firm members were working in their own mines; and bituminous-coal mining, lead and zinc mining, and granite quarrying in which nearly one-half of all proprietors belonged to this class. The petroleum and natural-gas industry reported the largest absolute number of proprietors and firm members performing manual labor, but these constituted a comparatively small percentage of the total number in that industry.

TABLE 18.—PROPRIETORS AND FIRM MEMBERS, PRODUCING ENTERPRISES: 1919.

INDUSTRY.	Total.	PERFORMING MANUAL LABOR.	
		Num-ber.	Per cent.
All industries.....	21,918	5,245	23.9
Coal:			
Anthracite.....	159	34	21.4
Bituminous.....	4,237	1,830	43.2
Petroleum and natural gas.....	14,223	1,987	14.0
Iron ore.....	41	9	21.9
Copper.....	103	62	60.2
Lead and zinc.....	412	186	45.1
Gold and silver, lode mines.....	712	485	68.1
Limestone.....	633	175	27.6
Granite.....	328	145	44.2
Sandstone.....	179	53	29.6
Clay.....	187	48	25.7
Basalt.....	77	20	26.0
Gold, placer mines.....	122	77	63.1
Gypsum.....	4	3	75.0
Slate.....	64	21	32.8
Marble.....	7	3	42.9

Wage earners, by occupations.—Table 19 gives for all mining industries, and for the 17 most important industries separately, the number of wage earners in producing mines, classified by occupations, and segregates those who work above and below ground. This classification serves to distinguish those engaged in the more peculiarly mining occupations from another skilled class (including the groups "Enginemen, motormen, hoistmen, firemen, machinists, electricians, carpenters, and other mechanics"), on the one hand, and from the less skilled ("Muckers, loaders, laborers, and others not classified"), on the other hand.

Miners, quarrymen, cutters, and drillmen, including their helpers, constituted the most numerous class of wage earners in 1919, representing 39.2 per cent of the whole number employed in all industries combined. The percentage in this class in all industries, except in the petroleum and natural-gas industry in which they are not represented, was 43.2. The class of wage earners included under the heading "Muckers, loaders, laborers, and others not classified" was the next most numerous class, and the third was the class "Enginemen, hoistmen, electricians, mechanics, etc."

## MINES AND QUARRIES.

TABLE 19.—WAGE EARNERS, BY OCCUPATIONS, PRODUCING ENTERPRISES: 1919.

INDUSTRY.	NUMBER OF WAGE EARNERS DEC. 15TH OR NEAREST REPRESENTATIVE DAY.													
	All classes.			Foremen, shift bosses, etc.		Engineers, motormen, hoistmen, firemen, machinists, electricians, carpenters, and other mechanics.		Miners, cutters, quarrymen, and drillmen, including their helpers.		Timbermen, trackmen, and all men engaged in hauling, tramping, and caging.		Muckers, loaders, laborers, and others not classified.		In mills and beneficiating plants.
	Total.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.
All industries.....	1,088,189	382,766	705,423	10,314	15,437	134,117	30,145	30,702	395,398	25,583	138,491	135,239	125,952	46,811
Coal, total.....	769,649	155,394	614,252	5,082	12,020	43,123	26,775	7,168	354,485	17,503	116,805	59,437	104,197	23,051
Anthracite.....	152,243	46,618	105,625	435	1,098	10,488	4,331	1,138	59,401	2,769	17,325	12,291	23,470	20,497
Bituminous.....	617,403	108,746	508,657	4,647	10,922	32,635	22,444	7,025	295,084	14,733	99,480	47,152	80,727	2,554
Petroleum and natural gas.....	109,989	109,989				64,230						36,750		
Iron ore.....	47,749	19,050	28,699	789	878	6,526	1,033	1,354	15,326	1,677	5,495	7,436	5,938	1,268
Copper.....	45,899	20,105	25,794	807	1,137	6,167	1,254	1,185	9,455	1,005	8,115	4,352	5,743	6,589
Lead and zinc.....	26,168	9,471	16,697	359	573	2,576	362	1,109	6,857	304	4,361	1,477	4,544	4,636
Limestone.....	25,652	24,272	780	957	10	3,278	53	8,433	204	1,930	101	8,716	409	958
Gold and silver, lode mines.....	17,322	5,830	11,492	313	485	1,713	515	208	4,980	296	2,202	1,339	3,310	1,901
Granite.....	9,166	9,166		379		858		3,736		544		1,621		2,028
Clay.....	6,302	4,547	1,755	174	57	349	25	815	1,066	426	400	2,527	207	256
Phosphate rock.....	5,913	5,764	149	291	3	1,154		968	116	443	7	2,577	23	331
Sandstone.....	4,861	4,861		197		405		1,599		304		1,621		735
Slate.....	3,973	3,242	731	133	36	371	3	811	488	200	54	792	150	935
Basalt.....	3,799	3,799		144		473		1,120		192		1,828		42
Gypsum.....	2,559	1,381	1,175	37	40	105	40	159	445	25	208	239	442	816
Marble.....	1,856	1,856		66		150		763		41		307		529
Sulphur.....	1,622	1,615	7	43		878			2			992	5	2
Gold, placer mines.....	1,544	1,459	75	106	4	463		122	60	37	4	729	7	2

<sup>1</sup> Includes well drillers and pumpers.

In all the mining industries combined approximately 35 per cent of the wage earners were employed above ground and 65 per cent below ground. Excluding the petroleum and natural-gas industry, which employs no mining labor and none below ground, and also excluding wage earners employed in mills and beneficiating plants, approximately 75 per cent of the remaining 940,398 wage earners employed in mining worked below ground. The proportion below ground was greatest (five-sixths) in bituminous-coal mining. For the combined stone industries 3.1 per cent of all wage earners engaged in quarrying operations were employed below ground. These were in the limestone and slate industries only, as the granite, sandstone, basalt, and marble enterprises reported in 1919 were exclusively surface operations.

**Persons not counted.**—In addition to the persons in supervisory capacities and to the wage earners regularly and directly employed in mining industries there were other persons employed who were not enumerated in the census of mines and quarries. These were the persons engaged in that part of the work which was done by contract and also the wage earners employed directly by the reporting enterprises but which employed them only occasionally or for part time. The number of wage earners employed by contractors and also the number of persons in supervisory capacities employed in connection with contract work could not be ascertained. First, because the reporting operators could not make accurate returns and were not required to attempt to make such returns for the contractors engaged by them, and second, because the contract work is commonly temporary and the same

men are from time to time shifted from one enterprise to another. This is particularly true of well drilling in the petroleum and natural-gas industry.

The relative importance of work done and hence of the number of persons engaged under contract as compared with the work performed by regular wage earners may be inferred from a comparison of the total amount paid out in wages with the total expenditure for contract work. The total amount paid by producing enterprises in 1919 for contract work was \$79,380,177, a large part of which was cost of labor, and should be compared with \$1,295,936,326 paid to wage earners employed directly.

Some small enterprises dispense with the services of regular wage earners by hiring occasional help or employ wage earners for part time only. The 1919 census includes 1,933 such enterprises in industries as follows:

Bituminous coal.....	33
Petroleum and natural gas.....	1,895
Iron ore.....	1
Gold and silver, lode mines.....	1
Lead and zinc.....	3

No wage earners have been counted for these enterprises, but the amounts paid by them in wages have been included in the tabulations.

**Wage earners, by months.**—Table 20 shows the number of wage earners reported for the 15th day of each month or the nearest representative day in producing enterprises in all mining industries combined and in the 17 leading industries separately. The table also shows the average number of wage earners, the months of minimum and maximum employment, and the ratio of the minimum to the maximum number.

## SUMMARY OF RESULTS.

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TABLE 20.—WAGE EARNERS, BY MONTHS, FOR LEADING INDUSTRIES, PRODUCING ENTERPRISES: 1919.

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

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	981,560	1,025,871	<b>985,369</b>	969,499	952,305	958,506	965,230	1,005,219	<b>1,031,628</b>	1,043,719	<b>1,051,204</b>	<i>758,156</i>	1,032,014	72.1
Coal:														
Anthracite.....	147,372	146,241	145,985	143,437	<i>142,691</i>	144,925	145,010	148,397	149,220	149,522	150,847	150,594	<b>151,595</b>	94.1
Bituminous.....	545,798	589,804	561,861	550,126	532,682	535,110	541,047	566,897	583,120	593,304	<b>599,550</b>	<i>308,200</i>	587,149	51.4
Petroleum and natural gas.....	93,205	85,225	<i>85,119</i>	87,130	88,120	90,015	91,156	94,389	98,570	99,570	99,332	99,541	<b>100,293</b>	84.9
Iron ore.....	45,741	47,493	47,205	46,712	44,822	45,631	44,625	46,286	46,754	46,911	45,772	44,126	<i>42,555</i>	89.6
Copper.....	43,717	58,025	49,136	43,701	40,675	38,374	37,885	39,910	41,386	42,595	44,395	45,240	43,267	65.3
Limestone.....	22,069	18,085	<i>17,398</i>	18,847	21,476	22,992	23,667	24,599	25,655	25,303	23,901	22,538	20,367	67.8
Lead and zinc.....	21,884	25,124	23,434	22,574	21,506	20,196	<i>19,949</i>	20,207	21,050	21,162	21,579	22,031	23,196	79.4
Gold and silver, lode mines.....	15,436	<i>14,778</i>	14,915	15,095	14,921	15,184	15,540	16,319	16,469	15,349	15,536	15,456	15,670	89.7
Granite.....	8,049	<i>8,669</i>	8,844	6,504	7,771	8,620	8,945	9,071	9,228	9,024	9,101	8,741	8,070	61.4
Clay.....	5,453	4,849	<i>4,681</i>	4,851	5,373	5,522	5,582	5,771	5,853	<b>6,020</b>	5,853	5,538	5,513	77.8
Phosphate rock.....	4,373	4,583	4,865	4,741	4,972	3,259	<i>2,902</i>	3,419	3,873	4,094	4,639	5,358	<b>5,771</b>	50.3
Sandstone.....	4,287	3,471	<i>3,505</i>	3,681	4,128	4,411	4,533	4,667	4,961	4,916	4,726	4,598	4,047	66.6
Slate.....	3,513	<i>2,652</i>	2,909	3,090	3,415	3,580	3,764	3,858	3,572	3,594	3,729	3,896	<b>3,927</b>	72.6
Basalt.....	3,336	<i>2,037</i>	2,037	2,456	3,255	3,680	3,828	3,985	<b>4,097</b>	3,906	3,908	3,710	3,131	49.7
Gypsum.....	2,191	<i>1,574</i>	1,649	1,782	1,918	2,078	2,092	2,350	2,327	2,582	2,713	<b>2,715</b>	2,512	58.0
Marble.....	1,732	<i>1,459</i>	1,497	1,641	1,688	1,778	1,826	1,833	1,895	1,810	1,875	1,759	1,753	77.8
Gold, placer mines.....	1,380	<i>1,274</i>	1,312	<i>1,274</i>	1,317	1,424	1,420	1,499	1,430	1,404	1,425	1,433	1,348	85.0
Sulphur.....	1,129	1,492	1,390	1,406	<b>1,545</b>	1,503	<i>814</i>	832	845	883	932	973	933	52.7

For all industries combined the largest number of wage earners, 1,051,204, was reported for October and the smallest number, 758,156, or 72.1 per cent of the maximum, for November. It should be noted that these are the months of minimum and maximum in 1919 for the bituminous-coal mining industry which dominates all mining industries in the United States. (Bituminous-coal mining reported 55.6 per cent of the total average number of wage earners, 57 per cent of the maximum, and 40.7 per cent of the minimum number for all industries). The months of minimum and maximum employment in bituminous-coal mining, and therefore for the combined mining industries in the United States, were unusual on account of the great coal strike. Normally a winter month has been the month of maximum employment and a spring month the month of minimum employment in the bituminous-coal mining industry. Anthracite mining shows greater regularity of employment and the year 1919 was normal in this industry. For the copper, iron ore, and lead and zinc industries the table reflects depressed conditions following a period of heavy employment at the beginning of the year which marked the final stage of the war boom in these industries. For most of the remaining industries the month of maximum employment was, as would appear to be normal, in the summer or fall of the year. The gypsum, phosphate-rock, and slate industries, however, show maxima in November and December, because these industries began toward the close of the year to recover from depressed conditions—in the gypsum and slate industries caused by the war restrictions on the consumption of structural material, and in the phosphate-rock industry caused largely by labor difficulties.

Prevailing hours of labor.—In Table 21 the producing enterprises in the leading mining industries are classified according to the prevailing hours of labor per week and the number of wage earners in each group are shown. The wage earners of each enterprise are classed as a whole regardless of the fact that some worked more or fewer hours than those prevailing for the majority. For all industries combined, in a majority of enterprises employing wage earners and for nearly three-fourths of the wage earners, the prevailing hours of labor were 44 to 53 per week and for the most part the 8-hour day and 6-day week prevailed. In nearly one-third of the enterprises but for less than one-fifth of the wage earners the prevailing hours were 54 to 62 per week, which for the most part meant the 10-hour day and 6-day week. In the coal-mining industry the 44 to 53 hour week was the rule, although a considerable number of bituminous-coal enterprises employing relatively few wage earners worked shorter hours and certain classes of small anthracite enterprises worked longer hours. In the petroleum and natural-gas industry longer hours were the rule. Nearly half the wage earners worked from 54 to 62 hours per week and more than one-third had longer hours. In the metal-mining industries hours ranging from 44 to 53 and from 54 to 62 per week were most commonly reported. In some parts of the country in these industries the 8-hour day and 6-day week prevailed and in others the 10-hour day and 6-day week was the rule. In the quarrying industries as a whole the prevailing hours of labor were from 54 to 62 per week and the 10-hour day and 6-day week was the most commonly reported, but the granite-quarrying industry was an exception to this rule in that a majority of enterprises and wage earners had shorter hours.

## MINES AND QUARRIES.

TABLE 21.—NUMBER OF PRODUCING ENTERPRISES AND AVERAGE NUMBER OF WAGE EARNERS, BY PREVAILING HOURS OF LABOR PER WEEK, FOR LEADING INDUSTRIES: 1919.

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—											
			35 and under.		36 to 43.		44 to 53.		54 to 62.		63 to 71.		72 to 84.	
	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.
All industries.....	117,558	981,560	1,166	17,755	732	19,856	8,862	721,899	5,262	182,126	768	26,841	768	13,083
Coal:														
Anthracite.....	252	147,372			1	315	176	145,787	71	807	3	442	1	21
Bituminous.....	6,574	545,798	257	15,978	425	17,163	5,546	485,574	331	25,222	12	1,841	3	20
Petroleum and natural gas.....	6,522	93,205	852	1,295	225	327	1,623	13,227	2,356	44,068	714	21,726	752	12,562
Iron ore.....	285	45,741	1	11	4	219	151	20,311	124	24,637	5	563		
Copper.....	179	43,717			2	7	79	21,150	97	21,166	1	1,394		
Limestone.....	870	22,069	3	57	8	24	187	3,774	663	17,934	9	280		
Lead and zinc.....	391	21,884	1	115			255	15,082	133	6,684			2	3
Gold and silver, lode mines.....	589	15,436			2	3	192	3,595	390	11,586	4	251	1	1
Granite.....	338	8,049	4	43	32	1,195	209	4,829	91	1,948	2	34		
Clay.....	319	5,453	8	27	6	33	142	2,351	161	3,033	1	4	1	5
Phosphate rock.....	47	4,373	1	5	1	30	6	309	36	3,683			3	346
Sandstone.....	246	4,257			3	8	49	493	191	3,688	3	108		
Slate.....	100	3,513			11	335	14	963	73	2,170	2	45		
Basalt.....	161	3,339	1	20	1	3	49	728	110	2,585				
Gypsum.....	47	2,191			1	1	12	830	32	1,317	2	43		
Marble.....	47	1,732					3	50	43	1,667	1	15		
Gold, placer mines.....	78	1,350					17	62	52	1,243	8	72	1	3
Sulphur.....	4	1,129							4	1,129				
All other.....	509	10,895	38	204	10	193	152	2,794	304	7,559	1	23	4	122

<sup>1</sup> Exclusive of 3,722 enterprises employing no wage earners in industries as follows: Abrasive materials, 5; asphalt, 2; barytes, 1; basalt, 2; clay, 26; chromite, 5; coal, anthracite, 2; coal, bituminous, 42; copper, 16; feldspar, 2; fluor spar, 4; granite, 29; gold and silver, lode mines, 151; gold, placer mines, 34; iron ore, 5; lead and zinc, 41; limestone, 25; magnesite, 1; marble, 1; mica, 6; millstones, 5; mineral pigments, 2; petroleum and natural gas, 3,292; phosphate rock, 1; sandstone, 9; slate, 1; talc and soapstone, 1.

## LAND TENURE.

Table 22 gives for all mining industries combined, and for the 17 leading industries separately, statistics relating to the acreage of land controlled, distinguishes the character of land and also the form of tenure of mineral land, and shows the acreage of mineral land operated.

The amount of difference between the total mineral land operated and the mineral land controlled is the acreage held under lease by some enterprises and which is also reported controlled by others who were the owners or prior lessees. This duplication does not appear in the amounts reported as mineral land operated. The aggregate of all land controlled by producing enterprises was 24,757,840 acres. The greater part of this land was mineral land, but over 2,000,000 acres, or more than one-twelfth of the total, were reported as "timber and other lands" which comprised lands held as sources of timber used in mining and land held for building sites, water resources, for tunnel and drainage purposes, and for other uses. Such lands are, however, particularly in the coal and iron-ore and copper-mining industries which reported most of the acreage of timber and other lands, held for their prospective value as mineral land. Not all of the area of mineral land reported was in actual use, for, although pertaining to mining operations reported, many large tracts included in the returns embraced extensive acreage held in reserve.

Nearly half of the total acreage controlled by mining enterprises in 1919 and more than half of the mineral

land operated was reported by the petroleum and natural-gas industry. By far the largest part (more than three-fourths) of the remainder was reported by the coal industry. The holdings of land by the iron-ore and the copper-mining industries were also very large, and for these industries as well as for the coal industry the holdings of reserve land reported under the description of "timber and other lands" were extensive.

TABLE 22.—LAND OPERATED AND CONTROLLED, PRODUCING ENTERPRISES: 1919.

	Mineral land operated.	LAND CONTROLLED (ACRES).				
		Total.	Mineral land.			Timber and other lands.
			By owner- ship.	By lease.	Per cent owned.	
All industries.....	22, 474, 069	24, 757, 840	8, 568, 590	13, 980, 731	38. 0	2, 208, 519
Coal:						
Anthracite.....	261, 355	432, 055	194, 390	77, 955	71. 4	159, 710
Bituminous.....	8, 261, 372	9, 073, 686	5, 793, 651	2, 528, 562	69. 6	751, 473
Petroleum and natural gas.....	12, 171, 388	12, 171, 388	1, 172, 068	10, 999, 320	9. 6	
Iron ore.....	241, 508	938, 716	177, 290	65, 280	73. 1	690, 140
Copper.....	392, 811	648, 703	378, 839	14, 045	96. 4	255, 819
Lead and zinc.....	135, 262	182, 509	99, 338	36, 118	73. 3	47, 053
Gold and silver, lode mines.....	142, 573	188, 937	113, 347	29, 424	79. 4	46, 166
Limestone.....	122, 820	175, 986	84, 717	38, 306	68. 9	52, 963
Granite.....	30, 659	37, 747	23, 799	6, 950	77. 4	6, 998
Sulphur.....	12, 946	20, 511	12, 946			7, 565
Sandstone.....	48, 729	56, 802	34, 726	15, 435	69. 2	6, 641
Phosphate rock.....	180, 447	241, 810	156, 418	4, 029	97. 5	81, 363
Clay.....	105, 706	112, 801	70, 498	35, 263	66. 7	7, 040
Basalt.....	15, 625	17, 514	7, 139	8, 486	45. 7	1, 889
Gold, placer mines.....	62, 857	79, 817	51, 219	11, 738	81. 4	16, 860
Gypsum.....	41, 703	42, 193	36, 581	5, 122	87. 7	490
Slate.....	5, 440	8, 245	3, 673	1, 767	67. 5	2, 805
Marble.....	28, 969	35, 250	11, 818	17, 159	40. 8	6, 273



## SUMMARY OF RESULTS.

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Of the total amount of land controlled by producing enterprises 38 per cent was owned by the operators themselves and the remainder was held under lease. The petroleum and natural-gas industry, which reported most of the land as held under lease, presents a marked contrast to all the other industries shown in this table. Considering only the mineral land controlled in mining and quarrying, about 70 per cent was owned by the operators. In the coal industry this proportion was also about 70 per cent. In the other industries it ranged from 40.8 per cent in the marble industry and 45.7 per cent in the basalt industry to 96.4 per cent in the copper-mining industry and 97.5 per cent in the phosphate-rock industry.

