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WASHINGTON

FOURTEENTH CENSUS OF THE UNITED STATES
MINES AND QUARRIES: 1919

CALIFORNIA, OREGON,
WASHINGTON

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EXPLANATION OF TERMS.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

CALIFORNIA.

California, which ranks second among the states in size (land area 155,652 square miles) and eighth in population (3,426,861 in 1920), ranked fifth in value of mineral products for 1919. The state ranked eleventh in the total number of persons engaged in the mining industries and tenth in the average number of wage earners employed. California reported 29 productive mineral industries, a greater number than was reported by any other state.

The gross amount received for products by the operators of all mines, quarries, and wells in California in 1919 was \$163,770,243, and in 1909 was \$63,382,454. After eliminating duplication of \$875,751, the value of gold and silver ores, magnesite, and natural gas sold in 1919 by some producers to others and again reported after further treatment and resale, and, for 1909, a similar duplication of \$2,762,660 in the value of gold and silver ores, copper ores, and natural gas, the net value of products for 1919 is \$162,894,492, and for 1909 is \$60,619,794, an increase of 168.7 per cent. The figures for 1919 include receipts for mineral and other unspecified by-products, custom milling, power sold, and work or miscellaneous services for other enterprises which amounted to \$1,082,885. As the significance of amounts reported in dollars is impaired for purposes of comparison by general price increases during the decade, the increase in amount received for products does not, nor do the increases in wages, cost of supplies and materials, fuel and power, and capital invested, as shown in Table 1, correctly indicate the growth or progress of mining in California during the census period 1909 to 1919. The number of wage earners probably serves better for comparison of the mining industries as a whole for the years 1909 and 1919, and on this basis there was slight decrease for the mining industries of the state. This, however, is due to heavy decreases in the metal mining and quarrying activities partly offset by a notable increase in the petroleum and natural-gas industry. The addition of Federal income and excess-profits taxes since 1909 will account for the increase in taxes.

The industries reported for 1919, classified by principal products and listed in the order of value of products, were petroleum and natural gas, gold, and silver from lode mines, gold from placer mines, copper, quicksilver, pyrite, magnesite, basalt or traprock, granite, limestone, lead and zinc, manganese ore, ores of rare metals, (tungsten), clay, talc and soapstone, sandstone, abrasive materials, chromite, marble, gypsum, graphite, barytes, asphalt, iron ore, mineral pigments, asbestos, coal, silica, and feldspar.

The mining industries for which the statistics can be shown without disclosure of individual operations are ranked by value of products in Table 2.

The leading mineral industry in California in 1919, petroleum and natural gas production, reported a majority of the enterprises in the state, 63.8 per cent of the total number of wage earners, and products valued at \$139,018,663, representing 84.9 per cent of the total value of products of all mining industries in the state. California ranked third among the states in value of products of the petroleum and natural-gas industry. Production was reported principally from Fresno, Kern, Los Angeles, Orange, Santa Barbara, and Ventura Counties, but also from Sacramento, San Luis Obispo, San Joaquin, and Solano Counties.

The mining and milling of gold and silver bearing ores was second in importance in the state, and California ranked third among the states in this industry in 1919, reporting products valued by the producers at \$8,773,757. The statistics for this industry include figures for custom and merchant reduction mills and the operations on old dumps and tailings. Production was reported from 21 counties chiefly in the east-central and northern parts of the state.

Placer mining was third in rank in 1919 among the mining industries of California which was the premier state in the industry with an output valued at \$7,937,654. The productive counties were Amador, Butte, Calaveras, Eldorado, Nevada, Placer, Plumas, San Joaquin, Sacramento, Shasta, Sierra, Siskiyou, Stanislaus, Trinity, and Yuba.

The mining industries in the state, fourth and fifth, respectively, in importance, were copper mining with value of products \$2,397,610, California ranking seventh in the United States, and quicksilver production, with value of products of \$1,217,077 and California holding first place. In several of the minor mineral industries also, California stands high having, on the basis of value of products in 1919, ranked first in chromite mining, second in production of rare metals and of magnesite, and fourth in manganese, abrasive materials, and talc and soapstone.

In addition to the operation of the producing mines and quarries considerable work was done in California on properties which were not productive during the year. Sixty such enterprises were reported, 47 in metal-mining industries and 13 in the petroleum and natural-gas industry. These enterprises, with a combined capital of \$13,494,898, employed 403 wage earners and expended \$1,512,352 for development during the year, these figures representing 2 per cent of the aggregate number of wage earners reported and 1.5 per cent of the aggregate expenditures for all mining operations in the state.