## POWER.

Table 23 shows for all mining industries combined, and for the leading mining industries separately, the number and horsepower of prime movers of various kinds and the number and horsepower of electric motors used. The table shows separately the number and horsepower of motors operated by purchased current and of those run by current generated by the enterprises reporting them. Five million horsepower, or 76 per cent of the aggregate horsepower used in mining, was furnished by prime movers and 1,600,000

horsepower, or 24 per cent, was furnished by electric motors operated by purchased current. A relatively negligible amount was obtained from power equipment of other kind operated by purchased power. As shown by the number and horsepower of electric motors run by the current generated by the enterprises reporting them, a considerable part of the horsepower of the prime movers was used indirectly through electric current generated in the enterprises reporting them. Of the total horsepower of prime movers more than three-fifths was in steam engines (not turbines) and nearly one-fourth was in internal-combustion engines. Steam turbines furnished a relatively small part of the power—chiefly for bituminous-coal mines and copper mines. Water power was used to only a small extent. Nearly all of the great number of internal-combustion engines were used in the petroleum and natural-gas industry.

The coal-mining industry reported 45.4 per cent of the aggregate horsepower used; the petroleum and natural-gas industry, 27.1 per cent; the copper industry, 7.8 per cent; the iron-ore mining industry, 5.5 per cent; the lead and zinc industry, 3.4 per cent; the limestone industry, 3.2 per cent; and the gold and silver-lode-mining industry, 2.2 per cent. The proportion used in other industries was small.

TABLE 23.—POWER USED, PRODUCING ENTERPRISES: 1919.

INDUSTRY.	Aggregate horse- power.	PRIME MOVERS.								EQUIPMENT OPERATED BY PURCHASED POWER.			ELECTRIC MOTORS RUN BY CURRENT GENERATED BY THE ENTERPRISE REPORTING.		
		Total horse- power.	Steam engines (not turbines).		Steam turbines.		Internal-combus- tion engines.		Water wheels and turbines.		Electric motors.		Other.	Number.	Horse- power.
			Num- ber.	Horse- power.	Num- ber.	Horse- power.	Num- ber.	Horse- power.	Num- ber.	Horse- power.	Num- ber.	Horse- power.			
All industries.....	6,723,780	5,111,531	46,433	3,238,288	553	473,985	56,988	1,361,146	287	33,112	40,500	1,603,390	8,865	32,980	1,258,795
Coal:															
Anthracite.....	899,783	782,090	5,298	730,141	45	50,665	73	1,284			1,881	117,693		3,801	185,723
Bituminous.....	2,155,412	1,383,934	9,177	1,166,862	313	195,779	1,246	21,219	9	74	21,186	771,131	347	21,044	707,341
Petroleum and natural gas..	1,821,342	1,770,181	23,412	532,734			53,699	1,237,407	2	40	1,841	44,638	6,523	1,329	28,164
Iron ore.....	370,869	273,477	2,333	231,184	25	28,521	45	5,397	22	8,375	1,341	97,382	10	1,112	67,595
Copper.....	523,591	386,458	842	245,398	79	123,223	129	16,327	10	1,510	3,647	133,968	1,165	3,252	161,024
Lead and zinc.....	229,541	117,527	411	42,821	21	35,420	433	35,415	30	3,871	2,389	111,874	140	625	22,884
Gold and silver, lode mines..	149,680	50,437	182	20,133	4	4,750	370	11,149	135	14,405	2,523	98,663	580	494	18,892
Limestone.....	213,717	126,387	1,776	109,778	17	10,701	252	5,043	9	865	2,046	87,330		267	11,421
Granite.....	55,674	34,711	744	30,231	3	2,360	84	1,343	4	777	450	20,903	60	34	1,520
Sulphur.....	15,291	15,291	544	11,581	23	3,320	13	390						50	1,284
Sandstone.....	33,869	21,197	340	19,081			71	2,116			386	12,672		155	4,696
Phosphate rock.....	49,639	46,976	100	17,140	17	17,751	44	12,085			38	2,663		320	33,107
Clay.....	21,243	16,932	263	15,653	1	100	105	1,179			181	4,271	40	66	1,815
Basalt.....	37,307	22,844	259	21,099	3	1,225	30	520			255	14,463		11	1,049
Gold, placer mines.....	35,632	3,406	2	40			16	719	25	2,647	624	32,226		22	601
Gypsum.....	15,032	7,038	47	6,132			9	572	3	334	290	7,994		103	1,447
Slate.....	20,613	8,778	193	8,669			1	8	2	101	426	11,835		4	44
Marble.....	15,628	6,021	85	5,619			2	15	3	387	408	9,607		19	480

## FUEL USED.

Table 24 shows for all mining industries combined, and for the leading industries separately, the quanti-

ties of the various kinds of fuel used. In order of importance as measured by the aggregate consumption in all industries the fuels were: Bituminous coal, anthracite, natural gas, and fuel oils.

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

INDUSTRY.	COAL.		Coke (tons, 2,000 pounds).	Wood (cords).	Fuel oils (barrels).	Gasoline and other volatile oils (barrels).	Natural gas (1,000 cubic feet).
	Anthracite (tons, 2,240 pounds).	Bituminous (tons, 2,000 pounds).					
All industries.....	8,097,365	10,275,751	53,795	113,850	9,537,443	143,593	<sup>1</sup> 102,784,812
Coal:							
Anthracite.....	8,548,201	4,090			671	1,381	
Bituminous.....		11,124,904	14,254	594	3,235	18,993	865,907
Petroleum and natural gas.....		67,216		2,852	5,898,610	45,654	99,067,358
Iron ore.....	69,753	1,499,612	24,070	912	3,807	3,550	<sup>1</sup> 80,354
Copper.....	14,889	1,364,172	9,744	5,236	1,322,100	6,932	33,456
Lead and zinc.....	33,526	503,278	272	3,570	72,517	6,261	1,390,098
Gold and silver, lode mines.....	45	191,526	369	17,755	130,269	16,821	
Limestone.....	5,409	673,959	937	4,765	33,221	11,397	5,887
Granite.....	1,723	115,260	55	4,297	13,104	2,411	
Sulphur.....		308	20		1,087,736	740	
Sandstone.....	2,418	128,832	1,530	160	8,621	1,423	145,943
Phosphate rock.....	28	121,273	146	39,961	637,284	10,871	
Clay.....	345	84,065		1,424	51,646	1,819	9,009
Basalt.....	2,099	84,566		2,129	15,390	620	
Gold, placer mines.....	72	992	1	1,691	114	491	
Gypsum.....		76,086	1,534	43	62,893	1,752	
Slate.....	8,762	34,053		214	36	1	
Marble.....	210	31,158		323		170	
All other.....	9,885	170,375	863	27,924	176,129	13,336	277,800

<sup>1</sup> 89,354 M cubic feet reported for the iron-ore industry was manufactured gas.

ENTERPRISES OPERATED BY GOVERNMENTAL INSTITUTIONS.<sup>1</sup>

Reports were obtained by the 1919 census of mines and quarries from 145 governmental institutions, including Federal, state, county, and municipal organizations, and from 1 other noncommercial mining enterprise. Enterprises operated by governmental institutions differ in their organization and methods of management from commercial enterprises. Statistics relating to them were therefore omitted from the general tabulation and are presented as a separate group. Table 25 presents the principal statistics for these enterprises grouped according to the character of labor employed. Eleven were operated by penal institutions and used convict labor, and the remainder were operated with hired labor. The statistics for all enterprises in these classes do not include, under persons engaged, the convicts whose services were utilized in the operations of the enterprise, nor other persons whose services were partly given to the mining operations in question but were chiefly engaged by other activities of the operating institution. They do include, however, salaried employees engaged in supervisory work and the guards or other prison officials who were employed in guarding the prisoners while at work. The total value of the products reported

<sup>1</sup> Includes, to avoid disclosure of the individual operation, one other form of noncommercial enterprise.

by the penal institutions was \$479,165, which represented 17.5 per cent of the total product reported by the entire number of enterprises operated by governmental agencies.

In Table 26 the principal statistics for enterprises operated by governmental institutions are given for all industries in the United States combined and by industries and by states separately. Nine of the enterprises included in this group operated coal mines and mined nearly 175,000 short tons of coal valued at \$469,745; 15, which were municipal enterprises, operated natural-gas wells; and the remainder, which included most of the enterprises, were stone quarries operated largely by state and county authorities in connection with road building and some in connection with Federal engineering projects.

The most important enterprises in this group were in the states of Tennessee, California, Pennsylvania, and Oregon. The total value of products reported from these four states represented more than half of the total value of products of all governmental institutions reported. In Tennessee the principal enterprise was a coal mine operated by the state penitentiary. In California and Pennsylvania the principal enterprises were stone quarries for road work under state control, and in Oregon, stone quarries for river and harbor work by the Federal Government.



## SUMMARY OF RESULTS.

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TABLE 25.—DETAILED STATISTICS FOR ENTERPRISES OPERATED BY GOVERNMENTAL INSTITUTIONS<sup>1</sup>: 1919.

	Total.	Penal: Operated by convict labor.	All other: Operated by hired labor.		Total.	Penal: Operated by convict labor.	All other: Operated by hired labor.
Number of enterprises.....	146	11	135	Persons engaged—Continued. Number of wage earners employed on the 15th day of each month:			
Number of mines and quarries.....	180	11	169				
Number of wells.....	68		68				
Capital.....	\$1,998,165	\$354,500	\$1,643,665		January.....	733	168
Principal expenses—					February.....	740	108
Salaries.....	\$121,375	\$27,150	\$94,225		March.....	875	172
Wages.....	\$1,004,582	\$131,984	\$872,599		April.....	1,055	155
Supplies and materials.....	\$458,076	\$107,531	\$350,545		May.....	1,295	185
Fuel.....	\$85,695	\$26,502	\$59,193		June.....	1,376	186
Purchased power.....	\$19,619	\$3,636	\$15,983		July.....	1,315	184
Royalties and rents.....	\$57,530	\$1,500	\$56,030		August.....	1,376	186
Contract work.....	\$387,479	\$41,107	\$346,372		September.....	1,295	185
					October.....	1,111	185
					November.....	991	184
					December.....	851	184
Value of products.....	\$2,741,285	\$479,165	\$2,262,120		Power used (aggregate horsepower).....	7,690	2,282
Persons engaged—					Prime movers:		
Superintendents and managers.....	78	10	68		Steam engines—		
Technical employees.....	7	2	5		Number.....	135	8
Clerks and other subordinate salaried employees.....	27	5	22		Horsepower.....	4,278	1,460
Wage earners (average number).....	1,082	181	901		Internal-combustion engines—		
Wage earners, December 15 or nearest representative day:					Number.....	47	3
Above ground.....	1,685	179	1,506		Horsepower.....	776	42
Below ground.....	110	6	104		Equipment operated by purchased power:		
Wage earners by occupations:					Electric motors—		
Foremen, etc.....	175	112	63		Number.....	91	21
Engineers, firemen, hoistmen, electricians, mechanics, etc.....	98	9	89		Horsepower.....	2,636	780
Miners, quarrymen, drillmen, including their helpers.....	702	24	678		Electric motors operated by current generated by the enterprise reporting—		
Timbermen, trackmen, trammers, etc.....	71	1	70		Number.....	8	5
All others not classified.....	749	39	710		Horsepower.....	340	270
Females included in above.....	9	3	6		Lands controlled (acres)—		
					Mineral lands operated.....	9,949	1,323
					Owned.....	6,290	1,313
					Leased.....	3,659	10
					Timber and other lands.....	95	88

<sup>1</sup> Includes 1 noncommercial enterprise not governmental.TABLE 26.—PRINCIPAL STATISTICS BY INDUSTRIES AND STATES, FOR ENTERPRISES OPERATED BY GOVERNMENTAL INSTITUTIONS<sup>1</sup>: 1919.

	Number of enterprises.	Number of mines and quarries.	Number of wells.	PERSONS ENGAGED.		Power used (aggregate horsepower).	Capital.	PRINCIPAL EXPENSES.							Value of products.
				Salaried employees.	Wage earners (average number).			Salaries.	Wages.	Contract work.	Supplies and materials.	Fuel.	Purchased power.	Royalties and rents.	
United States, all industries.....	146	180	68	112	1,082	7,690	\$1,998,165	\$121,375	\$1,004,582	\$387,479	\$458,076	\$85,695	\$19,619	\$57,530	\$2,741,285
INDUSTRIES.															
Coal, bituminous.....	9	9		10	135	1,030	142,628	14,241	123,718	7,961	83,780	13,731		2,401	469,745
Natural gas.....	15		68	14	11	355	352,664	18,529	28,135	32,373	157,562	5,412		17,409	335,900
Basalt (traprock).....	35	63		22	194	2,142	350,476	15,708	230,255	118,996	40,895	21,476	4,135	2,898	451,477
Granite.....	14	14		11	153	955	564,024	13,605	167,706	6,585	80,396	12,742	4,673	15,308	461,404
Sandstone.....	7	7		5	30	185	40,975	880	30,094		9,221	700		52	44,346
Limestone.....	66	87		50	559	3,023	547,398	58,412	424,675	221,564	86,222	31,634	10,811	19,462	978,323
STATES.															
California.....	11	11		9	114	748	501,251	10,659	120,737	5,000	66,128	8,892	4,259	16,314	382,165
Kentucky.....	15	17		11	163	616	180,267	11,365	114,519	9,129	13,567	5,558	3,100	2,400	220,241
Massachusetts.....	5	5		1	45	315	37,225	966	48,967		6,034	4,181	1,688		70,184
Minnesota.....	4	4		4	10	397	95,700	3,637	9,261	2,085	3,445	474	1,798	2	40,792
Missouri.....	9	9		2	120	175	1,500	2,691	78,071	19,568	12,101	5,780		1,929	95,373
New York.....	6	5	2	6	69	569	124,114	9,263	48,853		19,760	2,166	2,159	150	134,147
Ohio.....	7	2	23	13	13	155	146,044	16,800	30,400	20,323	136,203	5,350		12,225	225,365
Oregon.....	22	50		13	118	1,129	222,741	6,710	158,528	83,018	23,662	10,094	2,443	3,090	301,633
Pennsylvania.....	20	35	18	8	74	830	120,673	4,186	75,212	155,839	15,475	9,753	260	11,175	304,600
South Dakota.....	4	1	4	2	4	25	64,000	625	4,128		932		500		18,656
Tennessee.....	5	5		12	109	1,070	118,000	24,381	85,039	38,961	77,203	14,201	1,340	642	453,488
Virginia.....	5	5		4	45	141	13,200	2,560	19,696		1,179	664	300	2,626	75,779
West Virginia.....	3	3		3	26	193	50,550	4,500	17,824		4,212	2,194		815	33,620
Wisconsin.....	11	11		14	40	209	54,400	9,777	38,727	743	8,689	3,544	619	1,076	63,384
All other states <sup>2</sup> .....	19	17	21	10	132	1,118	268,500	13,255	154,621	46,813	69,486	12,844	1,153	6,186	321,958

<sup>1</sup> Includes 1 noncommercial enterprise not governmental.<sup>2</sup> Includes enterprises in states as follows: Alabama, 1; Arizona, 1; Arkansas, 1; Colorado, 1; Idaho, 1; Indiana, 1; Kansas, 2; Mississippi, 1; New Jersey, 2; New Mexico, 1; North Dakota, 1; Oklahoma, 1; Rhode Island, 2; Vermont, 1; and Washington, 2.

# GENERAL TABLES.

TABLE 1.—COMPARATIVE SUMMARY FOR THE UNITED STATES, BY INDUSTRIES, PRODUCING ENTERPRISES:  
1919 AND 1909.

INDUSTRY AND CENSUS YEAR.	Number of enterprises. <sup>1</sup>	Number of mines, quarries, or wells.	Wage earners (average number).	Power used (aggregate horsepower).	PRINCIPAL EXPENSES.					Value of products.
					Salaries and wages.	Supplies and materials.	Cost of fuel and purchased power.	Royalties and rents.	Contract work.	
All industries: <sup>2</sup>										
1919.....	21,280		981,560	6,723,786	\$1,445,285,211	\$555,499,028	\$122,105,930	\$175,293,984	\$79,380,177	\$3,158,463,966
1909.....	19,915		967,633	4,608,253	\$640,167,630	202,729,754	45,136,550	63,973,585	28,887,898	1,238,410,322
Per cent of increase.....			1.4	45.9	125.8	174.0	170.5	174.0	174.8	155.0
FUELS:										
Coal—										
Anthracite—										
1919.....	254	534	147,372	899,783	223,284,942	60,171,694	13,305,952	11,766,598	1,557,845	364,084,142
1909.....	192	423	169,367	676,753	96,900,963	23,504,740	3,193,226	7,980,739	1,701,514	149,180,471
Per cent of increase.....			-13.0	33.0	130.4	156.0	316.7	47.4	-8.4	144.1
Bituminous—										
1919.....	6,636	8,282	545,798	2,155,412	751,270,106	142,432,551	37,177,169	22,295,056	2,855,966	1,145,977,595
1909.....	3,503	6,013	511,723	1,227,401	315,997,383	40,498,700	7,509,947	12,082,488	2,209,672	427,962,464
Per cent of increase.....			6.7	75.6	137.7	251.7	395.0	84.5	29.2	167.8
Petroleum and natural gas—										
1919.....	9,814	257,673	93,205	1,821,342	167,980,615	223,872,364	20,794,076	106,458,518	68,063,650	931,793,423
1909.....	7,793	166,320	36,744	1,221,969	34,333,531	49,835,890	1,444,595	21,282,820	16,736,510	185,410,684
Per cent of increase.....			153.7	49.0	389.3	349.2	1,339.4	400.2	310.3	402.5
METALS:										
Iron ore—										
1919.....	290	406	45,741	370,869	82,650,119	27,187,832	10,294,589	24,044,936	1,671,783	218,217,905
1909.....	176	483	47,246	346,534	33,121,418	12,597,428	4,632,289	15,174,735	2,695,842	106,947,082
Per cent of increase.....			-3.2	7.0	149.5	115.8	122.2	64.4	-38.1	104.0
Copper—										
1919.....	195	226	43,717	523,591	74,429,935	35,803,425	14,866,015	536,819	421,753	181,258,087
1909.....	161	368	51,643	376,464	53,097,007	34,315,337	13,324,157	1,789,656	644,562	134,010,987
Per cent of increase.....			-15.3	39.1	40.2	4.3	11.6	-70.0	-34.6	34.6
Gold and silver, lode mines—										
1919.....	740	799	15,436	149,680	26,823,418	17,709,188	3,959,260	1,015,719	1,237,043	58,832,330
1909.....	1,604	2,845	29,428	200,966	34,665,751	20,552,244	5,105,253	1,163,985	3,603,984	83,885,928
Per cent of increase.....			-47.5	-25.5	-22.6	-13.8	-22.4	-12.7	-65.7	-29.9
Gold, placer mines—										
1919.....	112	132	1,380	35,632	2,350,865	2,244,728	1,144,333	85,899	132,807	9,308,561
1909.....	678	880	3,084	27,278	3,100,347	2,194,444	675,602	141,716	99,582	10,237,252
Per cent of increase.....			-55.3	30.6	-24.2	2.3	69.4	-39.4	33.4	-8.5
Lead and zinc—										
1919.....	432	473	21,884	229,541	34,543,259	15,717,599	5,375,155	5,258,387	803,471	75,579,347
1909.....	977	1,142	16,807	110,559	11,570,223	6,783,070	2,400,724	2,301,850	197,250	31,363,094
Per cent of increase.....			30.2	107.6	198.6	131.7	123.9	128.4	337.7	141.0
Manganese—										
1919.....	35	37	909	5,800	1,220,003	447,833	98,335	183,087	149,237	2,188,312
1909.....	5	14	60	215	20,425	4,741	854	2,152	.....	31,210
Per cent of increase.....			1,416.0	2,697.7	5,878.1	9,846.0	11,414.6	8,407.8	.....	6,910.2
Quicksilver—										
1919.....	26	26	748	2,807	1,048,929	403,269	157,064	45,194	7,973	1,803,484
1909.....	12	12	544	784	486,125	130,847	54,531	5,268	9,878	808,458
Per cent of increase.....			37.5	232.5	115.8	208.2	188.0	757.9	-10.3	107.7
Rare metals—										
1919.....	22	22	633	3,544	909,980	580,649	86,908	45,396	7,878	1,725,642
1909.....	26	132	531	3,237	485,151	153,269	126,325	1,375	41,476	908,238
Per cent of increase.....			19.2	9.5	87.6	278.8	-31.2	3,201.5	-81.0	78.2
STONE:										
Limestone—										
1919.....	895	925	22,069	213,717	27,652,925	10,968,220	4,176,390	667,751	665,557	52,943,924
1909.....	1,065	1,916	30,289	125,024	15,800,181	3,754,125	1,507,628	488,919	201,880	20,832,492
Per cent of increase.....			-27.1	70.9	75.0	192.2	177.0	36.6	229.7	77.5
Granite—										
1919.....	358	381	8,049	55,674	9,784,115	2,593,040	1,094,821	139,202	118,637	18,279,345
1909.....	707	826	18,744	91,095	12,181,727	1,921,912	757,078	194,349	65,744	18,997,970
Per cent of increase.....			-57.1	-39.9	-19.7	34.9	44.6	-28.4	80.5	-3.8
Sandstone—										
1919.....	255	276	4,287	33,869	5,279,444	1,684,432	848,262	131,970	54,161	10,084,969
1909.....	1,158	1,314	9,812	36,556	5,352,818	1,030,969	349,180	154,513	70,456	9,290,829
Per cent of increase.....			-56.3	-7.4	-1.4	60.0	142.9	-14.6	-31.8	16.0
Basalt—										
1919.....	163	174	3,336	37,307	4,742,554	2,030,889	719,988	250,199	41,400	9,657,977
1909.....	196	220	5,256	29,211	2,890,058	1,018,090	279,082	282,501	60,204	5,578,317
Per cent of increase.....			-36.5	27.7	64.3	99.5	158.0	-11.4	-31.2	73.1
Slate—										
1919.....	101	104	3,513	20,613	3,537,504	632,459	417,459	157,788	95,633	5,720,702
1909.....	185	219	8,803	29,777	4,494,132	521,761	327,397	271,252	28,062	6,054,174
Per cent of increase.....			-60.1	-30.8	-21.3	21.2	27.5	-41.8	230.2	-5.5
Marble—										
1919.....	48	62	1,732	15,628	1,706,559	552,439	224,385	34,380	20,582	4,397,912
1909.....	77	108	6,166	21,779	3,462,130	544,327	47,911	27,344	27,344	6,239,120
Per cent of increase.....			-71.9	-28.2	-50.7	1.5	-14.3	-28.2	-24.7	-29.5

<sup>1</sup> Operators, not enterprises, in 1909.