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The form or character of organizations conducting mining enterprises in California in 1919 is shown in Table 3 which brings out the preponderance of incorporated enterprises. Corporations operated 67.9 per cent of all the mining enterprises, employed 94.9 per cent of the average number of wage earners, and reported 96.3 per cent of the total value of products. Table 3 also shows that corporate organizations virtually controlled the petroleum and natural-gas industry and that, although they were less important as to number of enterprises in the metal-mining and quarrying industries, nevertheless they conducted the enterprises which were, on the basis of number of wage earners and value of products, the more important.

The relatively large number of small enterprises, as measured by the average number of wage earners employed, is shown in Table 4. Of the total number of mining enterprises in California, 95 per cent were in classes having no wage earners or less than 101, and such enterprises employed 47.8 per cent of the total number of wage earners. On the other hand, only 5 per cent of the total number of enterprises

had more than 100 wage earners each and these enterprises employed 52.2 per cent of the total number of wage earners. In Table 4, the 6 largest enterprises are shown in the petroleum and natural-gas industry, but the table is based on reports for that industry which consolidated data on operations in several localities in which the individual operations were of smaller size.

Table 5 shows that for nearly three-fourths of the enterprises employing wage earners and of the number of wage earners in all the mining industries in California in 1919, the hours of labor were 54 to 62 per week. The 8-hour day and 7-day week prevailed. Hours of labor ranging from 44 to 53 per week, indicating the 8-hour day and 6-day week, were reported for practically all other enterprises.

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

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

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

	MINING INDUSTRIES.		Per cent of increase. ¹		MINING INDUSTRIES.		Per cent of increase. ¹
	1919	1909			1919	1909	
Number of enterprises.....	725	1,329	-45.4	Capital.....	\$446,782,385	\$253,577,552	76.2
Number of mines and quarries.....	357	1,279	-72.1	Principal expenses:			
Number of petroleum and natural-gas wells.....	9,197	4,316	113.1	Salaries.....	5,141,550	2,968,779	73.2
Number of natural-gas gasoline plants.....	58	(?)	Wages.....	31,748,170	19,049,442	66.7
Persons engaged.....	22,201	24,378	-8.9	Contract work.....	1,377,278	595,130	131.4
Proprietors and firm members, total.....	442	1,799	-75.4	Supplies and materials ²	32,892,276	21,552,312	51.7
Number performing manual labor in or about the mines, quarries, and wells.....	172	856	-79.9	Fuel and power.....	7,047,225	2,775,643	153.9
Salaried employees.....	2,415	2,062	17.1	Royalties and rents.....	10,810,833	2,814,259	287.7
Wage earners (average number).....	19,344	20,517	-5.7	Taxes.....	10,026,745	576,946	1,637.9
Power used (horsepower).....	313,213	162,238	93.1	Value of products.....	163,770,243	63,382,451	158.4

¹ A minus sign (-) denotes decrease.

² Figures not available.

³ Includes for 1919 cost of ore, magnesite, and natural gas, and for 1909 cost of ore and natural gas, purchased as material or for resale.

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

INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.		INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.	
		Average number.	Per cent distribution.	Amount.	Per cent distribution.			Average number.	Per cent distribution.	Amount.	Per cent distribution.
All industries.....	725	19,344	100.0	\$163,770,243	100.0	Granite.....	17	162	0.8	\$563,485	0.3
Petroleum and natural gas.....	403	12,344	63.8	139,018,663	84.9	Limestone.....	13	245	1.3	540,987	0.3
Gold and silver, lode mines.....	99	2,881	14.9	8,773,757	5.4	Lead and zinc.....	17	115	0.6	261,454	0.2
Gold, placer mines.....	60	1,102	5.7	7,937,654	4.9	Clay.....	13	88	0.5	177,246	0.1
Copper.....	15	1,055	5.5	2,397,610	1.5	Sandstone.....	6	27	0.1	65,074	(²)
Quicksilver.....	17	485	2.5	1,217,077	0.7	Abrasive materials.....	4	17	0.1	61,313	(²)
Magnesite.....	8	230	1.2	677,661	0.4	Chromite.....	12	21	0.1	58,366	(²)
Basalt.....	16	262	1.4	635,588	0.4	All other industries ¹	25	310	1.6	1,354,398	0.8

¹ Includes enterprises in industries as follows: Asbestos, 1; asphalt, 2; barytes, 1; coal, bituminous, 1; feldspar, 1; graphite, 1; gypsum, 1; iron ore, 1; manganese, 3; marble, 3; mineral pigments, 2; pyrite, 3; rare metals (tungsten), 1; silica, 1; talc and soapstone, 3.
² Less than one-tenth of 1 per cent.