<sup>2</sup> The totals for all industries include, besides those specified, statistics for the chromite industry in 1919 and for the borax, chromite, grindstone, marl, monazite and zircon, peat, and precious stones industries in 1909, for which comparable figures could not be given. The value of products of these industries was less than one-tenth of 1 per cent of the total for all industries in 1919 and one-tenth of 1 per cent in 1909.

<sup>3</sup> Includes \$631,564 which could not be distributed among the stone industries

<sup>4</sup> A minus sign (-) denotes decrease.

## GENERAL TABLES.

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TABLE 1.—COMPARATIVE SUMMARY FOR THE UNITED STATES, BY INDUSTRIES, PRODUCING ENTERPRISES: 1919 AND 1909—Continued.

INDUSTRY AND CENSUS YEAR.	Number of enterprises. <sup>1</sup>	Number of mines, quarries, or wells.	Wage earners (average number).	Power used (aggregate horsepower).	PRINCIPAL EXPENSES.					Value of products.
					Salaries and wages.	Supplies and materials.	Cost of fuel and purchased power.	Royalties and rents.	Contract work.	
MISCELLANEOUS:										
Abrasive materials—										
1919.....	34	34	317	1,748	\$377,522	\$116,145	\$56,122	\$25,634	\$62,231	\$721,728
1909.....	49	82	403	1,344	191,442	37,086	23,637	12,206	9,052	498,290
Per cent of increase <sup>2</sup> .....			-21.3	30.1	97.2	213.2	137.4	110.0	587.5	44.8
Asbestos—										
1919.....	10	11	146	420	120,575	47,202	5,430	1,740	.....	249,839
1909.....	5	20	54	380	41,329	23,120	400	45	400	65,110
Per cent of increase.....			170.4	10.5	191.7	104.2	1,257.5	3,766.7	.....	283.5
Asphalt—										
1919.....	9	12	324	648	431,053	376,009	24,876	13,387	5,917	749,520
1909.....	12	19	205	828	173,106	66,159	13,598	1,517	15,546	466,461
Per cent of increase <sup>2</sup> .....			58.0	-21.7	149.0	468.3	82.9	782.5	-61.9	60.7
Barytes—										
1919.....	89	98	919	3,029	878,958	236,082	69,724	45,343	10,127	1,592,245
1909.....	23	42	240	262	110,493	21,756	6,468	14,232	14,346	224,766
Per cent of increase <sup>2</sup> .....			282.9	1,056.1	695.5	985.1	978.0	218.6	-29.4	608.4
Bauxite—										
1919.....	10	15	738	2,507	1,099,178	303,558	137,766	152,848	.....	2,190,279
1909.....	10	10	563	1,565	230,759	21,665	33,624	6,909	.....	670,829
Per cent of increase.....			31.1	60.2	376.3	1,301.1	309.7	2,112.3	.....	226.5
Clay—										
1919.....	345	350	5,453	21,243	6,200,401	1,416,999	452,589	465,184	120,355	10,086,298
1909.....	261	336	3,262	8,868	1,586,509	280,953	108,389	85,403	48,098	2,945,948
Per cent of increase.....			67.2	139.5	291.4	404.4	317.6	444.7	162.9	242.4
Feldspar—										
1919.....	30	32	349	1,782	317,184	97,834	33,442	16,391	12,073	584,296
1909.....	22	28	247	993	135,356	40,852	15,802	9,238	8,681	271,437
Per cent of increase.....			41.3	79.5	134.3	139.5	110.4	77.4	39.1	115.3
Fluorspar—										
1919.....	54	72	1,124	7,138	1,491,076	634,498	163,239	101,311	145,916	3,334,880
1909.....	13	15	290	1,170	193,118	34,695	24,414	1,917	949	288,509
Per cent of increase.....			287.6	505.4	672.1	1,728.8	568.6	5,184.9	15,275.8	1,055.9
Fuller's earth—										
1919.....	9	9	824	2,538	634,854	338,011	290,863	5,809	8,556	2,019,226
1909.....	16	21	327	1,739	156,979	35,797	48,010	582	67	315,762
Per cent of increase.....			152.0	45.9	304.4	844.2	524.6	913.6	12,670.1	539.5
Graphite—										
1919.....	21	24	419	6,410	463,876	209,256	121,614	2,646	50,696	869,403
1909.....	19	20	294	2,647	180,083	69,601	35,922	5,765	4,000	344,130
Per cent of increase <sup>2</sup> .....			42.5	142.2	149.3	200.7	238.6	-54.1	1,167.4	152.6
Gypsum—										
1919.....	47	48	2,191	15,032	3,033,841	1,530,338	660,420	69,403	3,747	6,895,940
1909.....	78	222	3,462	17,685	2,372,766	986,658	573,459	74,916	16,558	5,812,810
Per cent of increase <sup>2</sup> .....			-36.7	-15.0	27.9	55.1	15.2	-7.4	-77.4	17.1
Magnesite—										
1919.....	11	11	448	2,540	747,487	332,206	296,105	47,193	50,846	2,169,571
1909.....	6	13	50	126	39,022	6,282	7,556	253	.....	68,493
Per cent of increase.....			796.0	1,915.9	1,772.4	5,188.2	3,818.8	18,553.4	.....	3,060.0
Mica—										
1919.....	65	69	448	803	335,066	107,933	22,668	18,893	7,325	607,025
1909.....	73	78	272	463	139,188	10,377	12,392	5,684	6,036	206,794
Per cent of increase.....			64.7	73.4	140.7	940.1	82.9	232.4	21.4	193.5
Millstones—										
1919.....	11	11	37	220	59,766	11,244	7,110	2,175	.....	64,631
1909.....	14	14	51	.....	16,850	483	25	271	.....	31,441
Per cent of increase <sup>2</sup> .....			-27.5	.....	254.7	2,228.0	28,340.0	702.6	.....	87.7
Mineral pigments—										
1919.....	23	23	185	1,630	214,752	83,078	30,366	8,499	1,320	480,768
1909.....	23	26	151	849	60,856	14,710	7,775	3,469	20,388	151,015
Per cent of increase <sup>2</sup> .....			22.5	92.0	252.9	464.8	290.6	145.0	-93.5	218.4
Phosphate rock—										
1919.....	48	69	4,373	49,639	4,662,389	2,161,501	1,819,301	209,687	163,696	10,300,198
1909.....	51	153	7,873	50,526	3,806,651	898,657	1,360,368	345,588	251,849	10,781,102
Per cent of increase <sup>2</sup> .....			-44.5	-1.8	22.5	140.5	33.7	-39.3	-35.0	-4.5
Pyrite—										
1919.....	17	18	1,172	7,338	1,569,795	615,726	221,841	43,057	87,061	2,408,648
1909.....	11	12	1,086	5,758	463,321	152,143	71,537	887	2,730	676,934
Per cent of increase.....			7.9	27.4	238.8	304.7	210.1	4,754.2	3,089.0	255.8
Silica—										
1919.....	24	29	166	2,032	198,737	58,185	21,960	4,060	1,847	371,638
1909.....	14	14	158	1,219	94,774	17,461	12,065	2,959	16,351	231,025
Per cent of increase <sup>2</sup> .....			5.1	66.7	109.7	233.2	82.0	37.2	-88.7	60.9
Sulphur—										
1919.....	4	4	1,129	15,291	2,095,189	1,452,136	2,764,194	.....	.....	17,935,882
1909.....	4	4	366	3,114	434,887	248,383	708,384	.....	361	4,432,066
Per cent of increase.....			208.5	391.0	381.8	484.6	290.2	.....	.....	304.7
Talc and soapstone—										
1919.....	28	30	958	7,053	1,049,988	345,166	155,564	38,958	52,757	2,302,393
1909.....	30	46	1,256	9,433	607,128	196,054	66,339	31,287	3,550	1,174,516
Per cent of increase <sup>2</sup> .....			-23.7	-25.2	72.9	78.1	134.5	24.5	1,386.1	96.0

<sup>1</sup> Operators, not enterprises, in 1909.<sup>2</sup> A minus sign (—) denotes decrease.

## MINES AND QUARRIES.

TABLE 2.—COMPARATIVE SUMMARY FOR THE UNITED STATES, BY STATES, PRODUCING ENTERPRISES:  
1919 AND 1909.

STATE AND CENSUS YEAR.	Number of enterprises. <sup>1</sup>	Number of mines and quarries.	Number of wells productive Dec. 31.	Wage earners (average number).	Power used (aggregate horsepower).	PRINCIPAL EXPENSES.					Value of products.
						Salaries and wages.	Supplies and materials.	Cost of fuel and purchased power.	Royalties and rents.	Contract work.	
United States:											
1919 <sup>2</sup> .....	21,280	13,844	257,673	981,560	6,723,786	\$1,445,265,211	\$555,499,028	\$122,105,930	\$175,293,984	\$79,380,177	\$3,158,463,966
1909.....	19,915	18,164	166,320	967,633	4,608,253	1,640,167,630	202,729,754	45,136,550	63,973,585	28,887,898	1,238,410,322
Per cent of increase.....				1.4	45.9	125.8	174.0	170.5	174.0	174.8	155.0
ALABAMA:											
1919.....	264	348		32,579	145,775	40,161,557	7,480,910	3,080,283	838,101	167,070	59,866,040
1909.....	177	302		28,271	91,924	15,936,062	2,630,390	1,018,824	333,828	767,385	24,350,667
Per cent of increase.....				15.2	58.6	152.0	185.5	193.7	151.1	78.2	145.8
ARIZONA:											
1919.....	155	172		15,268	166,091	29,952,641	16,160,891	5,377,525	438,926	746,783	88,478,111
1909.....	135	251		12,838	47,272	14,520,940	6,929,758	5,603,989	8,250	238,982	34,217,651
Per cent of increase.....				18.9	251.4	103.3	133.2	4.0	5,216.4	212.5	158.0
ARKANSAS:											
1919.....	126	126	124	3,630	21,365	5,175,118	1,401,512	441,261	346,925	139,434	8,404,537
1909.....	96	146	62	4,935	14,080	3,264,607	368,207	193,999	193,999	117,195	4,603,845
Per cent of increase.....				-26.4	51.7	58.5	280.6	217.5	99.5	19.0	82.0
CALIFORNIA:											
1919.....	725	357	9,197	19,344	313,213	36,889,720	32,692,276	7,047,225	10,910,533	1,377,278	163,770,243
1909.....	1,329	1,279	4,316	20,517	162,238	22,018,221	21,552,312	2,775,643	2,814,259	595,130	63,382,454
Per cent of increase.....				-5.7	93.1	67.5	51.7	153.9	287.7	131.4	158.4
COLORADO:											
1919.....	477	523	70	16,790	116,351	28,193,572	11,954,556	2,706,450	1,583,712	397,930	51,217,038
1909.....	672	1,575	76	21,433	98,777	20,576,236	10,389,810	1,955,984	1,017,447	2,996,083	45,680,135
Per cent of increase.....				-21.8	17.8	37.0	15.1	38.4	55.7	-86.7	12.1
CONNECTICUT:											
1919.....	41	47		543	8,520	791,100	304,096	120,374	10,604	27,038	1,649,003
1909.....	71	75		1,385	6,298	812,061	127,424	71,917	13,761	13,761	1,378,765
Per cent of increase.....				-60.8	35.3	-2.6	138.6	67.4	-36.8	96.5	10.9
DELAWARE:											
1919.....	7	8		116	660	155,981	34,214	19,559	5,434	3,018	243,647
1909.....	9	9		403	1,480	287,742	152,054	26,378	4,392	5,800	516,213
Per cent of increase.....				-76.5	-55.4	-45.8	-77.5	-25.9	23.7	-48.0	-52.8
FLORIDA:											
1919.....	36	55		3,372	44,969	3,774,015	1,836,229	1,687,696	140,815	121,202	8,976,413
1909.....	36	96		5,448	42,366	2,846,613	738,946	1,223,035	197,792	217,691	8,846,605
Per cent of increase.....				-38.1	6.1	32.6	148.5	38.0	-28.8	-44.3	1.5
GEORGIA:											
1919.....	74	82		2,397	13,026	2,372,473	608,766	356,019	155,833	35,295	4,082,152
1909.....	92	109		3,383	10,638	1,468,065	254,021	146,666	58,717	1,903	2,874,595
Per cent of increase.....				-29.1	21.8	61.6	139.7	142.7	165.4	1,754.7	42.0
IDAHO:											
1919.....	82	83		2,455	31,239	4,739,695	2,026,256	513,778	182,364	193,657	11,840,301
1909.....	174	370		3,246	26,278	4,403,425	1,847,458	350,199	27,632	23,036	8,649,312
Per cent of increase.....				-24.4	18.9	7.6	9.7	44.2	560.0	740.7	36.0
ILLINOIS:											
1919.....	772	590	16,498	79,123	318,231	104,302,370	18,807,752	5,784,479	6,636,176	431,555	178,673,065
1909.....	916	759	10,918	72,086	225,330	49,491,382	8,574,817	1,325,880	3,579,472	2,376,956	76,658,974
Per cent of increase.....				9.8	41.2	110.7	119.3	336.3	85.4	-81.8	133.1
INDIANA:											
1919.....	503	398	2,456	26,751	129,863	34,271,203	6,421,009	2,012,706	939,666	340,187	52,840,252
1909.....	1,010	480	10,373	23,936	95,039	15,884,009	1,846,499	551,821	593,274	295,982	21,934,201
Per cent of increase.....				11.8	36.4	113.8	247.7	264.7	57.9	14.9	140.9
IOWA:											
1919.....	198	226		11,274	32,171	13,810,123	2,072,308	748,844	335,530	33,464	18,473,558
1909.....	373	431		16,480	23,453	11,411,421	1,307,919	221,740	349,440	40,836	13,877,781
Per cent of increase.....				-31.6	37.2	21.0	58.4	237.7	-4.0	-18.1	33.1
KANSAS:											
1919.....	814	238	12,690	16,136	133,984	25,248,693	33,395,983	4,305,575	10,712,223	3,997,644	90,338,204
1909.....	643	582	3,402	14,343	66,943	10,324,782	2,038,025	267,964	1,665,839	393,947	18,722,634
Per cent of increase.....				12.5	100.1	144.5	1,538.6	1,506.8	543.1	900.6	382.5
KENTUCKY:											
1919.....	938	864	5,214	43,563	148,893	56,861,204	15,660,195	2,522,749	5,814,424	3,265,715	98,486,010
1909.....	437	442	1,109	18,297	53,203	8,792,662	1,322,406	218,489	422,579	184,903	12,100,075
Per cent of increase.....				138.1	179.9	546.7	1,084.1	1,054.6	1,275.9	1,666.2	713.9
LOUISIANA AND MISSISSIPPI:											
1919.....	137	4	2,479	5,228	86,135	9,002,467	8,501,967	2,813,008	4,312,372	2,043,444	40,016,535
1909.....	33	2	246	8,445	920	1,199,658	866,656	726,971	496,198	62,440	6,547,050
Per cent of increase.....				464.6	920.0	650.4	881.0	286.9	769.1	3,172.7	611.2
MAINE:											
1919.....	50	51		970	6,277	1,170,075	203,187	122,792	9,986	32,368	1,823,442
1909.....	97	102		2,144	8,141	1,451,868	219,579	84,683	16,302	6,728	2,050,063
Per cent of increase.....				-54.3	-22.9	-19.4	-7.5	45.0	-38.7	381.1	-11.3
MARYLAND:											
1919.....	126	161		5,628	18,660	6,941,403	1,178,074	308,766	137,562	16,899	9,698,577
1909.....	126	173		7,190	18,118	3,668,129	478,555	104,156	133,786	8,303	5,782,045
Per cent of increase.....				-21.7	3.0	89.2	146.2	196.4	2.8	103.5	67.7
MASSACHUSETTS:											
1919.....	74	79		1,704	12,498	2,393,446	494,249	263,345	59,067	11,186	4,175,600
1909.....	139	147		3,291	15,031	2,180,356	363,698	153,258	55,409	16,272	3,467,888
Per cent of increase.....				-48.2	-16.9	9.8	35.9	71.8	6.6	-31.3	20.4
MICHIGAN:											
1919.....	122	165	19	31,292	337,882	51,717,746	15,204,063	8,444,697	6,668,923	29,439	103,870,080
1909.....	83	173	21	39,169	273,861	29,834,430	9,800,415	4,193,347	4,048,606	470,205	67,714,479
Per cent of increase.....				-20.1	23.4	83.4	55.1	101.4	64.7	-93.7	53.4
MINNESOTA:											
1919.....	135	196		17,265	144,199	32,431,442	14,101,962	4,681,952	17,642,811	1,512,999	130,399,254
1909.....	153	250		16,586	151,834	13,475,789	6,736,806	2,024,606	10,731,959	2,157,108	58,664,852
Per cent of increase.....				4.1	-5.0	140.7	109.3	131.3	64.4	-29.9	122.3
MISSOURI:											
1919.....	468	494		14,857	100,160	18,640,977	4,784,748	2,034,413	780,604	415,843	33,365,604
1909.....	1,021	1,224	39	23,420	109,672	15,668,490	6,201,895	2,220,657	1,954,092	162,084	31,667,525
Per cent of increase.....				-36.6	-8.7	19.0	-22.9	-8.4	-60.1	156.6	5.4
MONTANA:											
1919.....	259	269	28	16,129	143,718	28,228,209	9,514,869	2,979,928	645,125	115,521	49,923,721
1909.....	373	543		18,846	174,389	22,774,479	16,397,323	3,628,050	1,822,875	394,499	54,991,961
Per cent of increase.....				-14.4	-17.6	23.9	-42.0	-17.9	-64.6	-70.7	-9.2

<sup>1</sup> Operators, not enterprises, in 1909.<sup>2</sup> The total for the United States includes, besides the states specified, statistics for the District of Columbia for which no statistics were reported for 1909.<sup>3</sup> Exclusive of duplications, 307 operators having reported in two or more states.<sup>4</sup> Includes \$1,563,293 which could not be distributed among the several states.<sup>5</sup> Includes \$61,801 which could not be distributed among the several states.<sup>6</sup> A minus sign (-) denotes decrease.<sup>7</sup> Includes statistics for Louisiana only; nothing reported for Mississippi.