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

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprise.	Enterprises.	Wage earners.	Value of products.
ALL INDUSTRIES.....	725	19,344	\$163,770,243	\$225,890	100.0	100.0	100.0
Corporation.....	492	18,367	157,688,252	320,505	67.9	94.9	96.3
Individual.....	121	463	2,935,040	24,752	16.7	2.4	1.8
Firm.....	104	396	2,755,121	26,492	14.3	2.0	1.7
Other.....	8	113	331,830	41,479	1.1	0.6	0.2
PETROLEUM AND NATURAL GAS.....	403	12,344	139,018,663	344,959	100.0	100.0	100.0
Corporation.....	337	12,008	135,009,248	400,621	83.6	97.3	97.1
Individual.....	40	196	2,239,725	55,963	9.9	1.6	1.6
Firm.....	21	108	1,615,931	76,949	5.2	0.9	1.2
Other.....	5	32	153,759	30,752	1.2	0.3	0.1
GOLD AND SILVER, LODGE MINES.....	99	2,881	8,773,757	88,624	100.0	100.0	100.0
Corporation.....	46	2,658	7,918,133	172,133	46.5	92.3	90.2
Individual.....	19	74	92,807	4,885	19.2	2.6	1.1
Firm ¹	34	149	762,817	22,436	34.3	5.2	8.7
GOLD, PLACER MINES.....	60	1,102	7,937,654	132,294	100.0	100.0	100.0
Corporation.....	28	1,005	7,607,977	271,713	46.7	91.2	95.8
Individual.....	18	65	306,590	17,033	30.0	5.9	3.9
Firm ²	14	32	23,087	1,649	23.3	2.9	0.3
COPPER.....	15	1,055	2,397,610	159,841	100.0	100.0	100.0
Corporation.....	11	1,049	2,387,945	217,086	73.3	99.4	99.6
Firm ³	4	6	9,665	2,416	26.7	0.6	0.4
BASALT, GRANITE, LIMESTONE, AND SANDSTONE.....	52	696	1,805,134	34,714	100.0	100.0	100.0
Corporation.....	30	642	1,668,733	55,624	57.7	92.2	92.4
Individual.....	14	30	57,667	4,119	26.9	4.3	3.2
Firm.....	8	24	78,734	9,842	15.4	3.4	4.4
QUICKSILVER.....	17	485	1,217,077	71,593	100.0	100.0	100.0
Corporation.....	7	374	957,021	136,717	41.2	77.1	78.6
Firm ⁴	10	111	260,056	26,006	58.8	22.9	21.4
LEAD AND ZINC.....	17	115	261,454	15,380	100.0	100.0	100.0
Corporation.....	8	103	228,411	28,551	47.1	89.6	87.4
Individual ⁴	9	12	33,043	3,671	52.9	10.4	12.6
CLAY.....	13	88	177,246	13,634	100.0	100.0	100.0
Corporation.....	7	70	140,821	20,117	53.8	79.5	79.4
Individual.....	6	18	36,425	6,071	46.2	20.5	20.5
CHROMITE.....	12	21	58,366	4,864	100.0	100.0	100.0
Individual.....	4	13	40,719	10,180	33.3	61.9	69.8
Firm.....	8	8	17,647	2,206	66.7	38.1	30.2

¹ Includes 2 other forms of organization.
² Includes 1 other form of organization.

³ Includes 2 individuals.
⁴ Includes 2 firms.

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

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Number.	Per cent distribu- tion.	Number.	Per cent distribu- tion.		Number.	Per cent distribu- tion.	Number.	Per cent distribu- tion.
ALL INDUSTRIES.....	725	100.0	19,344	100.0	COPPER.....	15	100.0	1,055	100.0
No wage earners.....	96	13.2			No wage earners.....	1	6.7		
1 to 5.....	276	38.1	930	4.8	1 to 5.....	4	26.7	12	1.1
6 to 20.....	195	26.9	2,578	13.3	6 to 20.....	2	13.3	15	1.4
21 to 50.....	88	12.1	3,395	17.6	21 to 50.....	1	6.7	27	2.6
51 to 100.....	34	4.7	2,333	12.1	51 to 100.....	4	26.7	304	28.8
101 to 500.....	30	4.1	6,216	32.1	101 to 500.....	3	20.0	697	66.1
501 to 1000.....	6	0.8	3,892	20.1					
PETROLEUM AND NATURAL GAS.....	403	100.0	12,344	100.0	BASALT, GRANITE, LIMESTONE, AND SANDSTONE.....	52	100.0	696	100.0
No wage earners.....	39	9.7			No wage earners.....	5	9.6		
1 to 5.....	134	38.2	636	5.2	1 to 5.....	16	30.8	34	4.9
6 to 20.....	123	30.5	1,894	14.6	6 to 20.....	20	38.5	221	31.8
21 to 50.....	48	11.9	2,120	17.2	21 to 50.....	10	19.2	308	44.3
51 to 100.....	21	5.2	1,439	11.7	101 to 500.....	1	1.9	133	19.1
101 to 500.....	12	3.0	2,453	19.9					
501 to 1000.....	6	1.5	3,892	31.5	QUICKSILVER.....	17	100.0	485	100.0
GOLD AND SILVER, LODE MINES.....	99	100.0	2,881	100.0	1 to 5.....	8	47.1	24	4.9
No wage earners.....	22	22.2			6 to 20.....	3	17.6	31	6.4
1 to 5.....	33	33.3	89	3.1	21 to 50.....	4	23.5	135	27.8
6 to 20.....	20	20.2	206	7.2	101 to 500.....	2	11.8	295	60.8
21 to 50.....	11	11.1	388	13.5					
51 to 100.....	5	5.1	343	11.9	MAGNESITE.....	8	100.0	230	100.0
101 to 500.....	8	8.1	1,855	64.4	No wage earners.....	1	12.5		
GOLD, PLACER MINES.....	60	100.0	1,102	100.0	1 to 5.....	1	12.5	1	0.4
No wage earners.....	11	18.3			6 to 20.....	2	25.0	19	8.3
1 to 5.....	28	46.7	73	6.6	21 to 50.....	2	25.0	49	21.3
6 to 20.....	10	16.7	113	10.3	51 to 100.....	1	12.5	52	22.6
21 to 50.....	7	11.7	228	20.7	101 to 500.....	1	12.5	109	47.4
51 to 100.....	2	3.3	137	12.4					
101 to 500.....	2	3.3	551	50.0					

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

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—											
	Enter- prises.	Wage earners.	35 and under.		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.
All industries.....	1 629	19,344	8	104	2	2	143	4,500	458	14,411	16	324	2	3
Petroleum and natural gas.....	364	12,344	7	99	1	1	58	2,796	290	9,427	6	18	2	3
Gold and silver, lode mines.....	77	2,881					20	976	55	1,675	2	230		
Gold, placer mines.....	49	1,102					11	47	31	984	7	71		
Copper.....	14	1,055					2	89	12	966				
Basalt, granite, limestone, and sand- stone.....	47	696					26	303	20	388	1	5		
Quicksilver.....	17	485					2	4	15	481				
Magnesite.....	7	230					2	120	5	110				
All other industries.....	54	551	1	5	1	1	22	165	30	380				

¹ Exclusive of 93 enterprises employing no wage earners in industries as follows: Asphalt, 2; chromite, 4; clay, 3; copper, 1; feldspar, 1; gold and silver, lode mines, 22; gold, placer mines, 11; granite, 3; lead and zinc, 4; limestone, 1; magnesite, 1; marble, 1; mineral pigments, 1; petroleum and natural gas, 39; sandstone, 1; talc and soapstone, 1.

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

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

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
All industries.....	19,747	19,836	19,604	19,530	<i>19,025</i>	19,641	19,401	19,627	19,609	19,672	20,083	20,499	20,437	92.8
Producing enterprises.....	19,344	19,552	19,319	19,238	<i>18,716</i>	19,298	19,079	19,266	19,176	19,182	19,555	19,916	19,831	94.0
Petroleum and natural gas.....	12,344	12,060	12,313	12,224	<i>12,139</i>	12,420	12,231	12,187	12,140	12,378	12,550	12,685	12,801	94.8
Gold and silver, lode mines.....	2,881	2,864	2,911	2,894	2,778	2,914	2,846	2,964	2,903	<i>2,768</i>	2,821	2,927	2,982	92.8
Gold, placer mines.....	1,102	1,011	1,047	<i>1,069</i>	1,010	1,106	1,110	1,210	1,148	1,136	1,155	1,183	<i>1,099</i>	83.4
Copper.....	1,055	1,255	1,164	1,109	1,050	1,012	982	995	1,076	986	1,025	1,050	<i>855</i>	76.1
Quicksilver.....	485	686	456	431	<i>313</i>	380	482	500	507	511	510	534	510	45.6
Basalt.....	262	189	<i>155</i>	229	268	270	249	271	294	283	308	327	301	47.4
Limestone.....	245	283	240	236	250	253	242	228	237	<i>235</i>	228	261	257	79.5
Magnesite.....	230	183	57	159	181	208	240	271	270	273	307	318	293	17.9
Granite.....	162	146	140	136	141	140	<i>134</i>	142	136	171	201	210	247	54.3
Lead and zinc.....	115	137	130	132	135	129	112	92	93	95	105	108	112	67.2
Clay.....	88	71	69	<i>66</i>	87	92	90	65	86	96	144	108	82	45.8
Sandstone.....	27	<i>14</i>	16	28	20	24	22	39	53	27	28	26	27	35.9
Chromite.....	21	<i>10</i>	11	15	19	28	29	21	17	28	26	31	17	32.3
Abrasive materials.....	17	30	22	21	24	18	20	15	19	15	5	6	9	16.7
All other industries.....	310	613	588	549	301	304	290	265	197	190	142	142	<i>139</i>	22.7
Nonproducing enterprises.....	403	<i>284</i>	285	292	309	343	322	361	433	490	528	583	606	46.9
Gold and silver, lode and placer mines, copper, lead, and quicksilver.....	312	<i>199</i>	211	203	220	266	263	283	350	407	413	459	460	43.3
Petroleum and natural gas.....	91	85	74	89	89	77	<i>69</i>	68	83	83	115	124	146	40.4