## GENERAL TABLES.

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TABLE 2.—COMPARATIVE SUMMARY FOR THE UNITED STATES, BY STATES, PRODUCING ENTERPRISES:  
1919 AND 1909—Continued.

STATE AND CENSUS YEAR.	Number of enterprises. <sup>1</sup>	Number of mines and quarries.	Number of wells productive Dec. 31.	Wage earners (average number).	Power used (aggregate horsepower).	PRINCIPAL EXPENSES.					Value of products.
						Salaries and wages.	Supplies and materials.	Cost of fuel and purchased power.	Royalties and rents.	Contract work.	
NEBRASKA:											
1919.....	9	9	.....	162	1,817	\$193,339	\$60,996	\$21,176	\$9,715	.....	\$292,766
1909.....	18	20	.....	349	815	180,582	35,474	22,019	1,551	.....	322,517
Per cent of increase <sup>2</sup> .....				-53.6	126.6	3.6	71.9	-3.8	526.4	\$5,593	-9.2
NEVADA:											
1919.....	203	207	.....	4,231	59,786	8,509,961	5,339,511	1,751,266	143,708	245,429	18,033,981
1909.....	266	374	.....	4,612	26,862	6,801,120	4,985,612	1,311,625	273,556	190,768	23,271,597
Per cent of increase <sup>2</sup> .....				-8.9	89.1	25.0	7.1	33.5	-47.8	24.7	-22.4
NEW HAMPSHIRE:											
1919.....	30	33	.....	682	4,336	921,871	144,946	64,980	6,268	34,520	1,568,195
1909.....	45	53	.....	1,418	3,771	979,840	100,931	54,437	4,459	8,246	1,308,597
Per cent of increase <sup>2</sup> .....				-51.9	15.0	-5.9	43.6	19.4	46.8	273.4	19.8
NEW JERSEY:											
1919.....	97	102	.....	4,576	33,901	6,119,411	2,194,539	719,938	276,555	57,948	9,308,902
1909.....	131	151	.....	6,315	18,048	3,064,247	674,962	319,329	101,026	44,459	8,347,501
Per cent of increase <sup>2</sup> .....				-27.5	87.8	99.7	225.1	125.5	173.7	30.3	11.5
NEW MEXICO:											
1919.....	85	103	1	7,100	59,876	11,644,903	3,889,454	1,361,210	181,504	131,506	18,872,560
1909.....	98	285	.....	5,107	16,012	3,974,490	895,457	203,053	78,995	132,535	5,557,744
Per cent of increase <sup>2</sup> .....				39.0	273.2	193.0	352.9	570.3	129.8	-0.8	237.7
NEW YORK:											
1919.....	700	147	14,188	6,202	91,339	8,928,382	7,416,586	1,402,245	649,472	789,360	25,131,095
1909.....	1,351	752	11,342	9,305	101,759	5,425,460	1,952,593	555,161	465,454	513,042	13,334,973
Per cent of increase <sup>2</sup> .....				-33.3	-10.2	64.6	279.8	139.6	39.5	53.9	88.5
NORTH CAROLINA:											
1919.....	102	106	.....	1,890	5,039	1,688,674	467,460	220,731	36,071	5,745	2,736,543
1909.....	118	130	.....	2,215	6,062	985,804	152,714	103,319	20,212	37,386	1,358,617
Per cent of increase <sup>2</sup> .....				-14.7	-16.9	71.3	206.1	113.0	78.5	-84.6	101.4
NORTH DAKOTA:											
1919.....	79	79	.....	774	2,037	1,188,772	283,633	37,694	30,868	30,750	1,927,304
1909.....	53	53	6	562	2,025	426,910	95,352	12,835	10,647	1,325	564,812
Per cent of increase <sup>2</sup> .....				37.7	0.6	178.5	197.5	193.7	189.9	2,220.8	241.2
OHIO:											
1919.....	2,283	1,064	35,440	49,298	337,611	66,152,128	19,209,516	4,131,068	6,339,816	3,629,476	134,518,505
1909.....	1,876	964	35,067	50,567	294,763	22,544,213	12,736,355	892,671	3,667,382	2,970,544	63,767,112
Per cent of increase <sup>2</sup> .....				-2.5	14.5	123.9	50.8	362.8	72.9	32.3	111.0
OKLAHOMA:											
1919.....	1,934	284	44,735	33,914	448,173	59,341,632	65,216,973	4,793,574	30,688,890	18,982,377	281,022,802
1909.....	864	212	12,113	11,658	95,074	9,117,970	5,027,763	384,186	2,783,975	2,137,314	25,637,892
Per cent of increase <sup>2</sup> .....				190.9	371.4	550.8	1,197.1	1,147.7	1,002.3	788.1	999.7
OREGON:											
1919.....	50	52	.....	740	6,264	1,140,778	545,949	133,472	48,047	35,888	1,884,871
1909.....	116	161	.....	860	8,070	830,025	186,796	96,592	16,935	7,717	1,191,512
Per cent of increase <sup>2</sup> .....				-14.0	-22.4	37.4	192.3	38.2	183.7	365.1	58.2
PENNSYLVANIA:											
1919.....	5,807	3,621	77,325	323,397	1,999,422	480,183,416	124,327,767	27,707,403	24,682,827	7,970,425	519,451,109
1909.....	4,851	3,000	59,780	361,013	1,618,806	210,531,202	48,274,254	6,423,190	16,379,127	5,976,032	349,059,786
Per cent of increase <sup>2</sup> .....				-10.4	23.5	128.1	157.5	331.4	60.5	33.4	134.8
RHODE ISLAND:											
1919.....	14	15	.....	369	3,000	482,329	146,637	55,075	5,755	1,000	952,204
1909.....	21	27	.....	665	2,350	467,772	130,947	26,991	8,552	.....	897,606
Per cent of increase <sup>2</sup> .....				-44.5	27.7	3.1	12.0	104.0	-32.7	.....	6.1
SOUTH CAROLINA:											
1919.....	20	20	.....	933	4,656	820,327	303,371	150,440	7,512	.....	1,350,747
1909.....	29	32	.....	1,814	7,012	708,669	124,618	117,899	16,336	6,680	1,252,792
Per cent of increase <sup>2</sup> .....				-48.6	-33.6	15.8	143.4	27.6	-27.3	.....	7.8
SOUTH DAKOTA:											
1919.....	23	28	1	1,785	11,544	2,714,150	1,008,196	284,019	6,805	11,941	5,314,516
1909.....	39	43	3	3,456	15,648	3,431,812	1,109,671	421,048	4,776	50	6,432,417
Per cent of increase <sup>2</sup> .....				-48.4	-24.3	-20.9	-0.1	-32.5	42.5	23,782.0	-17.4
TENNESSEE:											
1919.....	203	263	14	14,470	56,685	14,625,733	3,892,397	1,259,983	554,743	173,796	23,292,414
1909.....	216	365	1	16,338	34,523	8,346,571	1,613,571	645,376	617,097	54,372	12,692,547
Per cent of increase <sup>2</sup> .....				-11.4	64.2	75.2	141.2	95.2	-10.1	219.6	83.5
TEXAS:											
1919.....	624	81	8,749	18,164	129,063	35,987,955	45,401,592	6,189,559	23,912,179	25,773,700	160,378,058
1909.....	236	92	2,279	6,379	32,003	4,539,257	1,833,415	255,614	917,799	152,094	10,742,150
Per cent of increase <sup>2</sup> .....				184.7	303.3	602.8	2,376.3	2,321.4	2,505.4	16,845.7	1,393.0
UTAH:											
1919.....	141	154	.....	9,847	86,131	19,113,565	8,043,453	2,019,110	150,955	491,178	41,510,802
1909.....	188	235	.....	10,089	47,226	10,184,378	4,027,324	1,074,119	71,911	265,068	22,083,282
Per cent of increase <sup>2</sup> .....				-2.4	82.4	87.7	99.7	88.0	109.9	85.3	88.0
VERMONT:											
1919.....	93	109	.....	2,936	28,119	3,490,284	1,272,796	425,398	58,506	91,750	8,555,030
1909.....	137	182	.....	8,145	25,668	4,819,552	905,157	362,438	84,332	64,698	8,221,323
Per cent of increase <sup>2</sup> .....				-64.0	9.5	-27.6	40.6	17.4	-30.6	41.8	4.1
VIRGINIA:											
1919.....	202	216	.....	14,547	57,680	17,798,411	4,760,370	1,216,894	830,435	340,851	29,363,449
1909.....	150	244	.....	15,257	34,630	5,542,408	1,173,866	484,527	418,353	119,028	8,795,646
Per cent of increase <sup>2</sup> .....				-4.7	67.1	204.6	305.5	151.2	98.5	186.4	233.8
WASHINGTON:											
1919.....	83	93	.....	5,050	38,198	8,128,198	1,728,585	947,320	177,420	86,624	13,329,129
1909.....	93	170	.....	6,904	20,742	6,235,673	843,025	245,852	141,231	14,462	10,537,556
Per cent of increase <sup>2</sup> .....				-26.9	84.2	30.3	105.0	285.3	25.6	499.0	26.5
WEST VIRGINIA:											
1919.....	1,714	1,325	27,363	100,812	704,279	134,532,198	46,611,574	6,908,796	14,845,553	3,889,691	295,606,620
1909.....	798	718	15,146	73,410	416,282	39,809,620	12,541,375	1,212,825	7,796,172	4,465,926	76,287,889
Per cent of increase <sup>2</sup> .....				37.3	69.2	237.9	271.7	469.6	90.4	-12.9	287.5
WISCONSIN:											
1919.....	92	107	.....	3,547	26,766	5,368,350	1,909,512	857,265	535,600	135,293	10,580,833
1909.....	268	286	.....	4,710	24,864	3,339,831	877,925	435,993	445,146	40,957	7,459,404
Per cent of increase <sup>2</sup> .....				-24.7	7.6	60.7	124.3	96.6	20.3	230.3	41.8
WYOMING:											
1919.....	100	87	1,084	9,699	62,757	15,963,344	6,422,769	1,072,787	1,765,597	715,960	41,928,788
1909.....	66	95	21	7,742	30,338	6,714,194	1,385,594	376,187	107,834	61,542	10,572,188
Per cent of increase <sup>2</sup> .....				25.3	106.9	137.8	363.5	185.2	1,537.3	1,063.4	296.6

<sup>1</sup> Operators, not enterprises, in 1909.<sup>2</sup> A minus sign (-) denotes decrease.

## MINES AND QUARRIES.

TABLE 3.—DETAILED STATISTICS FOR MINES, QUARRIES, AND WELLS, PRODUCING AND

INDUSTRY.	Number of enterprises.	Number of mines, quarries, or wells.	Number of enterprises operating beneath surface plants.	LAND CONTROLLED (ACRES).				PERSONS ENGAGED IN INDUSTRY.									
				Mineral land.			Timber and other lands.	Aggregate.	Total.	Proprietors and officials.					Clerks and other subordinate salaried employees.		
				Operated.	Owned.	Leased.				Total.	Proprietors and firm members.		Salaried officers.	Superintendents and managers.			Technical employees.
											Per-forming manual labor.						
1 All industries.....	21,997		1,503	22,947,937	8,729,545	14,294,342	2,215,702	1,084,796	61,588	22,155	5,272	10,729	22,223	6,481	25,854	10,170	
2 Producing enterprises....	21,280		1,503	22,474,069	8,568,590	13,980,731	2,208,519	1,077,675	60,409	21,918	5,245	10,456	21,704	6,331	25,649	10,057	
3 FUELS:																	
4 Coal, anthracite.....	254	1,534	140	261,355	194,390	77,955	159,710	154,882	4,120	159	31	233	2,821	907	2,773	617	
5 Coal, bituminous.....	6,636	8,282	134	8,261,372	5,793,651	2,528,562	751,473	583,608	22,403	4,237	1,830	5,870	9,750	2,546	11,085	4,322	
6 Petroleum and natural gas..	9,814	257,673		12,171,388	1,172,068	10,999,320		125,110	22,187	14,223	1,987	2,392	4,704	868	6,046	3,672	
7 METALS:																	
8 Iron ore.....	290	406	74	241,508	177,296	65,280	696,140	48,767	1,286	41	9	130	616	499	1,454	286	
9 Copper.....	195	226	57	392,811	378,839	14,045	255,819	46,999	1,601	103	62	185	596	717	1,493	188	
10 Lead and zinc.....	432	473	262	135,262	99,338	36,118	47,053	24,030	1,374	412	186	166	547	240	593	179	
11 Gold and silver, lode mines..	740	799	191	142,573	113,347	29,424	46,166	17,531	1,693	712	485	236	505	230	319	83	
12 Gold, placer mines.....	112	132	2	62,857	51,219	11,738	16,860	1,651	232	122	77	38	61	11	26	13	
13 Manganese.....	35	37	8	51,574	12,463	39,111	16	1,032	89	35	6	16	29	9	27	7	
14 Quicksilver.....	26	26	24	27,387	16,820	10,567	5,283	846	81	27	11	11	34	9	13	4	
15 Rare metals.....	22	22	11	18,779	17,200	1,579	30	750	65	11	3	11	32	11	40	12	
16 STONE:																	
17 Limestone.....	895	925	44	122,820	84,717	38,306	52,963	24,705	1,727	633	175	375	672	47	701	208	
18 Granite.....	358	381	152	30,659	23,799	6,950	6,998	8,951	696	328	145	137	197	34	133	73	
19 Sandstone.....	255	276	66	48,729	34,726	15,435	6,641	4,897	434	179	53	106	143	6	115	61	
20 Basalt.....	163	174	6	15,625	7,139	8,486	1,889	3,791	310	77	20	85	138	10	103	42	
21 Slate.....	101	104	61	5,440	3,673	1,767	2,805	3,852	269	64	21	84	117	4	45	25	
22 Marble.....	48	62	25	28,969	11,818	17,159	6,273	1,891	96	7	3	46	40	3	38	25	
23 MISCELLANEOUS:																	
24 Abrasive materials.....	34	34	14	15,885	10,334	5,551	1,433	379	53	25	6	6	19	3	3	6	
25 Asbestos.....	10	11	3	2,371	2,200	171		165	14	5	1	1	7	1	4	1	
26 Asphalt.....	9	12		8,889	8,759	130		387	40			9	17	14	19	4	
27 Barytes.....	89	98	5	37,135	31,971	5,164	10,622	1,071	138	93	3	8	31	6	12	2	
28 Bauxite.....	10	15	7	3,997	1,164	2,833	23,998	806	35	2		6	22	5	27	6	
29 Chromite.....	15	16	1	3,389	1,034	2,355	61	60	29	24	12	3	2				
30 Clay.....	345	350	45	105,706	70,498	35,263	7,040	6,087	490	187	48	96	168	9	112	62	
31 Feldspar.....	30	32	4	1,480	761	719	235	398	42	20	6	12	10		5	2	
32 Fluorspar.....	54	72	25	9,623	5,888	3,735	5,942	1,279	127	36	7	29	49	13	22	6	
33 Fuller's earth.....	9	9	8	6,720	4,274	2,446	258	873	40			9	28	3	5	4	
34 Graphite.....	21	24	16	8,114	7,931	183	186	493	49	6	2	5	30	8	22	3	
35 Gypsum.....	47	48	27	41,703	36,581	5,122	490	2,477	103	4	3	28	66	5	135	48	
36 Magnesite.....	11	11	7	2,931	1,375	1,556	930	499	38	13		8	13	4	9	4	
37 Mica.....	65	69	9	5,188	3,225	1,963	781	555	99	67	27	10	21	1	5	3	
38 Millstones.....	11	11		119	16	103		53	15	14	10		1		1		
39 Mineral pigments.....	23	23	11	2,483	1,997	486	1,836	223	30	13	4	7	10		4	4	
40 Phosphate rock.....	48	69	20	160,447	156,418	4,029	81,363	4,761	223	14		43	106	60	134	31	
41 Pyrite.....	17	18	12	9,103	5,532	3,571	8,958	1,268	43			10	27	6	42	11	
42 Silica.....	24	29	8	1,980	1,263	726	439	206	35	17	7	4	14		2	3	
43 Sulphur.....	4	4	1	12,946	12,946		7,565	1,273	59			8	28	23	62	23	
44 Talc and soapstone.....	28	30	23	14,743	11,920	2,823	263	1,069	74	8	2	33	33		20	17	
45 Nonproducing enterprises	717			473,868	160,955	313,611	7,183	7,121	1,179	237	27	273	519	150	205	113	
46 FUELS:																	
47 Coal.....	26	26		24,707	14,317	10,390	97	529	50	5	2	13	17	15	4	4	
48 Petroleum and natural gas..	156	276		260,131	3,645	256,486		820	262	96	8	47	90	29	56	45	
49 METALS:																	
50 Iron ore.....	18	18		4,506	2,339	2,167	604	650	29			6	15	8	16	7	
51 Gold, silver, copper, lead, or zinc.....	500	512		176,035	136,452	40,281	5,648	4,665	801	133	17	201	380	87	122	51	
52 MISCELLANEOUS.....	17	17		8,489	4,202	4,287	834	457	37	3		6	17	11	7	3	

1 Includes 79 anthracite culm washeries and 81 river dredges.

2 Same number reported for one or more other months.

3 Includes enterprises in industries as follows: Molybdenum, 2; titanium, 2; tungsten, 6; uranium and vanadium, 12.

# GENERAL TABLES.

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## NONPRODUCING ENTERPRISES, FOR THE UNITED STATES, BY INDUSTRIES: 1919.