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

	Aggregate.	PRODUCING ENTERPRISES.								
		Total.	Petroleum and natural gas.	Gold and silver, lode mines. ¹	Gold, placer mines.	Copper.	Quick-silver.	Magnetite.	Basalt.	Granite.
Number of enterprises.....	785	725	403	99	60	15	17	8	16	17
Number of mines and quarries.....	411	357	199	109	78	16	17	8	17	18
Number of petroleum and natural-gas wells.....	9,212	9,197	9,197							
Number of natural-gas gasoline plants.....	58	58	58							
Capital.....	\$490,277,283	\$446,782,385	\$359,851,160	\$34,494,493	\$19,087,232	\$17,906,644	\$2,458,703	\$367,044	\$1,367,933	\$1,027,730
Principal expenses:										
Salaries and wages—										
Officers.....	\$1,260,715	\$1,239,392	\$504,252	\$81,441	\$133,771	\$44,875	\$43,020	\$13,050	\$18,421	\$32,950
Superintendents and managers.....	\$2,259,588	\$2,165,970	\$1,594,693	\$174,723	\$148,785	\$69,319	\$39,844	\$18,187	\$28,316	\$8,100
Technical employees.....	\$261,675	\$240,982	\$92,746	\$63,140	\$19,986	\$39,682	\$3,358	\$1,800		
Clerks, etc.....	\$1,513,740	\$1,495,206	\$1,281,957	\$46,913	\$45,689	\$36,730	\$10,826	\$9,820	\$9,206	\$11,977
Wage earners.....	\$32,347,888	\$31,748,170	\$22,397,544	\$3,870,121	\$1,475,406	\$1,550,420	\$620,784	\$309,328	\$334,460	\$167,992
Supplies and materials.....	\$32,618,342	\$31,816,525	\$25,385,596	\$2,172,364	\$1,941,920	\$1,078,351	\$270,746	\$180,837	\$128,746	\$148,179
Cost of ore and natural gas purchased for use as material or for resale.....	\$875,751	\$875,751	\$510,673	\$334,213				\$31,465		
Fuel.....	\$4,467,154	\$4,424,508	\$3,931,681	\$150,402	\$5,571	\$119,255	\$80,442	\$99,432	\$10,520	\$14,898
Power.....	\$2,069,850	\$2,622,717	\$963,249	\$572,413	\$946,936	\$271,298	\$29,133	\$11,054	\$39,266	\$18,743
Royalties and rents.....	\$19,923,104	\$19,910,833	\$10,696,356	\$43,464	\$35,157	\$8,695	\$12,566	\$46,000	\$16,938	\$785
Taxes.....	\$19,040,618	\$19,626,745	\$9,195,204	\$275,316	\$317,664	\$117,339	\$19,788	\$2,711	\$16,051	\$7,054
Contract work.....	\$1,432,015	\$1,377,278	\$998,766	\$20,507	\$126,970	\$38,320	\$7,173	\$34,753		\$250
Expenditures for development (included in the above items).....	\$29,168,509	\$27,656,157	\$25,633,823	\$1,027,359	\$140,076	\$540,738	\$106,984	\$2,368	\$125	\$8,250
Value of products.....	\$163,770,243	\$163,770,243	\$139,018,663	\$8,773,757	\$7,397,654	\$2,397,610	\$1,217,077	\$677,661	\$635,588	\$563,485
Persons engaged in industry.....	22,725	22,261	14,317	3,167	1,270	1,140	543	260	294	199
Proprietors and firm members (total).....	470	442	131	111	55	7	23	10	7	15
Number performing manual labor.....	176	172	62	32	3	3	9		2	8
Salaried officers.....	409	393	274	33	29	7	9	5	8	8
Superintendents and managers.....	757	709	496	67	45	21	15	8	13	4
Technical employees.....	135	127	49	39	8	20	2	1		
Clerks, etc.....	1,367	1,196	1,020	36	31	30	9	6	7	10
Wage earners (average number).....	19,747	19,344	12,344	2,881	1,102	1,055	485	230	262	162
Wage earners by occupation (Dec. 15):										
Above ground (total).....	17,514	17,147	12,810	862	1,125	509	326	178	337	236
Below ground (total).....	3,866	3,567	2,334	72	579	248	218	121		
Foremen, shift bosses, etc.—										
Above ground.....	229	215	36	84	12	9	9	16	14	9
Below ground.....	185	163	88	4	31	11	10	10		
Enginemen, hoistmen, electricians, mechanics, etc.—										
Above ground.....	11,761	11,554	10,427	292	405	144	86	36	38	33
Below ground.....	124	115	84		20	6	6	2		
Miners, quarrymen, and drillmen, including their helpers—										
Above ground.....	442	417	14	54	11	28	10	75	63	
Below ground.....	1,739	1,586	1,075	57	218	79	40			
Timbermen, trackmen, and men engaged in hauling, tramming, etc.—										
Above ground.....	221	208	38	9	31	27	18	36	2	
Below ground.....	631	575	375	4	92	80	6			
Muckers, loaders, laborers, and others not classified—										
Above ground.....	4,041	3,933	2,383	176	571	147	58	32	174	57
Below ground.....	1,187	1,128	712	7	218	72	63			
Wage earners employed in mills and beneficiating plants—										
Above ground.....	820	820	306	2	164	118	66			72
Number of females included in wage earners reported above—										
Above ground.....	32	31	14	12	3		1			
Mineral and oil land operated..... acres..	620,603	588,517	482,320	19,198	30,356	7,804	17,336	1,686	1,407	2,944
Land controlled, total..... acres..	658,986	626,540	482,320	27,622	44,185	12,876	20,699	2,136	1,407	3,104
Mineral and oil land owned.....	402,799	376,108	300,429	17,399	21,946	7,464	8,124	490	1,171	2,830
Mineral and oil land leased.....	217,837	212,429	181,891	1,819	8,410	3,400	9,212	1,196	236	114
Timber and other lands owned and leased.....	38,350	38,003	8,404	13,829	5,072	3,363	450			160
Power used: Aggregate horsepower.....	319,717	313,213	220,089	33,412	29,488	12,648	1,907	610	4,792	2,479
Prime movers (horsepower, total).....	209,889	206,805	186,294	11,949	2,180	2,670	741	297	460	2,577
Steam engines—										
Number.....	3,170	3,144	3,084	10	2	3	4		17	12
Horsepower.....	88,674	88,052	84,471	1,871	40	400	106		425	201
Steam turbines—										
Number.....	5	5		2		3				
Horsepower.....	1,750	1,750		250		1,500				
Internal-combustion engines—										
Number.....	3,085	3,056	2,866	67	3	16	28	21	1	3
Horsepower.....	106,162	105,615	101,823	1,365	50	235	635	207	35	31
Water wheels, turbines, and motors—										
Number.....	126	107		82	18	2				1
Horsepower.....	13,303	11,388		8,463	2,090	535				25
Purchased power (horsepower, total).....	109,828	106,408	33,795	21,463	27,308	9,978	1,166	313	4,332	2,222
Electric motors operated by purchased current—										
Number.....	2,946	2,882	1,318	527	502	179	39	10	88	60
Horsepower.....	109,783	106,363	33,750	21,463	27,308	9,978	1,166	313	4,332	2,222
Other equipment operated by purchased power—										
Horsepower.....	45	45	45							
Electric motors run by current generated by enterprise using:										
Number.....	426	413	350	52	5		3			
Horsepower.....	10,663	10,382	7,462	2,770	95		20			
Fuel used:										
Coal, anthracite..... tons, 2,240 pounds..	127	125		37	2	80	1			5
Coal, bituminous..... tons, 2,000 pounds..	1,983	1,927		85	10	1,673				1
Coke..... tons, 2,000 pounds..	1,207	1,205		3	1					
Wood..... cords.....	11,708	8,241		1,227	502	5,080	1,352	645		
Fuel oils..... barrels.....	2,267,967	2,264,670	2,124,490	48,985	80	29,724	19,355	23,255	5,309	6,890
Gasoline and other volatile oils..... barrels.....	11,903	10,301	442	4,194	186	458	1,693	1,024	14	92
Natural gas..... 1,000 cubic feet.....	52,202,703	52,091,849	52,091,454							

¹ Includes 2 reduction mills operated independently of mines and 4 operations on dumps and old tailings.² Includes 1 wage earner under 16 years of age.