PERSONS ENGAGED IN INDUSTRY—continued.																			
Wage earners.				Wage earners, Dec. 15, or nearest representative day.															
Average number.	Number 15th day of—		Total.		Foremen, shift bosses, etc.		Enginemn, hoistmen, electricians, mechanics, etc.		Miners, quarrymen, and drillmen, including their helpers.		Timbermen, trackmen, and men engaged in hauling, tramming, etc.		Muckers, loaders, and others not classified.		In mills and beneficiating plants (above ground).	Under 16 years of age (above ground).	Females (above ground).	Capital.	
	Maximum month.	Minimum month.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.					
987,184	Oc 1,057,820	No 765,067	386,832	709,526	10,526	15,696	135,665	30,349	31,388	397,636	25,896	139,052	136,646	126,793	46,811	222	612	<i>Dollars.</i> 7,108,623,496	1
981,560	Oc 1,051,204	No 758,156	382,766	705,423	10,314	15,437	134,117	30,145	30,702	395,398	25,583	138,491	135,239	125,952	46,811	221	541	6,955,466,831	2
147,372 545,798 93,205	De 151,595 Oc 599,550 De 100,293	Ap 142,691 No 308,266 Fe 85,119	46,618 108,746 100,980	105,625 508,657 -----	435 4,647 -----	1,098 10,922 -----	10,488 32,635 64,230	4,331 22,444 -----	138 7,025 -----	59,401 295,084 -----	2,769 14,733 -----	17,325 99,480 -----	12,291 47,152 36,750	23,470 80,727 -----	20,497 2,554 -----	119 61 118	----- 58 -----	433,868,039 1,904,450,123 2,421,485,942	3 4 5
45,741 43,717 21,894 15,436	Ja 47,493 Ja 58,025 Ja 25,124 Au 16,469	De 42,555 Je 37,885 Je 19,949 Ja 14,778	19,050 20,107 9,471 5,830	28,690 25,704 16,697 11,492	789 807 369 313	878 1,137 573 485	6,526 6,167 2,576 1,713	1,053 1,254 362 515	1,354 1,185 109 208	15,326 9,455 6,857 4,980	1,677 1,005 304 296	5,495 8,115 4,361 2,202	7,436 4,352 1,477 1,339	5,938 5,743 4,544 3,310	1,268 6,589 4,636 1,961	6 4 4 49	7 74 18 -----	501,396,044 853,639,017 197,223,814 280,388,711	6 7 8 9
1,380 909 748 633	Jy 1,499 Fe 1,323 Ja 990 Ja 921	Ja 1,274 No 622 Ap 535 My 530	1,459 75 698 455 599	75 1,048 379 357	106 34 17 38	4 45 109 22	463 154 109 108	----- 4 7 5	122 42 31 104	60 694 151 197	37 68 42 61	4 127 114 66	729 291 83 183	7 178 91 67	2 109 173 105	1 2 ----- 3	12 ----- 2 12	24,574,441 7,268,426 4,423,601 4,889,912	10 11 12 13
22,069 8,049 4,287 3,336 3,513 1,732	Au 25,655 Au 9,228 Au 4,961 Au 4,097 De 3,927 Oc 1,875	Fe 17,398 Ja 5,669 Ja 3,305 Ja 2,837 Ja 2,052 Ja 1,459	24,272 9,166 4,861 3,799 3,242 1,856	780 ----- 4,861 3,799 731 -----	957 379 197 144 133 66	10 ----- ----- ----- 36 -----	3,278 858 405 473 371 150	53 ----- ----- ----- 3 -----	8,433 3,736 1,599 1,120 811 763	204 ----- ----- ----- 488 -----	1,930 544 304 192 200 41	104 ----- ----- ----- 54 -----	8,716 1,621 1,621 1,828 792 307	409 ----- ----- ----- 150 -----	958 2,028 735 42 935 529	9 2 1 2 4 -----	10 1 2 2 ----- -----	82,124,367 18,823,980 18,955,321 12,899,171 6,923,172 9,033,522	14 15 16 17 18 19
317 146 324 919 738	Se 369 Oc 241 Jy 594 Ja 1,089 De 934	Ap 255 Ja 43 Fe 156 Fe 756 Je 581	398 105 362 1,155 941	7 100 78 ----- -----	13 3 15 32 37	----- 2 2 ----- -----	41 8 35 74 77	----- ----- ----- ----- -----	106 27 75 318 539	5 75 26 ----- -----	24 5 8 53 111	----- 3 34 ----- -----	113 47 229 629 65	2 20 16 ----- -----	101 15 ----- 49 112	----- ----- ----- 1 -----	1 ----- ----- ----- -----	1,442,909 772,299 3,171,405 2,290,455 1,950,173	20 21 22 23 24
31 5,453 349 1,124 824	Fe 39 Se 0,020 Au 305 Ja 1,377 Se 923	De 19 Fe 4,681 Ja 291 Mh 957 Ja 687	44 1,755 432 765 891	15 ----- ----- 560 -----	2 174 16 45 23	1 57 ----- 36 -----	3 349 27 221 50	----- 25 ----- 35 -----	27 815 228 55 202	9 1,066 ----- 183 -----	1 426 51 32 50	2 400 ----- 166 -----	9 2,527 66 211 39	3 207 ----- 140 -----	2 256 44 201 527	----- 1 7 ----- 29	----- ----- ----- ----- -----	1,572,908 17,644,524 729,404 8,046,827 1,877,233	25 26 27 28 29
419 2,191 448 448 37	Se 475 No 2,715 De 670 De 497 My 42	De 356 Ja 1,574 Fe 236 Fe 400 Ja 26	517 1,381 484 378 42	44 1,175 191 149 -----	31 37 25 22 1	3 40 10 11 -----	73 105 65 15 -----	2 40 2 4 -----	69 159 57 115 31	8 445 56 87 -----	29 25 26 11 9	23 208 14 19 -----	140 239 124 85 1	8 442 109 28 -----	175 816 187 130 -----	----- 11 ----- 77 -----	1 ----- ----- ----- -----	3,755,055 13,541,548 2,612,605 699,373 53,105	30 31 32 33 34
185 4,373 1,172 166 1,129 958	Jy 217 De 5,771 Ja 1,651 Jy 224 Ap 1,545 No 1,058	Fe 155 De 2,902 Je 930 De 109 Je 814 Fe 844	191 5,764 590 229 1,615 728	48 148 578 ----- 7 332	9 291 26 10 43 28	4 3 28 ----- 14 -----	20 1,154 129 17 878 72	----- 2 ----- ----- 4 -----	34 968 41 40 ----- 16	21 116 201 ----- 201 -----	7 443 20 18 ----- 31	13 7 108 ----- 47 -----	69 2,577 214 111 692 84	10 23 239 33 5 66	52 331 160 33 2 497	----- 1 23 2 4 2 6	----- ----- ----- ----- ----- -----	815,572 72,733,956 4,455,785 661,711 28,046,634 6,225,747	35 36 37 38 39 40
5,624	De 6,975	Fe 3,932	4,166	4,103	212	259	1,548	204	688	2,238	313	561	1,407	841	-----	1	71	153,156,665	41
471 454	No 833 De 634	Ja 211 Ja 260	474 762	347 -----	19 -----	9 -----	68 520	10 -----	31 -----	271 -----	79 -----	29 -----	277 242	28 -----	-----	1 -----	5 -----	5,617,170 24,960,853	42 43
598 3,691	Ja 819 De 4,327	Oc 452 Fe 2,525	425 1,905	219 3,421	20 155	16 226	151 784	24 162	46 203	67 1,848	58 156	81 436	150 607	31 749	-----	-----	1 50	10,884,660 105,260,998	44 45
410	No 703	Je 283	600	116	18	8	25	8	406	52	20	15	131	33	-----	-----	6 -----	6,432,984	46

<sup>1</sup> Includes enterprises in industries as follows: Diatomaceous earth, 9; emery, 2; garnet, 2; pebbles and lining for grinding mills, 3; pumice, 6; rotten stone, 1; stone for whetstones, 2; tripoli, 9.  
<sup>2</sup> Includes enterprises in industries as follows: Barytes, 1; cobalt, 1; limestone, 1; manganese, 2; marble, 1; mica, 1; molybdenum, 2; phosphate rock, 1; pyrite, 1; quicksilver, 2; silica, 1; sulphur, 1; tin, 1; vanadium, 1.



## MINES AND QUARRIES.

TABLE 3.—DETAILED STATISTICS FOR MINES, QUARRIES, AND WELLS, PRODUCING AND

INDUSTRY.	PRINCIPAL EXPENSES OF OPERATION AND DEVELOPMENT.										
	Total.	Salaries and wages.			Supplies and materials.	Cost of ore, coal, and natural gas purchased as material or for resale.	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.							
	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.
1 All industries.....	2,543,887,062	105,892,362	45,380,083	1,304,409,342	528,853,639	35,905,352	94,848,752	28,660,836	176,129,858	141,567,734	82,239,098
2 Producing enterprises.....	2,518,543,956	104,235,154	45,093,831	1,295,936,226	519,593,676	35,905,352	93,910,653	28,195,277	175,293,984	140,999,626	79,380,177
3 FUELS:											
4 Coal, anthracite.....	324,147,994	8,848,535	4,146,934	210,289,473	59,738,376	433,318	11,406,117	1,899,835	11,766,598	14,060,963	1,557,845
5 Coal, bituminous.....	930,738,244	50,334,218	18,334,820	682,601,068	142,432,551	25,896,660	11,280,509	22,295,056	34,707,396	2,855,966	421,753
6 Petroleum and natural gas.....	626,498,802	21,375,372	12,092,996	134,521,247	195,058,693	28,813,671	19,828,776	965,300	106,458,518	38,690,630	68,663,659
7 METALS:											
8 Iron ore.....	177,578,869	4,198,832	2,737,828	75,713,459	27,187,532	8,700,358	1,594,231	24,944,936	30,829,610	1,671,783	1,671,783
9 Copper.....	138,286,903	5,018,974	3,020,767	60,300,194	34,276,389	1,528,056	11,310,485	3,555,530	536,810	12,229,046	421,753
10 Lead and zinc.....	65,084,781	2,714,694	1,120,246	30,708,319	15,311,548	406,051	2,783,249	2,591,906	5,258,387	3,326,910	863,471
11 Gold and silver, lode mines.....	59,070,119	2,490,693	539,068	23,817,657	13,040,897	4,668,291	1,623,124	2,336,136	1,015,719	2,325,451	1,237,043
12 Gold, placer mines.....	6,314,764	380,410	56,383	1,914,072	2,244,728	20,459	1,123,874	85,899	358,132	132,807	132,807
13 Manganese.....	2,159,151	104,481	29,623	1,053,899	447,833	52,228	46,107	183,087	60,656	149,237	149,237
14 Quicksilver.....	1,693,445	194,368	28,810	827,751	403,269	127,931	29,133	45,194	31,016	7,973	7,973
15 Rare metals.....	1,666,429	114,724	47,021	748,235	573,649	7,000	41,416	45,492	35,609	7,878	7,878
16 STONE:											
17 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	665,557
18 Granite.....	14,107,461	982,092	214,364	8,587,659	2,593,040	833,036	261,185	139,202	377,646	118,637	118,637
19 Sandstone.....	8,173,578	630,306	200,327	4,448,811	1,664,432	597,353	250,909	131,970	195,309	54,161	54,161
20 Basalt.....	7,983,629	598,157	153,090	3,991,307	2,030,999	562,827	137,161	250,199	198,613	41,406	41,406
21 Slate.....	4,914,081	341,487	67,768	3,128,249	632,459	228,954	188,505	157,788	73,238	95,633	95,633
22 Marble.....	2,661,848	191,396	62,723	1,452,440	552,439	147,044	76,741	34,380	123,503	20,582	20,582
23 MISCELLANEOUS:											
24 Abrasive materials.....	643,676	46,468	8,675	322,379	116,145	56,122	25,634	6,022	62,231	62,231	62,231
25 Asbestos.....	178,904	25,088	3,815	91,672	47,202	3,380	1,740	3,957	5,917	5,917	5,917
26 Asphalt.....	862,928	105,941	30,460	294,652	376,009	24,876	13,387	41,686	10,127	10,127	10,127
27 Parytes.....	1,239,058	82,375	27,736	768,847	218,582	17,500	50,389	19,335	45,343	18,824	18,824
28 Bauxite.....	1,795,740	103,438	53,933	941,807	303,558	137,766	152,848	102,390	102,390	102,390	102,390
29 Chromite.....	94,465	5,475	44,777	13,330	1,575	4,777	215	24,316	24,316	24,316	24,316
30 Clay.....	8,818,563	640,201	196,118	5,367,052	1,416,999	397,655	54,934	465,184	148,035	126,355	126,355
31 Feldspar.....	489,717	45,966	7,458	263,760	97,834	21,284	12,158	16,391	12,793	12,073	12,073
32 Fluorspar.....	2,878,431	269,997	35,302	1,195,777	634,498	163,239	101,311	342,391	145,916	145,916	145,916
33 Fuller's earth.....	1,406,250	85,482	8,209	541,163	338,011	294,260	5,603	119,067	8,556	8,556	8,556
34 Graphite.....	871,211	104,099	18,235	341,542	209,256	81,917	39,697	2,646	23,123	50,696	50,696
35 Gypsum.....	5,379,732	275,145	280,305	2,478,391	1,530,338	516,148	144,272	69,403	81,983	3,747	3,747
36 Magnesite.....	1,488,006	78,918	16,267	652,302	300,741	31,465	37,694	47,193	14,169	50,846	50,846
37 Mica.....	495,364	36,658	9,921	288,487	107,933	20,935	1,733	18,893	3,479	7,325	7,325
38 Millstones.....	80,311	10,000	1,800	47,966	11,244	3,750	3,360	2,175	16	16	16
39 Mineral pigments.....	341,051	31,620	8,679	174,453	83,078	27,707	2,659	8,499	3,036	1,320	1,320
40 Phosphate rock.....	9,364,154	566,477	194,946	3,900,966	2,161,501	1,739,833	79,468	209,687	347,580	163,696	163,696
41 Pyrite.....	2,594,728	123,319	61,741	1,354,735	615,726	168,039	58,802	43,057	57,248	87,061	87,061
42 Silica.....	290,583	28,835	4,193	165,709	58,185	16,434	5,526	4,060	5,794	1,847	1,847
43 Sulphur.....	7,189,753	292,117	120,898	1,682,174	1,452,136	2,764,194	46,474	38,958	47,955	52,757	52,757
44 Talc and soapstone.....	1,690,388	172,048	42,527	835,413	345,166	109,090	46,474	38,958	47,955	52,757	52,757
45 Nonproducing enterprises.....	25,343,106	1,657,208	288,258	8,473,116	9,259,963	938,099	465,559	835,874	568,108	2,858,921	2,858,921
46 FUELS:											
47 Coal.....	1,415,640	74,761	5,225	590,824	651,231	4,548	10,751	19,476	46,289	12,535	12,535
48 Petroleum and natural gas.....	6,655,716	305,228	105,128	875,923	3,031,107	242,616	7,727	591,729	57,758	1,438,500	1,438,500
49 METALS:											
50 Iron ore.....	3,212,948	76,266	31,647	985,092	654,141	170,506	41,343	135,982	320,637	797,334	797,334
51 Gold, silver, copper, lead, or zinc.....	13,256,365	1,122,291	133,419	5,636,646	4,684,728	480,666	404,158	62,848	138,291	593,318	593,318
52 MISCELLANEOUS.....	802,437	78,662	10,839	384,631	238,756	39,763	1,580	25,839	5,133	17,234	17,234



# GENERAL TABLES.

37

NONPRODUCING ENTERPRISES, FOR THE UNITED STATES, BY INDUSTRIES: 1919—Continued.

Expenditures for development (included in principal expenses).	Value of products.	POWER USED.														Electric motors run by current generated by the enterprise re-reporting.	
		Aggregate.	Total horse-power.	Prime movers.								Equipment operated by purchased power.					
				Steam engines (not turbines).		Steam turbines.		Internal-combustion engines.		Water wheels, and turbines.		Electric motors.		Other.			
				Num-ber.	Horse-power.	Num-ber.	Horse-power.	Num-ber.	Horse-power.	Num-ber.	Horse-power.	Num-ber.	Horse-power.				
Dollars.	Dollars.																
334,015,265	3,158,463,966	6,786,475	5,147,613	46,744	3,259,076	555	474,315	57,417	1,372,698	329	41,524	41,114	1,629,580	9,282	33,039	1,260,466	1
311,275,508	3,158,463,966	6,723,786	5,111,531	46,433	3,238,288	553	473,985	56,988	1,361,146	287	38,112	40,500	1,603,390	8,865	32,980	1,258,795	2
6,180,990	364,084,142	899,783	782,090	5,298	730,141	45	50,665	73	1,284			1,881	117,693		3,801	185,723	3
39,044,379	1,145,977,565	2,155,412	1,383,934	9,177	1,160,862	313	195,779	1,246	21,219			21,186	771,131		21,014	707,341	4
230,867,499	931,793,423	1,821,342	1,770,181	23,412	532,734			53,699	1,237,407	9	74	1,841	44,638	0,523	1,320	28,104	5
14,657,841	218,217,909	370,869	273,477	2,333	231,184	25	28,521	45	5,397	22	8,375	1,341	97,382	10	1,112	67,595	6
13,302,349	181,258,087	523,591	386,458	842	245,398	79	123,223	129	16,327	10	1,510	3,617	135,968	1,165	3,252	161,024	7
4,268,914	75,579,347	229,541	117,527	411	42,821	21	35,420	433	35,415	30	3,871	2,389	111,874	140	625	22,884	8
7,892,971	58,832,330	149,680	50,437	182	20,133	4	4,750	370	11,149	135	14,405	2,623	98,663	580	494	18,892	9
201,259	9,368,561	35,632	3,406	2	40			16	719	25	2,647	624	32,226		22	501	10
238,408	2,188,312	5,800	2,610	36	1,911			24	699			67	3,190		3	310	11
161,598	1,803,484	2,607	1,441	4	106			78	1,335			39	1,166		9	66	12
161,958	1,725,642	3,644	1,406	8	453			22	693	2	230	60	2,138		28	350	13
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		267	11,421	14
156,870	18,279,345	55,674	34,711	744	30,231	3	2,369	84	1,343	4	777	450	20,903	60	34	1,520	15
96,555	10,684,969	33,869	21,197	340	19,081			71	2,116			386	12,672		155	4,696	16
131,800	9,657,977	37,307	22,844	269	21,099	3	1,225	30	520			255	14,463		11	1,049	17
60,531	5,720,792	20,613	8,778	193	8,669			1	8	2	101	426	11,835		4	44	18
36,914	4,397,912	15,628	6,021	85	5,619			2	15	3	387	408	9,607		19	480	19
14,849	721,728	1,748	1,748	17	1,283			16	240	1	225				3	120	20
46,503	249,839	355	1	1	75			6	155	3	125	2	65				21
376,579	749,520	648	648	6	545			5	103								22
20,503	1,592,245	3,029	2,040	31	1,730			16	269	1	50	28	980		6	225	23
11,064	2,190,279	2,507	2,507	28	840			11	1,667						94	2,564	24
2,650	105,841	136	136					11	136								25
265,009	10,086,298	21,243	16,932	263	15,653	1	100	105	8			181	4,271	40	66	1,815	26
13,197	584,296	1,782	1,227	16	1,081			8	70	2	76	7	555				27
393,465	3,334,880	7,138	7,138	121	6,036	1	50	87	1,052						47	729	28
23,595	2,019,226	2,538	2,250	35	1,720			9	530			10	288		2	18	29
164,849	869,403	6,410	2,241	15	1,873			7	368			106	4,160		10	552	30
12,050	6,805,940	15,032	7,038	47	9,132			9	572	3	334	290	7,994		103	1,447	31
10,868	2,169,571	2,540	827	2	80			26	747			70	1,713				32
65,024	607,025	803	763	22	700			6	63			3	40				33
	64,631	220	60	1	60							2	160				34
5,456	480,768	1,630	1,460	18	862			6	228	5	370	8	170				35
353,237	10,300,198	49,639	46,976	100	17,140	17	17,751	44	7			38	2,663		320	33,107	36
145,615	2,408,648	7,338	3,224	35	1,970	1	120	7	84	6	1,050	98	4,111		27	3,696	37
37,921	371,638	2,032	1,699	10	860			10	354	4	485	11	333				38
56,478	17,935,882	15,291	15,291	544	11,531	23	3,320	13	390						50	1,284	39
59,087	2,302,393	7,053	4,057	19	1,777			11	165	9	2,115	77	2,996		43	1,078	40
22,738,757		62,689	36,082	311	20,788	2	330	429	11,552	42	3,412	614	26,190	417	59	1,671	41
1,253,604		2,534	1,819	13	1,785			4	34			21	715		4	150	42
5,685,921		5,543	5,047	103	3,095			67	1,352			8	496		1	2	43
2,702,453		10,175	6,235	41	6,201			2	34			44	3,940		6	750	44
12,366,117		42,785	21,454	142	7,997	2	330	344	9,716	42	3,412	540	20,014	417	48	769	45
730,662		1,052	1,527	12	1,110			12	417			1	125				46