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

	PRODUCING ENTERPRISES—continued.							NONPRODUCING ENTERPRISES.		
	Limestone.	Lead and zinc.	Clay.	Sandstone.	Abrasive materials.	Chromite.	All other. ¹	Total.	Metal mines. ²	Petroleum and natural gas.
Number of enterprises.....	13	17	13	6	4	12	25	60	47	13
Number of mines and quarries.....	13	18	13	7	4	13	26	54	54	
Number of petroleum and natural-gas wells.....										
Number of natural-gas gasoline plants.....										
Capital.....	\$1,323,063	\$5,019,640	\$532,672	\$113,602	\$36,544	\$200,908	\$2,085,017	\$12,494,895	\$11,450,451	\$2,044,447
Principal expenses:										
Salaries and wages—										
Officers.....	\$14,677	\$20,000	\$10,010			\$375	\$21,950	\$21,323	\$16,192	\$5,131
Superintendents and managers.....	\$9,342	\$16,445	\$9,112	\$37	\$3,650	\$3,000	\$42,417	\$93,568	\$69,859	\$23,709
Technical employees.....	\$3,000	\$1,800	\$2,400		\$2,465		\$10,605	\$20,693	\$14,047	\$6,646
Clerks, etc.....	\$16,520	\$4,455	\$2,520				\$21,593	\$18,534	\$7,940	\$10,595
Wage earners.....	\$289,893	\$160,334	\$89,867	\$39,041	\$25,492	\$28,120	\$419,538	\$599,715	\$409,616	\$190,072
Supplies and materials.....	\$122,176	\$57,755	\$22,066	\$20,202	\$4,342	\$8,649	\$274,066	\$801,817	\$357,781	\$444,036
Cost of ore and natural gas purchased for use as material or for resale.....										
Fuel.....	\$16,861	\$9,290	\$1,757	\$669	\$589	\$375	\$12,586	\$42,646	\$20,241	\$22,405
Power.....	\$18,746	\$3,693	\$3,664	\$1,631			\$42,891	\$47,133	\$39,960	\$7,164
Royalties and rents.....	\$1,000	\$3,993	\$2,930	\$2,300	\$2,205	\$4,777	\$33,667	\$12,271	\$1,444	\$10,827
Taxes.....	\$6,106	\$10,106	\$7,379	\$1,653	\$317	\$47	\$49,410	\$13,943	\$10,738	\$3,205
Contract work.....	\$1,500	\$35,599	\$12,781		\$1,463	\$3,455	\$95,751	\$55,637	\$35,334	\$20,303
Expenditures for development (included in the above items).....	\$13,488	\$142,854	\$13,756		\$1,200	\$2,500	\$22,636	\$1,512,352	\$507,668	\$704,684
Value of products.....	\$540,987	\$261,464	\$177,245	\$65,074	\$61,813	\$58,366	\$1,384,305			
Persons engaged in industry.....										
Proprietors and firm members (total).....	275	141	109	34	33	46	373	524	410	114
Number performing manual labor.....	8	7	6	6	13	23	16	28	28	
Salariat officers.....	6	4	1		3	12	9	4	4	
Superintendents and managers.....	4	4			2	1	8	16	11	5
Technical employees.....	1	1	6	1	2	1	17	48	39	9
Clerks, etc.....	11	4	3		1		8	8	7	1
Wage earners (average number).....	245	115	88	27	17	21	310	403	312	91
Wage earners by occupation (Dec. 15):										
Above ground (total).....	333	61	104	61	31	20	154	367	212	155
Below ground (total).....		81				15	117	299	290	
Foremen, shift bosses, etc.—										
Above ground.....	11	5	5	5	1	1	7	14	14	
Below ground.....		3				1	10	22	22	
Enginemen, holstmen, electricians, mechanics, etc.—										
Above ground.....	47	15	5	3	3	3	17	207	83	124
Below ground.....		2					1	9	9	
Miners, quarrymen, and drillmen, including their helpers—										
Above ground.....	112		3	15		5	27	25	25	
Below ground.....		48				9	60	153	153	
Timbermen, trackmen, and men engaged in hauling, tramming, etc.—										
Above ground.....	14	15	6		6	1	5	13	13	
Below ground.....		10				2	6	56	56	
Muckers, loaders, laborers, and others not classified—										
Above ground.....	149	4	80	38	12	8	44	108	77	31
Below ground.....		13				3	40	59	59	
Wage earners employed in mills and beneficiating plants—										
Above ground.....		22	5		9	2	54			
Number of females included in wage earners reported above—					1			1	1	
Above ground.....										
Mineral and oil land operated..... acres.	3,515	3,693	3,721	176	3,307	2,309	8,775	32,086	27,217	4,869
Land controlled (total)..... acres.	4,515	3,668	5,801	107	3,307	2,370	12,333	32,446	27,577	4,869
Mineral and oil land owned.....	857	3,173	2,201	73	3,297	323	6,296	26,691	24,258	2,433
Mineral and oil land leased.....	2,628	490	1,520	103	10	1,981	2,479	5,408	2,972	2,436
Timber and other land owned and leased.....	1,000	5	2,080	21		61	3,558	347	347	
Power used: Aggregate horsepower.....	1,778	826	314	585	54	101	4,130	6,504	5,481	1,023
Prime movers (horsepower, total).....	156	536	87	20	54	101	1,003	3,084	2,536	648
Steam engines—										
Number.....	2	6			1		3	26	13	13
Horsepower.....	80	155			3		300	622	239	383
Steam turbines—										
Number.....										
Horsepower.....										
Internal-combustion engines—										
Number.....	4	15	6	1	3	9	13	29	22	7
Horsepower.....	76	381	87	20	51	101	428	547	382	166
Water wheels, turbines, and motors—										
Number.....							4	19	19	
Horsepower.....							275	1,915	1,915	
Purchased power (horsepower, total).....	1,622	280	227	565			3,127	3,420	2,945	475
Electric motors operated by purchased current—										
Number.....	40	9	16	15			79	64	58	6
Horsepower.....	1,622	280	227	565			3,127	3,420	2,945	475
Other equipment operated by purchased power—										
Horsepower.....										
Electric motors run by current generated by enterprise using:										
Number.....							3	13	13	
Horsepower.....							35	281	281	
Fuel used:										
Coal, anthracite..... tons, 2,240 pounds.								2	2	
Coal, bituminous..... tons, 2,000 pounds.		94	20				44	61	57	4
Coke..... tons, 2,000 pounds.								2	2	
Wood..... cords.					30		50	3,465	3,465	
Fuel oils..... barrels.	6,781	1,639	449	48			3,685	3,297	288	3,000
Gasoline and other volatile oils..... barrels.	368	185	59		90	100	1,396	1,602	349	1,253
Natural gas..... 1,000 cubic feet.							395	110,854		110,854