TABLE 4.—DETAILED STATISTICS FOR MINES, QUARRIES, AND WELLS, PRODUCING AND

STATE.	Number of enterprises.	Number of mines and quarries.	Number of wells productive Dec. 31.	LAND CONTROLLED (ACRES).				PERSONS ENGAGED IN INDUSTRY.									
				Mineral lands.			Timber and other lands.	Aggregate.	Proprietors and officials.					Clerks and other subordinate salaried employees.			
				Operated.	Owned.	Leased.			Total.	Proprietors and firm members.	Performing manual labor.	Salaries officers.	Superintendents and managers.	Technical employees.	Male.	Female.	
United States.....	21,997	14,417	257,673	22,947,937	8,729,545	14,294,342	2,215,702	1,084,796	61,588	22,155	5,272	10,729	22,223	6,481	25,854	10,170	
Producing enterprises..	21,280	13,844	257,673	22,474,069	8,568,590	13,980,731	2,208,519	1,077,675	60,409	21,918	5,245	10,456	21,704	6,331	25,649	10,057	
Alabama.....	264	348	.....	728,806	636,368	93,278	102,552	34,632	989	41	6	248	482	218	840	218	
Arizona.....	155	172	.....	70,431	56,962	13,469	17,328	16,831	892	105	68	94	300	393	581	90	
Arkansas.....	126	126	124	76,416	18,181	58,315	14,912	4,073	307	109	68	59	124	15	114	22	
California.....	725	357	9,197	588,517	376,108	212,429	38,003	22,201	1,671	442	172	393	709	127	885	301	
Colorado.....	477	523	70	211,260	148,109	63,537	10,293	18,562	1,117	378	237	212	417	110	450	145	
Connecticut.....	41	47	.....	2,995	2,815	225	160	642	72	27	5	19	22	4	10	11	
Delaware.....	7	8	.....	264	250	14	9	130	10	2	1	4	4	.....	3	1	
District of Columbia.....	3	3	.....	13	10	3	.....	15	3	3	.....	.....	.....	.....	.....	.....	
Florida.....	36	55	.....	118,050	114,590	3,490	79,335	3,694	197	8	2	44	91	54	99	26	
Georgia.....	74	82	.....	37,736	22,095	15,651	17,862	2,608	149	33	4	45	63	8	49	13	
Idaho.....	82	83	.....	27,874	24,877	3,097	3,286	2,759	215	83	32	27	69	36	71	18	
Illinois.....	772	590	16,498	945,362	617,833	329,448	84,592	84,309	3,185	691	126	685	1,561	248	1,525	476	
Indiana.....	503	398	2,456	296,988	119,263	151,036	10,214	28,738	1,338	339	164	371	535	93	485	164	
Iowa.....	198	226	.....	68,724	33,536	36,433	3,703	12,034	536	200	143	128	195	13	156	68	
Kansas.....	814	238	12,690	549,300	69,621	480,629	14,161	18,069	1,656	507	123	286	412	151	588	309	
Kentucky.....	938	864	5,214	1,093,641	506,713	587,223	101,898	47,893	2,640	386	115	805	1,118	331	1,326	364	
Louisiana and Mississippi.....	137	4	2,479	329,869	17,196	312,673	8,565	6,095	403	61	2	74	223	45	345	9	
Maine.....	50	51	.....	3,562	2,602	995	.....	1,093	95	52	36	15	24	4	9	10	
Maryland.....	126	161	.....	57,470	36,635	20,879	8,640	6,116	325	84	26	85	125	31	118	45	
Massachusetts.....	74	79	.....	5,223	4,701	522	1,131	1,910	140	50	10	43	40	7	44	22	
Michigan.....	122	165	19	114,356	90,683	23,799	430,773	33,202	848	19	6	121	379	329	889	173	
Minnesota.....	135	196	.....	24,836	5,899	19,874	259,768	18,562	543	40	19	63	253	187	672	82	
Missouri.....	498	494	.....	194,732	149,345	45,492	33,124	16,358	1,105	497	219	198	355	55	291	105	
Montana.....	259	269	28	167,541	79,300	29,653	12,131	17,345	744	203	199	68	218	165	412	60	
Nebraska.....	9	9	.....	1,081	821	260	.....	186	20	5	1	2	11	2	2	2	
Nevada.....	263	267	.....	45,114	35,901	9,236	7,030	4,880	461	151	120	86	156	68	143	25	
New Hampshire.....	30	33	.....	10,030	8,699	1,332	501	757	63	30	17	6	25	2	6	6	
New Jersey.....	97	102	.....	27,006	19,885	7,121	10,816	5,029	230	40	20	53	80	57	155	68	
New Mexico.....	85	103	1	673,051	642,019	31,092	38,760	7,607	302	69	29	20	108	105	176	29	
New York.....	700	147	14,186	365,463	79,668	285,795	119,168	7,913	1,246	896	202	144	168	38	360	105	
North Carolina.....	162	166	.....	10,015	4,284	5,731	1,068	2,108	184	90	36	29	59	6	27	7	
North Dakota.....	79	79	.....	17,734	9,305	8,429	824	939	135	75	23	16	27	17	24	6	
Ohio.....	2,283	1,064	35,440	1,914,023	413,597	1,519,201	29,889	56,736	5,408	3,309	509	791	1,159	149	1,279	751	
Oklahoma.....	1,934	264	44,735	1,844,305	192,771	1,651,746	5,468	40,855	3,929	1,106	58	840	1,656	327	1,378	1,634	
Oregon.....	50	52	.....	22,963	16,472	6,591	1,580	847	91	37	20	9	36	9	12	4	
Pennsylvania.....	5,807	3,621	77,325	4,352,082	1,750,822	2,615,052	359,053	350,338	18,491	8,822	2,126	2,042	6,077	1,550	6,318	2,132	
Rhode Island.....	14	15	.....	570	512	58	764	421	37	6	.....	5	20	6	5	10	
South Carolina.....	20	20	.....	31,684	31,690	164	10	1,008	51	15	2	14	20	2	16	8	
South Dakota.....	23	28	1	11,538	11,056	482	31,760	1,880	58	15	11	5	15	23	27	10	
Tennessee.....	203	263	14	361,660	205,832	156,856	112,318	15,450	618	67	17	170	306	75	282	80	
Texas.....	624	81	8,749	1,397,678	107,867	1,289,841	88,552	22,890	2,010	484	52	329	971	226	1,427	1,280	
Utah.....	141	154	.....	324,582	319,143	7,023	13,796	10,758	485	53	16	96	200	136	359	67	
Vermont.....	93	109	.....	16,045	14,417	1,631	3,239	3,239	209	60	18	52	86	11	49	45	
Virginia.....	202	216	.....	494,909	365,982	129,966	20,661	15,537	558	71	19	135	290	62	361	71	
Washington.....	83	93	.....	73,061	48,404	24,897	15,850	5,397	199	33	16	37	92	37	93	55	
West Virginia.....	1,714	1,325	27,363	4,578,747	1,000,201	3,614,884	82,230	110,327	5,939	1,667	124	1,363	2,173	736	2,871	705	
Wisconsin.....	92	107	.....	12,064	6,938	5,126	6,986	3,889	215	48	19	38	105	24	93	34	
Wyoming.....	106	87	1,064	264,695	58,584	206,113	3,280	10,273	290	19	7	87	145	39	212	72	
Nonproducing enterprises.....	717	573	276	473,868	160,955	313,611	7,183	7,121	1,179	237	27	273	519	150	205	113	
Arizona.....	96	96	.....	26,501	24,732	1,769	339	952	122	5	3	40	64	13	18	14	
California.....	60	54	15	32,086	26,691	5,408	347	524	100	28	4	16	48	8	13	8	
Colorado.....	60	63	.....	11,377	6,118	5,342	399	603	105	28	3	16	44	17	14	6	
Idaho.....	50	50	.....	20,513	17,683	2,830	155	455	73	8	2	13	42	10	5	4	
Kansas.....	13	3	25	24,990	941	24,651	.....	88	25	16	1	4	4	1	4	2	
Kentucky.....	11	3	36	26,139	3,370	22,769	29	133	62	49	.....	4	9	9	1	2	
Louisiana.....	6	.....	11	20,970	30	20,940	.....	50	13	.....	.....	.....	11	2	1	4	
Michigan.....	10	6	.....	5,649	5,179	.....	.....	132	270	12	.....	2	6	4	6	7	
Minnesota.....	10	10	.....	1,292	.....	1,292	240	302	15	.....	.....	6	30	4	6	4	
Montana.....	36	36	.....	6,139	4,152	1,987	500	320	48	4	.....	10	30	4	6	3	
Nevada.....	118	118	.....	19,096	18,165	928	739	938	206	10	2	75	99	22	38	9	
New Mexico.....	18	19	.....	6,245	5,022	1,183	188	153	29	3	2	7	11	8	8	1	
Ohio.....	6	1	17	33,439	1,000	32,439	.....	180	5	.....	.....	2	3	.....	2	.....	
Oklahoma.....	30	2	55	5,924	150	5,774	.....	73	26	3	.....	9	14	.....	1	.....	
Oregon.....	6	6	.....	4,030	2,660	.....	.....	42	4	1	.....	.....	2	1	.....	.....	
Pennsylvania.....	13	10	8	9,047	6,947	2,100	63	152	39	18	3	2	6	13	1	2	
South Dakota.....	5	5	.....	2,331	1,181	1,150	640	78	7	1	.....	3	3	.....	.....	.....	
Texas.....	65	1	69	153,521	546	152,975	.....	344	84	10	6	26	40	8	42	32	
Utah.....	48	48	.....	16,878	15,242	1,636	1,720	488	76	23	.....	21	30	2	12	6	
Virginia.....	4	4	.....	3,195	2,095	1,100	703	137	10	.....	.....	2	4	4	7	1	
Washington.....	15	13	4	6,365	2,105	4,260	749	133	27	10	1	3	11	3	1	.....	
West Virginia.....	8	3	14	14,985	2,088	12,897	.....	37	16	9	.....	2	4	1	2	.....	
Wisconsin.....	4	4	.....	7,406	600	6,806	120										

<sup>1</sup> Same number reported for one or more other months.

<sup>2</sup> Includes 79 anthracite culm washeries and 81 river dredges.

<sup>3</sup> Wells on which work was done during the year, not productive and number not included in United States total.

PERSONS ENGAGED IN INDUSTRY—continued.																						
Wage earners.			Wage earners, Dec. 15 or nearest representative day.																			
Average number.	Number, 15th day of—		Total.		Foremen, shift bosses, etc.		Engineers, hoistmen, electricians, mechanics, etc.		Miners, quarrymen, and drillmen, including their helpers.		Timbermen, trackmen, and men engaged in hauling, tramming, etc.		Muckers, loaders, and others not classified.		In mills and beneficiating plants (above ground).	Under 16 years of age (above ground).	Females (above ground).	Capital.				
	Maximum month.	Minimum month.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.	Above ground.	Below ground.								
987,184	Oct 1,057,820	Nov 765,067	386,932	703,526	10,526	15,696	135,665	30,349	31,388	397,636	25,896	139,052	136,646	126,793	46,811	222	612	\$7,108,623,496				
981,560	Oct 1,051,204	Nov 758,158	382,766	705,423	10,314	15,437	134,117	30,145	30,702	395,338	25,583	138,491	135,239	123,952	46,811	221	541	\$6,955,466,831				
32,579	Fe 31,682	No 28,781	9,862	24,922	387	513	2,792	1,058	887	13,858	1,332	4,712	2,905	4,751	1,558	6	84	167,016				
15,268	Ja 19,065	Ap 12,808	7,731	9,891	261	339	2,251	542	880	3,532	2,019	2,538	2,093	2,538	1,527	8	402	419,071				
3,630	Se 4,879	No 1,416	1,885	3,261	74	87	394	26	727	2,356	206	459	384	372	1,130	31	8,688	453				
19,344	No 13,916	Ap 18,716	17,147	3,597	215	163	11,534	115	417	1,580	208	575	3,933	1,128	821	1	46,782	355				
16,799	De 18,155	No 15,175	5,703	14,090	217	388	1,507	519	428	8,375	2,458	2,458	2,249	2,356	875	3	117,154	542				
543	Fe 598	Fe 427	616	14	32	2	81	198	12	51	214	40	50	7	7	3,557	208	8				
116	Ja 13	Ja 51	132	6	6	1	11	58	10	10	761	610	55	385	1	52	6,632	10				
3,372	De 4,912	Je 1,836	4,938	250	81	14	985	845	157	197	44	1,928	761	55	385	1	52	58,067				
2,397	Au 2,586	Je 2,271	2,382	273	81	14	288	673	3	673	157	197	44	55	385	1	52	9,184,470				
2,455	De 3,268	Se 1,448	1,516	2,229	70	80	296	91	136	850	32	458	394	750	588	11	71,093	746				
79,123	Oc 89,321	No 16,782	14,880	75,566	485	939	6,767	2,207	729	43,062	924	16,822	5,298	12,605	777	20	319,576	13				
26,751	Ja 31,544	No 5,818	6,534	25,623	338	474	2,051	881	902	14,191	586	5,581	2,363	4,493	634	2	63,198	281				
11,274	Ja 13,221	No 3,404	1,844	11,300	100	181	422	98	179	7,284	255	2,835	742	852	126	1	16,690	94				
16,196	Ja 17,448	No 8,543	3,205	8,677	138	127	4,299	78	439	6,246	164	1,632	3,708	574	397	1	255,935	897				
43,563	Oc 48,834	No 35,516	13,321	36,336	445	952	3,989	1,604	1,482	19,584	1,575	6,904	5,790	7,295	163	8	291,217	725				
5,228	De 6,680	Je 4,418	7,384	51	48	5	127	341	27	147	163	665	708	335	4	5	97,620	466				
679	Ja 1,288																					

<sup>4</sup> Includes enterprises as follows: Alabama, 2; Arkansas, 2; Connecticut, 1; Florida, 1; Georgia, 1; Illinois, 1; Iowa, 1; Maine, 1; Missouri, 1; New York, 1; North Carolina, 2; Tennessee, 1.

## MINES AND QUARRIES.

TABLE 4.—DETAILED STATISTICS FOR MINES, QUARRIES, AND WELLS, PRODUCING AND

PRINCIPAL EXPENSES OF OPERATION AND DEVELOPMENT.												
STATE.	Total.	Salaries and wages.			Supplies and materials.	Cost of ore, coal and natural gas purchased as material or for resale.	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.....	Dollars. 2,543,887,062	Dollars. 105,892,362	Dollars. 45,380,089	Dollars. 1,304,409,342	Dollars. 528,853,639	Dollars. 35,905,352	Dollars. 94,848,752	Dollars. 28,660,836	Dollars. 176,129,858	Dollars. 141,567,734	Dollars. 82,239,098	
Producing enterprises.....	2,518,543,956	104,235,154	45,093,831	1,295,936,226	519,593,676	35,905,352	93,910,653	28,195,277	175,293,984	140,999,626	79,380,177	
Alabama.....	53,430,551	2,588,339	1,346,495	36,229,723	7,480,910		2,431,350	648,933	838,101	1,699,630	167,070	
Arizona.....	60,429,191	2,465,825	1,293,504	26,193,312	14,632,835	1,528,056	4,132,257	1,245,268	438,926	7,752,425	746,783	
Arkansas.....	7,718,093	441,616	160,211	4,573,291	1,235,726	165,786	330,146	111,115	386,925	174,443	139,434	
California.....	98,944,077	3,646,344	1,495,296	31,748,170	31,816,525	875,751	4,424,508	2,622,717	10,910,833	10,026,745	1,377,278	
Colorado.....	45,973,002	1,962,751	825,778	25,405,043	7,672,203	4,282,353	1,253,016	1,453,464	1,583,712	1,136,752	397,930	
Connecticut.....	1,298,269	118,816	25,660	646,624	304,096		75,788	44,580	10,604	45,057	27,038	
Delaware.....	219,429	15,974	4,505	135,502	34,214		19,559		5,434	1,223	3,018	
District of Columbia.....	10,730			8,150	1,284		1,063		128	105		
Florida.....	7,968,486	519,196	147,606	3,107,813	1,836,229		1,613,472	74,224	140,815	408,529	121,202	
Georgia.....	3,582,746	281,935	73,078	2,017,460	591,266	17,500	296,647	59,372	155,833	54,360	35,295	
Idaho.....	8,304,819	399,426	138,645	4,201,624	2,026,256		159,294	354,484	182,364	649,069	193,057	
Illinois.....	142,852,787	7,490,424	2,633,442	94,178,504	18,716,093	91,659	4,810,013	974,490	6,636,176	6,890,455	431,555	
Indiana.....	45,575,744	3,216,253	862,026	30,192,924	6,370,553	50,546	1,737,090	275,616	939,696	1,590,853	340,187	
Iowa.....	17,187,080	1,064,602	279,095	12,466,426	2,072,308		606,285	142,559	335,530	189,811	33,464	
Kansas.....	79,933,866	2,135,884	1,164,010	21,948,799	33,097,630	298,353	4,067,088	238,487	10,712,223	2,273,748	3,997,644	
Kentucky.....	86,728,587	5,467,309	1,843,307	49,550,588	15,618,091	41,104	1,937,821	584,928	5,814,424	2,605,300	3,265,715	
Louisiana and Mississippi.....	28,412,211	937,341	560,469	7,504,657	7,761,445	740,522	2,812,084	924	4,812,372	1,738,953	2,043,444	
Maine.....	1,572,661	102,200	16,079	1,051,796	203,187		77,561	45,231	9,986	34,253	32,368	
Maryland.....	8,790,841	630,956	158,703	6,151,744	1,178,074		247,837	60,929	137,562	208,137	16,899	
Massachusetts.....	3,304,302	252,058	72,544	2,068,844	494,249		186,694	76,651	59,067	83,009	11,186	
Michigan.....	91,340,001	2,775,974	1,535,585	50,496,187	15,204,063		7,455,207	989,490	6,668,923	6,275,133	29,439	
Minnesota.....	96,445,817	1,707,779	1,340,642	29,383,021	14,101,962		4,155,158	526,794	17,642,811	26,074,651	1,512,999	
Missouri.....	28,728,052	1,400,938	462,686	16,777,353	4,784,079	669	1,743,747	290,666	780,604	2,071,467	415,843	
Montana.....	42,502,917	1,525,799	978,502	25,723,908	9,452,659	62,210	1,267,627	1,712,301	646,125	1,018,265	116,521	
Nebraska.....	286,512	24,180	2,937	166,202	60,096		11,800	9,376	9,715	1,286		
Nevada.....	16,443,538	866,955	232,893	7,401,113	5,339,511		1,112,427	638,839	143,708	462,663	245,429	
New Hampshire.....	1,197,304	82,864	13,460	825,547	144,946		41,567	23,413	6,268	24,719	34,620	
New Jersey.....	9,740,156	476,721	249,829	5,392,861	2,194,539		621,584	98,354	276,555	371,765	57,948	
New Mexico.....	18,044,497	733,249	417,797	10,493,857	3,879,948	9,506	1,292,260	181,504	835,920	131,506		
New York.....	19,990,461	852,046	579,555	7,496,781	4,724,500	2,092,086	967,027	435,218	649,472	804,416	789,380	
North Carolina.....	2,439,802	172,569	27,043	1,489,062	467,460		213,392	7,339	36,071	21,121	5,745	
North Dakota.....	1,591,639	120,788	38,858	1,090,126	283,633		32,853	4,841	30,868	19,922	30,750	
Ohio.....	103,790,793	5,599,867	2,442,357	58,109,004	16,116,949	3,092,567	2,949,460	1,181,608	6,339,816	4,028,789	3,929,476	
Oklahoma.....	189,361,709	8,170,062	4,362,390	46,809,200	55,458,900	9,768,073	3,826,667	966,907	30,688,890	10,338,243	18,982,377	
Oregon.....	1,930,790	125,452	22,369	992,957	545,949		68,689	64,783	48,047	26,656	35,888	
Pennsylvania.....	693,618,939	24,489,816	10,474,657	445,218,643	118,817,334	5,510,433	21,818,407	5,888,996	24,682,827	28,747,401	7,970,425	
Rhode Island.....	700,075	67,693	14,988	399,648	146,637		45,526	9,549	5,755	9,279	1,000	
South Carolina.....	1,299,206	114,875	24,968	680,484	308,371		122,170	28,270	7,512	17,556		
South Dakota.....	4,450,596	155,254	61,556	2,497,340	1,008,196		238,703	45,316	6,805	425,485	11,941	
Tennessee.....	21,115,569	1,258,804	379,591	12,967,338	3,892,397		1,037,175	222,808	554,748	608,017	173,796	
Texas.....	141,310,966	4,268,560	2,161,398	29,557,997	45,040,955	360,637	6,093,106	96,453	23,912,179	4,045,981	25,773,700	
Utah.....	31,883,415	1,279,951	636,962	17,196,652	7,745,492	297,961	834,480	1,184,630	150,955	2,065,154	491,178	
Vermont.....	5,645,298	305,479	83,254	3,041,551	1,272,796		220,276	205,122	58,500	306,564	91,750	
Virginia.....	26,190,879	1,149,079	541,083	16,108,249	4,760,370		740,098	476,796	830,435	1,243,918	340,851	
Washington.....	11,351,484	468,733	198,813	7,465,652	1,728,585		788,730	158,600	177,429	283,318	86,624	
West Virginia.....	217,869,739	10,840,047	4,114,202	119,577,949	40,740,077	5,871,497	3,921,485	2,987,311	14,845,553	11,078,927	3,889,691	
Wisconsin.....	9,101,901	462,207	155,908	4,750,235	1,885,710	83,802	309,187	548,078	535,600	235,881	135,293	
Wyoming.....	27,936,829	947,164	439,765	14,576,415	6,348,488	74,281	762,272	310,515	1,765,597	1,996,372	715,960	
Nonproducing enterprises.....	25,343,106	1,657,208	286,258	8,473,116	9,259,963		938,099	465,569	835,874	568,108	2,858,921	
Arizona.....	3,131,808	242,609	30,969	1,227,673	1,125,341		161,276	94,964	1,695	27,401	219,820	
California.....	1,727,263	135,564	18,534	599,718	801,817		42,646	47,133	12,271	13,943	55,637	
Colorado.....	1,875,197	145,801	23,285	636,657	402,920		57,241	40,587	23,688	18,983	26,055	
Idaho.....	1,118,594	104,734	7,148	533,476	371,992		46,558	11,466	14,138	6,951	22,431	
Kansas.....	379,758	27,178	7,245	172,857	136,953		8,044	34,846	29,722	537	65,376	
Kentucky.....	295,272	20,913	1,576	71,516	116,254		3,705	137	13,250	1,088	66,833	
Louisiana.....	685,420	19,763	4,246	47,318	103,387		10,672		400,503	40,590	58,941	
Michigan.....	804,445	30,474	14,697	344,303	292,498		45,014	15,670	24,391	32,051	5,347	
Minnesota.....	2,027,079	29,450	12,401	452,071	340,312		78,209	27,028	103,591	308,192	675,795	
Montana.....	774,698	51,763	3,502	439,802	200,287		42,904	12,907		6,226	17,307	
Nevada.....	2,749,054	297,658	34,844	1,102,205	1,015,098		59,032	102,532	436	27,762	109,487	
New Mexico.....	390,631	46,674	4,567	216,533	88,487		28,075	366	1,939	2,761	1,529	
Ohio.....	514,354	11,300	2,920	269,790	259,048		1,966	8,250	3,570	2,334	15,176	
Oklahoma.....	664,035	20,510	4,685	85,189	274,700		32,047		45,074	2,883	198,887	
Oregon.....	116,111	3,502	1,400	45,863	47,674		1,409			1,789	14,474	
Pennsylvania.....	412,665	24,935	1,445	134,705	166,573		1,193	1,324	1,050	40,224	41,216	
South Dakota.....	185,966	4,735	1,065	99,414	55,192		9,402	4,497		1,533	10,128	
Texas.....	3,209,095	161,985	71,130	374,523	1,624,543		129,614	104,224		4,413	838,463	
Utah.....	1,730,197	6										

## GENERAL TABLES.

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## NONPRODUCING ENTERPRISES, FOR THE UNITED STATES, BY STATES: 1919.

Expenditures for development (included in principal expenses).	Value of products.	POWER USED.														Electric motors run by current generated by the enterprise re-reporting.	
		Aggregate.	Total horse-power.	Prime movers.						Equipment operated by purchased power.							
				Steam engines (not turbines).		Steam turbines.		Internal-combustion engines.		Water wheels, and turbines.		Electric motors.		Other.			
				Number.	Horse-power.	Number.	Horse-power.	Number.	Horse-power.	Number.	Horse-power.	Number.	Horse-power.				
Dollars.	Dollars.																
334,015,265	3,158,463,966	6,786,475	5,147,613	46,744	3,259,076	555	474,315	57,417	1,372,698	329	41,524	41,114	1,629,589	9,222	33,039	1,260,466	1
311,276,508	3,158,463,966	6,723,786	5,111,531	46,433	3,238,288	553	473,955	56,988	1,361,146	287	38,112	40,500	1,603,390	8,865	32,380	1,258,795	2
897,961	59,866,040	145,775	92,657	736	90,697	6	1,667	34	819	9	74	1,147	53,118		701	30,085	3
7,333,399	88,478,111	166,091	138,529	262	52,634	21	73,037	166	12,858			632	26,547	1,015	1,155	77,545	4
421,908	8,404,537	21,365	15,552	174	13,093			30	2,549			141	5,813		124	3,181	5
27,675,157	163,770,243	313,212	206,805	3,144	88,052	5	1,750	3,056	105,615	107	11,388	2,882	106,363	45	413	19,382	6
3,861,109	51,217,028	116,351	46,481	484	49,012	2	1,050	55	1,159	21	4,260	1,902	69,950	190	342	12,525	7
10,747	1,649,093	8,520	4,831	64	4,675			7	80	2	76	46	3,089		8	44	8
	243,647	660	97	19	632			4	28								9
	15,627	97						5	97								10
301,881	8,976,413	41,969	42,689	83	12,428	17	17,751	52	12,510			34	2,280		272	31,710	11
77,759	4,082,152	12,025	9,592	129	7,909	1	100	25	393	7	1,100	62	3,494	30	31	3,797	12
532,077	11,840,261	21,239	2,811	23	1,103	2	930	18	364	16	414	545	28,248	180	19	1,120	13
4,331,319	178,673,065	318,231	201,934	2,077	208,782	42	19,728	1,855	33,424			1,432	50,267	30	3,218	97,160	14
2,111,492	52,840,252	129,663	100,632	898	92,120	16	2,652	349	6,460			785	29,031		875	43,102	15
587,368	18,473,558	32,171	19,626	256	17,078	4	1,690	94	858			358	12,540	5	88	4,670	16
23,448,955	90,238,294	133,984	121,477	903	36,605			3,160	84,287	7	585	499	12,507		368	8,886	17
12,847,964	98,486,910	148,893	102,176	716	65,827	43	23,786	815	12,593			1,174	46,717		1,953	53,817	18
11,001,642	10,016,535	86,135	80,101	1,389	31,093	18	720	1,878	51,372			2	34		53	791	19
10,897	1,823,442	6,277	3,562	74	3,397			14	165			57	2,715				20
191,878	9,608,577	18,660	14,018	172	12,362	1	750	24	516	3	450	139	4,642		94	3,872	21
23,813	4,175,699	12,498	7,736	194	7,406			2	45	2	285	101	4,757	5	1	10	22
2,657,899	103,870,089	337,882	271,084	1,082	208,797	28	56,770	15	417	16	8,100	979	63,798		1,663	107,750	23
9,973,680	130,399,254	144,199	114,351	1,293	111,598	4	1,029	36	1,217			578	29,845		436	13,563	24
1,141,088	33,365,604	100,190	82,967	673	51,653	20	25,560	170	5,754			613	17,103	90	486	16,850	25
3,145,120	49,623,721	143,718	50,593	117	41,987	13	4,350	52	1,033	20	3,223	1,543	92,125		179	6,696	26
41,582	292,706	1,817	1,317	18	1,282			2	35			13	530				27
2,486,280	18,053,984	50,786	18,342	34	9,035	1	3,600	193	5,539	5	168	801	32,444		290	10,086	28
56,049	1,568,195	4,336	2,673	73	2,625			5	48			49	1,663				29
831,085	9,308,902	33,901	29,847	137	10,357	7	10,065	35	425			104	7,051		213	8,742	30
3,221,461	18,872,560	59,876	35,081	66	22,579	55	22,779	94	9,653	1	20	139	4,815		1,257	24,851	31
2,222,809	25,131,093	91,239	62,436	900	30,055	8	9,720	1,533	21,726	4	925	595	29,913		139	6,321	32
34,534	2,736,543	5,035	4,641	81	4,311			10	125	1	175	14	398		19	501	33
93,885	1,927,304	2,637	1,783	28	1,530			38	253			24	254		9	100	34
7,931,195	134,518,545	337,611	272,716	2,239	138,338	4	3,275	6,308	131,074	1	28	1,956	64,775	120	1,620	40,687	35
55,218,935	281,927,732	448,173	415,781	2,649	99,792	4	700	9,603	314,989	2	300	695	31,492	900	207	6,161	36
205,972	1,884,871	6,264	1,579	27	1,201			9	141	10	237	111	4,685		22	464	37
21,930,973	819,451,100	1,999,422	1,638,599	16,841	1,274,108	146	137,213	14,433	226,513	12	765	8,521	355,170	5,653	12,146	471,216	38
14,200	952,204	3,000	1,814	58	1,810			1	156			29	1,156				39
111,693	1,350,747	4,656	2,572	48	2,450			10	122			36	2,084		4	200	40
41,903	5,314,516	11,844	9,834	10	4,855	2	4,800	9	354	9	125	91	2,010		311	11,945	41
537,864	23,292,114	56,685	39,207	327	36,226	4	2,008	67	1,046	1	17	324	17,378	10	342	12,562	42
71,703,732	160,378,058	129,063	125,009	2,454	72,967	6	2,700	1,820	50,240	1	2	129	3,154		163	4,623	43
3,168,643	41,510,802	86,131	31,083	2,745	26,730	4	2,085	22	471	8	1,797	2,309	54,733	315	166	8,645	44
36,409	8,553,030	28,119	8,990	120	5,887	1	1,600	3	32	7	1,571	696	19,109	20	26	664	45
919,206	29,363,449	57,880	23,641	266	20,372	5	1,530	37	337	5	1,402	1,012	34,239		325	12,205	46
771,065	13,329,120	38,198	24,332	126	20,662	7	1,781	41	1,539	4	350	282	13,666	200	315	10,619	47
17,516,298	295,606,620	704,279	485,899	4,280	216,152	40	18,969	10,523	250,778			6,185	218,323	57	2,865	95,084	48
659,622	10,580,833	26,766	7,704	97	6,971			16	458	6	275	500	19,062		14	1,080	49
6,069,835	41,928,788	62,757	48,517	317	22,916	10	18,249	238	7,661			355	13,940		108	4,474	50
22,738,757		62,689	36,082	311	20,788	2	330	429	11,552	42	3,412	614	26,190	417	59	1,671	51
3,078,718		9,279	6,107	15	1,166			131	4,941			58	3,172		10	173	52
1,512,352		6,504	3,084	26	1,622			29	547	19	1,015	64	3,420		13	281	53
1,332,902		4,644	1,926	22	1,062			8	172	6	692	73	2,563	155	1	25	54
1,097,535		3,272	2,373	26	1,307			29	536	10	430	18	867	32			55
273,425		1,547	627	7	554			4	73			17	820	100	2	10	56
255,112		686	406	6	366												
209,977		181	151	6	181			3	40			2	280		2	140	57
658,598		2,960	980	4	650	2	330					30	1,980				58
1,583,584		3,816	1,875	22	1,866			1				25	1,941				59
712,084		2,796	1,736	18	1,917			19	294	2	125	19	1,060		1	15	60
2,603,067		8,696	2,554	3	90												
296,233		1,507	1,437	23	1,195		</										

## MINES AND QUARRIES.

TABLE 5.—WAGE EARNERS, BY MONTHS, ALL MINING ENTERPRISES, BY INDUSTRIES: 1919.

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

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 1 TH 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.	
<b>All industries.....</b>	987,184	1,030,037	989,301	973,868	956,932	963,827	970,832	1,011,390	1,038,038	1,050,107	1,057,820	765,067	1,038,089	72.3
<b>Producing enterprises.....</b>	981,560	1,025,871	985,369	969,499	952,305	953,506	965,230	1,005,219	1,031,028	1,043,719	1,051,204	758,156	1,032,014	72.1
<b>FUELS:</b>														
Coal, anthracite.....	147,372	146,241	145,985	143,437	142,691	144,025	145,010	148,397	149,220	149,522	150,847	150,594	151,595	94.2
Coal, bituminous.....	545,798	539,861	561,861	550,126	532,682	535,110	541,647	566,897	583,120	593,304	599,550	508,266	587,149	51.4
Petroleum and natural gas.....	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
<b>METALS:</b>														
Iron ore.....	45,741	47,493	47,205	46,712	44,822	45,631	44,625	46,286	46,754	46,911	45,772	44,126	42,555	89.6
Copper.....	43,717	58,025	49,136	43,701	40,675	38,374	37,885	39,919	41,386	42,595	44,395	45,246	43,267	65.3
Lead and zinc.....	21,884	25,124	23,434	22,574	21,506	20,196	19,949	20,207	21,050	21,162	21,579	22,631	23,196	79.4
Gold and silver, lode mines.....	15,436	14,778	14,915	15,095	14,921	15,184	15,540	16,319	16,469	15,349	15,536	15,456	15,670	89.7
Gold and silver, placer mines.....	1,380	1,274	1,312	1,274	1,317	1,424	1,420	1,499	1,430	1,404	1,425	1,433	1,348	85.0
Manganese.....	909	1,202	1,323	1,155	1,159	1,115	767	782	758	745	656	682	624	47.0
Quicksilver.....	748	990	775	769	595	676	779	766	758	742	708	715	703	60.1
Rare metals.....	633	921	834	727	544	530	567	557	560	558	640	598	545	57.5
<b>STONE:</b>														
Limestone.....	22,069	18,085	17,398	18,847	21,476	22,992	23,667	24,599	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.....	4,257	3,471	3,305	3,681	4,128	4,411	4,533	4,667	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	3,704	3,858	3,572	3,594	3,729	3,896	3,927	72.6
Marble.....	1,732	1,499	1,497	1,641	1,688	1,778	1,826	1,833	1,865	1,810	1,875	1,759	1,753	77.8
<b>MISCELLANEOUS:</b>														
Abrasive materials.....	317	340	348	303	255	306	307	336	342	369	308	288	302	69.1
Asphalt.....	146	48	74	77	112	138	130	159	159	199	241	239	181	17.8
Barytes.....	324	157	156	170	197	212	242	594	528	401	407	399	425	20.3
Bauxite.....	919	773	756	782	826	887	938	980	983	1,089	1,065	985	964	60.4
Chromite.....	738	755	656	636	637	612	581	643	828	900	847	827	934	62.2
Clay.....	31	36	39	25	27	36	38	31	25	35	28	33	19	48.7
Feldspar.....	5,453	4,849	4,681	4,851	5,373	5,522	5,582	5,771	5,883	6,020	5,853	5,538	5,513	77.8
Fluorspar.....	349	291	297	342	334	347	371	346	385	395	352	339	370	73.7
Fuller's earth.....	1,124	1,377	1,059	967	1,007	998	1,001	1,031	1,134	1,238	1,313	1,211	1,112	60.5
Graphite.....	824	687	691	715	784	829	840	880	916	923	858	870	895	74.4
Gypsum.....	419	432	398	378	454	470	447	398	407	475	415	398	356	74.9
Magnesite.....	2,191	1,674	1,649	1,782	1,918	2,078	2,092	2,350	2,327	2,582	2,713	2,715	2,512	58.0
Mica.....	448	482	236	342	282	245	250	435	534	615	629	650	670	35.2
Mistones.....	448	414	400	416	430	430	431	439	464	478	490	487	497	80.5
Mineral pigments.....	37	26	26	37	40	42	42	41	40	40	38	38	34	61.9
Phosphate rock.....	185	159	155	181	175	198	178	217	193	193	193	187	191	71.4
Pyrite.....	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
Silica.....	1,172	1,651	1,018	1,444	1,124	1,078	988	1,076	1,065	1,118	1,017	955	990	50.3
Sulphur.....	166	138	142	149	161	171	217	224	220	185	144	132	109	48.7
Talc and soapstone.....	1,129	1,492	1,390	1,406	1,545	1,563	814	832	845	883	932	673	933	52.7
	958	902	844	876	885	904	931	986	1,005	1,022	1,036	1,068	1,047	79.8
<b>Nonproducing enterprises.....</b>	5,624	4,166	3,932	4,369	4,627	5,321	5,602	6,171	6,410	6,388	6,010	6,911	6,975	56.4
<b>FUELS:</b>														
Coal.....	471	211	232	268	278	291	382	463	507	625	735	833	827	25.3
Petroleum and natural gas.....	454	260	274	325	352	424	450	461	531	538	577	622	634	41.0
<b>METALS:</b>														
Iron ore.....	598	819	595	575	634	698	639	606	624	527	452	477	530	55.2
Gold, silver, copper, lead or zinc.....	3,691	2,565	2,525	2,880	3,079	3,623	3,848	4,306	4,325	4,254	4,284	4,270	4,327	58.4
<b>MISCELLANEOUS, all other.....</b>	410	311	306	321	284	285	283	335	423	444	568	703	657	40.3



## GENERAL TABLES.

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TABLE 6.—WAGE EARNERS, BY MONTHS, ALL MINING ENTERPRISES, BY STATES: 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.....	987,184	1,030,037	989,301	973,868	956,932	963,827	970,832	1,011,390	1,038,038	1,050,107	1,057,820	765,067	1,038,989	72.3
Producing enterprises.....	981,560	1,025,871	985,360	969,499	952,305	958,506	965,230	1,005,219	1,031,628	1,043,719	1,051,204	758,156	1,032,014	72.1
Alabama.....	32,579	34,594	34,682	34,252	32,719	31,117	31,042	31,751	32,521	32,936	33,747	28,781	32,806	83.0
Arizona.....	15,268	19,065	10,273	13,358	12,808	13,199	13,280	14,396	15,588	16,036	16,441	16,484	16,318	67.2
Arkansas.....	3,630	3,783	3,404	3,224	3,141	3,240	3,288	4,052	4,542	4,879	4,760	1,416	3,821	29.0
California.....	19,344	19,552	19,319	19,238	18,716	19,298	19,079	19,266	19,176	19,182	19,555	19,916	19,831	94.0
Colorado.....	16,790	18,151	17,600	17,460	16,716	15,723	15,631	16,424	17,086	16,782	16,527	15,175	18,155	83.6
Connecticut.....	543	447	427	491	535	590	591	598	583	558	565	578	553	71.4
Delaware.....	116	58	57	73	121	136	133	147	144	132	118	127	132	33.3
District of Columbia.....	12	6	6	8	9	14	17	12	12	17	19	13	11	31.6
Florida.....	3,372	3,848	3,903	3,891	3,934	2,202	1,859	2,339	2,745	2,961	3,650	4,282	4,612	37.4
Georgia.....	2,397	2,386	2,408	2,393	2,399	2,288	2,328	2,501	2,586	2,510	2,479	2,271	2,275	87.8
Idaho.....	2,455	2,773	2,738	2,067	2,056	2,391	2,517	2,746	2,175	1,645	2,008	3,078	3,268	50.4
Illinois.....	79,123	89,224	86,988	85,233	82,026	80,235	79,033	81,643	83,906	87,050	89,321	16,782	88,029	18.8
Indiana.....	20,751	29,061	28,209	26,939	25,837	27,074	26,875	28,145	29,434	30,967	31,544	6,818	30,269	18.4
Iowa.....	11,274	13,221	12,026	12,592	11,194	10,868	10,622	11,012	11,811	12,524	13,052	8,404	12,062	25.7
Kansas.....	16,136	17,448	17,262	17,207	16,851	17,214	16,982	17,191	16,397	16,397	16,415	8,443	15,425	50.7
Kentucky.....	43,563	43,980	40,949	40,949	40,081	41,154	42,203	46,231	47,350	47,373	48,834	35,516	48,136	72.7
Louisiana.....	5,221	4,913	4,706	4,943	5,047	4,864	4,407	4,523	5,014	5,505	5,655	6,401	6,674	66.0
Maine.....	879	491	712	908	1,236	1,236	1,238	1,175	1,204	1,116	1,116	1,076	933	34.0
Maryland.....	5,628	5,829	5,305	5,101	5,171	5,424	5,460	5,743	6,119	6,157	6,221	5,144	5,862	82.0
Massachusetts.....	1,704	1,937	1,917	1,236	1,757	1,889	1,946	1,978	2,032	1,959	1,937	1,913	1,690	50.0
Michigan.....	31,292	34,436	34,729	34,420	30,655	29,705	28,836	29,599	30,303	31,365	31,780	29,202	30,414	83.0
Minnesota.....	17,265	16,033	16,364	16,010	17,054	18,643	18,587	18,804	18,667	18,178	17,348	16,383	15,169	80.3
Mississippi.....	7	7	6	6	12	15	11	17	12	6	6	6	6	29.4
Missouri.....	14,857	17,319	16,479	15,406	15,014	14,501	14,401	14,871	14,907	15,672	15,729	8,965	15,020	51.8
Montana.....	16,129	20,911	16,661	16,017	15,329	15,104	15,324	15,910	16,197	15,530	16,685	13,922	15,958	66.6
Nebraska.....	162	128	134	157	174	192	176	163	169	179	169	153	150	66.7
Nevada.....	4,231	5,118	4,275	4,143	4,063	4,227	4,428	4,381	3,396	3,656	4,081	4,467	4,567	65.8
New Hampshire.....	682	344	360	398	571	708	830	887	860	871	818	818	698	38.8
New Jersey.....	4,576	4,704	4,592	4,647	4,763	4,526	4,162	4,713	4,741	4,780	4,678	4,328	4,278	87.1
New Mexico.....	7,100	8,152	7,594	7,437	7,236	7,013	6,836	6,561	7,084	7,102	6,975	6,380	6,840	78.3
New York.....	6,202	6,180	5,553	5,627	6,040	6,429	6,450	6,690	6,569	6,537	6,474	6,108	5,767	83.0
North Carolina.....	1,890	1,696	1,728	1,846	1,849	1,852	1,878	1,931	1,898	2,062	1,996	1,966	1,978	82.3
North Dakota.....	774	1,011	878	807	636	497	472	518	550	776	931	1,054	1,158	40.8
Ohio.....	49,298	51,820	48,325	48,005	47,838	50,336	52,236	53,518	56,340	56,792	56,448	18,793	51,125	33.1
Oklahoma.....	33,914	32,940	32,531	32,713	33,058	33,205	33,015	34,320	35,886	36,617	36,674	29,510	36,499	80.5
Oregon.....	740	617	565	555	580	695	721	810	869	934	912	826	796	69.4
Pennsylvania.....	323,397	330,698	323,056	318,975	314,592	315,610	321,150	333,232	340,380	341,352	340,316	265,170	336,197	77.7
Rhode Island.....	369	246	281	303	349	389	393	427	424	438	395	404	379	56.2
South Carolina.....	933	793	784	913	922	896	893	974	1,031	1,006	968	1,010	1,006	76.0
South Dakota.....	1,785	1,801	1,568	1,860	1,819	1,793	1,826	1,890	1,896	1,828	1,663	1,574	1,632	83.3
Tennessee.....	14,470	15,304	14,322	14,114	13,677	14,572	14,731	14,974	15,304	15,227	15,777	10,406	15,172	66.0
Texas.....	18,164	14,661	15,003	15,942	16,688	17,263	17,259	18,459	20,420	20,975	20,853	19,474	20,971	69.9
Utah.....	9,847	11,962	10,630	9,283	8,937	8,098	8,072	9,184	10,069	10,319	10,315	10,577	10,712	67.5
Vermont.....	2,936	2,725	2,698	2,721	2,856	3,015	3,156	3,146	2,877	2,860	3,005	3,082	3,091	85.5
Virginia.....	14,547	14,932	14,541	13,722	13,308	13,746	13,732	14,821	15,096	15,224	15,398	14,982	15,062	86.4
Washington.....	5,050	5,966	5,737	5,672	5,321	5,104	4,948	5,195	5,455	5,659	5,587	1,844	4,142	31.0
West Virginia.....	100,812	100,187	93,274	92,824	93,737	97,313	99,454	104,774	105,637	107,801	107,778	97,245	108,720	85.4
Wisconsin.....	3,547	3,461	3,368	3,452	3,636	3,720	3,676	3,712	3,717	3,604	3,606	3,479	3,183	84.2
Wyoming.....	9,699	10,939	10,407	10,188	9,565	9,123	8,949	8,942	9,476	9,723	9,788	9,016	10,272	81.7
Nonproducing enterprises.....	6,624	4,166	8,932	4,360	4,627	5,321	5,602	6,171	6,410	6,388	6,616	6,911	6,975	56.4
Alabama.....	140	180	176	170	159	158	129	129	127	122	112	112	106	58.9
Arizona.....	798	637	668	715	705	811	879	892	909	928	879	811	842	61.2
Arkansas.....	5	6	6	6	6	6	6	6	7	7	7	7	8	75.0
California.....	403	284	285	292	309	343	322	361	433	490	528	583	606	46.9
Colorado.....	478	300	378	410	396	401	468	552	549	576	556	551	539	63.5
Connecticut.....	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Florida.....	126	5	5	5	44	48	44	75	142	160	251	408	340	10.8
Georgia.....	5	5	5	5	4	7	7	7	9	8	7	7	7	44.4
Idaho.....	378	232	257	249	281	347	404	462	462	455	484	437	406	47.9
Illinois.....	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Iowa.....	28	28	20	32	20	22	24	22	24	36	64	70	46	31.4
Kansas.....	57	52	46	93	70	67	75	82	90	75	88	85	85	22.2
Kentucky.....	68	32	46	93	74	67	76	74	70	79	60	73	72	34.4
Louisiana.....	32	19	20	20	26	21	19	33	32	34	51	53	56	33.9
Maine.....	9	12	12	12	12	11	11	11	11	10	10	10	10	50.0
Michigan.....	245	267	233	215	229	254	177	265	282	264	263	240	251	62.8
Minnesota.....	275	463	286	275	292	326	296	275	293	220	168	180	226	36.3
Missouri.....	11	3	3	3	10	2								



## MINES AND QUARRIES.

TABLE 7.—FUEL USED, ALL MINING ENTERPRISES, BY INDUSTRIES: 1919.

INDUSTRY.	COAL.		Coke (tons, 2,000 pounds).	Wood (cords).	Fuel oils (barrels).	Gasoline and other volatile oils (barrels).	Natural gas (1,000 cu. ft.).
	Anthracite (tons, 2,240 pounds).	Bituminous (tons, 2,000 pounds).					
All industries.....	8,697,367	16,339,839	59,794	131,803	9,747,151	156,936	<sup>1</sup> 103,432,217
Producing enterprises.....	8,697,365	16,275,751	53,795	113,850	9,537,443	143,593	<sup>1</sup> 102,784,812
FUELS:							
Coal, anthracite.....	8,548,201	4,096			671	1,381	
Coal, bituminous.....		11,124,904	14,254	594	3,235	18,963	865,907
Petroleum and natural gas.....		67,216		2,852	5,898,610	45,654	90,907,358
METALS:							
Iron ore.....	69,753	1,499,612	24,070	912	3,807	3,550	<sup>1</sup> 89,354
Copper.....	14,889	1,364,172	9,744	5,236	1,322,100	6,032	33,456
Lead and zinc.....	33,526	503,278	272	3,570	72,517	6,261	1,390,008
Gold and silver, lode mines.....	45	191,526	360	17,755	130,269	15,821	
Gold, placer mines.....	72	992	1	1,691	114	491	
Manganese.....		6,057		355	105	995	
Quicksilver.....	1	5		3,291	20,957	3,857	
Rare metals.....		3,102		1,158	300	1,933	
STONE:							
Limestone.....	5,409	673,989	937	4,765	33,221	11,397	5,887
Granite.....	1,723	115,250	55	4,297	13,104	2,411	
Sandstone.....	2,418	128,832	1,530	160	8,621	1,423	145,913
Basalt.....	2,099	84,566		2,129	15,300	620	
Slate.....	8,762	34,053		214	36	1	
Marble.....	210	31,158		323		170	
MISCELLANEOUS:							
Abrasive materials.....	3,359	3,016		433	44	332	
Asbestos.....		300			300	100	
Asphalt.....		5,427		38	2,761	154	
Barytes.....		5,874		500	83	650	
Bauxite.....		10,914		7,962	575	344	275,977
Chromite.....						150	
Clay.....	345	84,065		1,424	51,646	1,819	9,009
Feldspar.....		3,124		200	37	134	
Fluorspar.....		41,677		710	151	1,220	
Fuller's earth.....	100	10,857		9,878	82,461	713	
Graphite.....	5,100	2,853		690	1,785	487	
Gypsum.....		76,086	1,534	43	62,893	1,752	
Magnesite.....		22,178	645	730	66,563	1,124	
Mica.....	3	2,655		881	7	131	
Millstones.....	3	780					
Mineral pigments.....	863	4,239		290		244	
Phosphate rock.....	28	121,273	146	39,961	667,284	10,871	
Pyrite.....		31,661		311		388	
Silica.....	30	2,680				114	1,428
Sulphur.....		308	20		1,087,730	740	
Talc and soapstone.....	426	12,076	218	447		257	395
Nonproducing enterprises.....	2	64,088	5,999	17,953	269,708	13,343	647,405
FUELS:							
Coal.....		1,691				30	
Petroleum and natural gas.....		6,222		1,256	181,037	2,357	624,113
METALS:							
Iron.....		32,498	5,987	350		83	
Gold, silver, copper, lead or zinc.....	2	20,727	12	15,470	26,980	10,775	23,292
MISCELLANEOUS, all other.....		2,950		877	1,091	98	

<sup>1</sup> 89,354 M cubic feet reported for the iron-ore industry was manufactured gas.

## GENERAL TABLES.

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TABLE 8.—FUEL USED, ALL MINING ENTERPRISES, BY STATES: 1919.

STATE.	COAL.		Coke (tons, 2,000 pounds).	Wood (cords).	Fuel oil (barrels).	Gasoline and other volatile oils (barrels).	Natural gas (1,000 cu. ft.).
	Anthracite (tons, 2,240 pounds).	Bituminous (tons, 2,000 pounds).					
United States.....	8,697,367	16,339,839	59,794	131,803	9,747,151	156,936	<sup>1</sup> 103,432,217
Producing enterprises.....	8,697,365	16,275,751	53,795	113,850	9,537,443	143,593	<sup>1</sup> 102,784,812
Alabama.....		761,268	31,723	1,965	410	1,003	.....
Arizona.....		84,938	174	1,602	1,279,173	6,706	.....
Arkansas.....		74,238		3,020	833	667	328,057
California.....	125	1,927	1,205	8,241	2,264,670	10,301	19,981,849
Colorado.....	112	409,278	110	1,109	4,588	1,684	6,820
Connecticut.....	78	11,691		335		118	.....
Delaware.....		2,543				34	.....
District of Columbia.....						77	.....
Florida.....	100	32,688	146	44,567	787,431	11,610	.....
Georgia.....		55,354		6,442	397	822	.....
Idaho.....		15,360	84	3,891	726	723	.....
Illinois.....		2,092,655	400		7,536	4,272	1,809,962
Indiana.....	1,366	780,153	10		678	1,529	329,788
Iowa.....		210,939	465	115	42	1,675	.....
Kansas.....		212,503		747	694,541	3,972	8,088,328
Kentucky.....		724,385		675	38,148	12,069	751,455
Louisiana and Mississippi.....		2,400			1,141,582	457	13,546,954
Maine.....		9,586		250		236	.....
Maryland.....	2	67,827		65		686	.....
Massachusetts.....	69	22,871	50	290	29	57	.....
Michigan.....	18,891	1,371,023	4,013		2,826	1,570	33,781
Minnesota.....	3,248	726,392	758	477	1,230	2,666	.....
Missouri.....		488,858		2,936	14,161	2,425	21,898
Montana.....		325,737	4,874	5,683	951	1,459	671,621
Nebraska.....		1,834				44	.....
Nevada.....		113,708	376	2,977	64,363	8,476	.....
New Hampshire.....	53	5,027		420	88	162	.....
New Jersey.....	57,207	62,486	151	21	18,880	618	.....
New Mexico.....		232,846	62	387	50,784	1,904	.....
New York.....	52,356	82,852	1,123	250	430	1,084	1,097,257
North Carolina.....		41,234	5	960	16	277	.....
North Dakota.....		16,437				451	.....
Ohio.....	100	862,717	788	139	1,885	4,946	5,439,260
Oklahoma.....		280,339		110	237,780	21,011	16,338,709
Oregon.....		5,280		3,683	6,548	662	.....
Pennsylvania.....	8,561,045	3,574,674	219	2,376	1,608	13,801	<sup>1</sup> 10,047,604
Rhode Island.....	118	6,316		6		187	.....
South Carolina.....		18,949		3,113		86	.....
South Dakota.....		42,111	236	2,719	2,748	327	.....
Tennessee.....		298,649	29	5,831	1,240	1,017	1,350
Texas.....		66,743	5,170	2,176	2,739,860	13,287	10,396,846
Utah.....	28	197,366	1,123	39	2,276	1,487	.....
Vermont.....	2,328	24,886	218	261		67	.....
Virginia.....	64	209,851	170	1,386	706	499	.....
Washington.....		197,152		2,747	47,095	2,110	.....
West Virginia.....		1,157,991		50	524	2,541	12,149,549
Wisconsin.....	15	50,600	99	1,778	1,950	929	.....
Wyoming.....		241,089	14	6	119,210	802	1,743,724
Nonproducing enterprises.....	2	64,088	5,999	17,953	209,708	13,343	647,405
Arizona.....		292		949	22,117	7,029	.....
California.....	2	61	2	3,405	3,297	1,602	110,854
Colorado.....		4,023		1,692	750	182	.....
Idaho.....		2,035	6	3,420	303	376	.....
Kansas.....		1,025			480	56	9,694
Kentucky.....		716				8	690
Louisiana and Mississippi.....				1,256	3,045		5,250
Michigan.....		6,346	4			57	.....
Minnesota.....		12,358				50	.....
Montana.....		4,202		1,082	550	349	.....
Nevada.....		154		363	3,080	1,544	.....
New Mexico.....		2,720		474	65	178	.....
Ohio.....		474					2,200
Oklahoma.....		2,200			2,186		54,098
Oregon.....				320		48	.....
Pennsylvania.....		178				10	.....
South Dakota.....		1,000		1,390			.....
Texas.....		1,529			159,791	900	377,869
Utah.....		1,427		295	1,350	249	.....
Virginia.....		870			158	50	.....
Washington.....		516		362		310	5,000
West Virginia.....							1,350
Wisconsin.....		8,918		350		102	.....
Wyoming.....		1,518		354	12,526	124	80,400
All other.....		11,528	5,987	2,175		119	.....

<sup>1</sup> Includes 89,354 M cubic feet of manufactured gas.<sup>2</sup> Includes Alabama, Arkansas, Connecticut, Florida, Georgia, Illinois, Iowa, Maine, Missouri, New York, North Carolina, and Tennessee.

## MINES AND QUARRIES.

TABLE 9.—NUMBER OF ENTERPRISES

INDUSTRY.	UNITED STATES.	STATES.																							
		Alabama.	Arizona.	Arkansas.	California.	Colorado.	Connecticut.	Delaware.	Dist. Columbia.	Florida.	Georgia.	Idaho.	Illinois.	Indiana.	Iowa.	Kansas.	Kentucky.	Louisiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.	Mississippi.	Missouri.
All industries.....	21,997	266	250	128	785	537	42	7	3	37	75	132	773	503	199	827	949	141	51	126	74	128	145	2	469
Producing enterprises.....	21,280	264	155	126	725	477	41	7	3	36	74	82	772	503	198	814	938	135	50	126	74	122	135	2	468
Abrasive materials.....	34			1	4							1	5			3							1		2
Asbestos.....	10		2		1															1					
Asphalt.....	9				2																				
Barytes.....	89	1			1					7							1								
Basalt.....	103				16		20	1				1					5			10	21	1			60
Bauxite.....	10	1		4																					
Chromite.....	15				12																				
Clay.....	345	4			13	21		4		8	11		10	9	1	1	18			8	1	4	1	2	41
Coal, anthracite.....	254																								
Coal, bituminous.....	6,636	188		85	1	161					1	1	447	295	167	120	635			58		11			170
Copper.....	195		75		15	5						8													
Feldspar.....	30				1		4				1								4	8		22			1
Fluorspar.....	54					4																			
Fuller's earth.....	9									5	1		11				29								
Gold and silver, lode mines.....	740		51		99	198					1	1	32								1				
Gold, placer mines.....	112		1		60	5						11													
Granite.....	358		3	2	17	8	11	2	3		20								42	9	42		27		2
Graphite.....	21	9			1	1																			
Gypsum.....	47		1		1	2																			
Iron ore.....	290	39		1	1		1				9	1				5	3			1	1	65	89		8
Lead and zinc.....	432		15	11	17	27																			
Limestone.....	595	15	4	6	13	14	1			4	5	20	6	67	25	30	47	1	1	11	1	11	10		93
Magnesite.....	11				8						3		41			35									70
Manganese.....	35		1	2	3	4																			
Marble.....	48	2			3															2	3	1	6		1
Mica.....	65	1																							
Millstones.....	11											5													
Mineral pigments.....	23	1																							
Molybdenum.....	2					1						2													
Petroleum and natural gas.....	9,814			7	403	10																			
Phosphate rock.....	48																								
Pyrite.....	17	1			3	1				23		2		131		613	196	133				1			
Quicksilver.....	26				17						3		1												1
Sandstone.....	255	2	2	7	6	7	3																		
Silica.....	24				1		1					2	15	1											
Slate.....	101																								
Sulphur.....	4																		3						
Talc and soapstone.....	28				3													1							
Titanium.....	2																								
Tungsten.....	6				1	2				1	2									2	1				
Uranium and vanadium.....	12					6																			
Nonproducing enterprises.....	717	2	95	2	60	60	1			1	1	50	1		1	13	11	6	1			6	10		1
Barytes.....	1																								
Cobalt.....	1																								
Coal.....	26																								
Gold, silver, copper, lead, or zinc.....	500		94		46	58						1			1										
Iron ore.....	18	2									1	48	1			2	3					3			1
Limestone.....	1																								
Manganese.....	2			1																					
Marble.....	1																								
Mica.....	1																								
Molybdenum.....	2		1																						
Petroleum and natural gas.....	156			1	13														1						
Phosphate rock.....	1															10	8	6							
Pyrite.....	1									1															
Quicksilver.....	2				1							1													
Silica.....	1																								
Sulphur.....	1						1																		
Tin.....	1																								
Vanadium.....	1					1																			

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INDUSTRY.	STATES.																									
	Montana.	Nebraska.	Nevada.	New Hampshire.	New Jersey.	New Mexico.	New York.	North Carolina.	North Dakota.	Ohio.	Oklahoma.	Oregon.	Pennsylvania.	Rhode Island.	South Carolina.	South Dakota.	Tennessee.	Texas.	Utah.	Vermont.	Virginia.	Washington.	West Virginia.	Wisconsin.	Wyoming.	
All industries .....	285	9	321	30	97	103	701	104	79	2,289	1,964	56	5,320	14	20	28	204	689	189	93	206	98	1,722	96	121	
Producing enterprises .....	259	9	203	30	97	85	700	102	79	2,283	1,934	50	5,807	14	20	23	203	624	141	93	202	83	1,714	92	106	
Abrasive materials.....		1	2	1			4	2			2	1	1								1	4			2	
Asbestos.....																						1	1			
Asphalt.....											2															
Barytes.....								1										1	3							
Basalt.....					30		4					9	29	4	1		5		1		1	8		1	2	
Bauxite.....																										
Chromite.....																	1									
Clay.....	3				35	1	2	6		49		1	62		7		10	2	3	1	1	4	5		1	
Coal, anthracite.....	67				21		1	79	788	94	3	1,938	254			5	107	33	27		108	35	926		46	
Coal, bituminous.....	21		15		7		2	10			3						2		13	2		6				
Copper.....			1	1	7																					
Feldspar.....			1																							
Fluorspar.....			1																							
Fuller's earth.....			1																1							
Gold and silver, lode mines.....	116	148			23						8				4			1	49			10				
Gold, placer mines.....	9	8			1																					
Granite.....	3		23	4			7	16			6	16	2	29	8	10		8		27	7	1		14		
Graphite.....	1		1				2																			
Gypsum.....			3		5	1	6	6		2	5	1	3	2		2	12	1	2		2	1		6	4	
Iron ore.....	2				5	5	7						5					1							1	
Lead and zinc.....	16	15		2	13	1	1				111		1		1	3	3	21	24	7	4	31	3	17	23	
Limestone.....	7	8	1	10	1	55	2		90	13	4	184						12	7					33	8	
Magnesite.....																										
Manganese.....	6					1	6										3	1		15	9	3				
Marble.....																	13									
Mica.....				5		2		49								1										
Millstones.....							6	3													2					
Mineral pigments.....																					2					
Molybdenum.....					1								13				2		1		1					
Petroleum and natural gas.....	5				1	561			1,333	1,699		3,140			1	1	553						751		39	
Phosphate rock.....																										
Pyrite.....						2									2		19		1		5					
Quicksilver.....		4									1							4								
Sandstone.....	2				5		22	1		21	2		100		5	2										
Silica.....	1					1		2					4			2					2	1	15	12	3	
Slate.....							9						42						1	38	4					
Sulphur.....			1															2								
Talc and soapstone.....							4	3					2													
Titanium.....																				6	4	1				
Tungsten.....			3																		1					
Uranium and vanadium.....																			5						1	
Nonproducing enterprises .....	36		118			18	1	2		6	30	6	13			5	1	65	48		4	15	8	4	15	
Barytes.....																	1									
Cobalt.....																										
Coal.....																										
Gold, silver, copper, lead, or zinc.....	36		117			17	1	1		1	2	1	10			4		1			1	2	3			
Iron ore.....																			47		1	11		2	3	
Limestone.....																										
Manganese.....						1															1					
Marble.....			1																							
Mica.....								1																		
Molybdenum.....																										
Petroleum and natural gas.....																										
Phosphate rock.....										5	28		3					64				2	5		11	
Pyrite.....																										
Quicksilver.....																					1					
Silica.....																										
Sulphur.....																										
Tin.....																1									1	
Vanadium.....																										