¹ Includes enterprises as follows: Asbestos, 1; asphalt, 2; barytes, 1; coal, bituminous, 1; feldspar, 1; graphite, 1; gypsum, 1; iron ore, 1; manganese, 3; marble, 3; mineral pigments, 2; pyrite, 3; rare metals (tungsten), 1; silica, 1; talc and soapstone, 3.

² Includes enterprises as follows: Copper, 4; gold and silver, lode mines, 32; gold, placer mines, 9; lead, 1; quicksilver, 1.

OREGON.

Oregon, which ranks ninth among the states in size (land area 95,607 square miles) and thirty-fourth in population (783,389 in 1920), ranked fortieth in value of mineral products for 1919. The state ranked forty-second in the total number of persons engaged in the mining industries and in the average number of wage earners employed.

The total amount received for products by operators of mines and quarries in Oregon in 1919 was \$1,884,871, an increase of 58.2 per cent over the value reported by the census for the year 1909. This increase and the increases in wages and cost of supplies and materials and fuel and power, as shown in Table 1, can not properly be used as a measure of growth or progress in mining during the decade. Nor, on the other hand, do the large decreases in number of enterprises and individual mines and quarries operated and in capital invested indicate notable decline in mining as they reflect the temporarily adverse industrial conditions in 1919. For purposes of comparison most significance should be attached to the moderate decrease in the average number of wage earners.

The industries reported for 1919, classified by principal products and listed in the order of value of products, were gold and silver ores, copper ores, gold and platinum from placer mines, basalt, limestone, gypsum, bituminous coal, granite, abrasive materials, chromite, quicksilver, and clay. The mining industries for which statistics can be shown without disclosure of individual operations are ranked according to value of products in Table 2.

The leading mineral industries in Oregon in 1919, the mining of gold and silver from lodes and placers and of copper ores, comprised 27 out of a total of 50 productive enterprises, employed 57.2 per cent of all wage earners in the mining industries, and reported \$1,221,552, or 64.8 per cent of the total value of products. Baker and Grant Counties in eastern Oregon were the principal sources of production; Josephine, Jackson, Curry, and Coos Counties also reported some production. The quarrying industries producing basalt, or traprock, and limestone were second

and third in importance in the state. Together they employed 26.1 per cent of all wage earners in the mineral industries and reported 23 per cent of the total value of products. Unproductive operations for the purpose of mine development were reported for 1 coal mine and 5 metalliferous lode mines in Oregon in 1919. These enterprises employed approximately five per cent of the aggregate number of wage earners employed in the mining industries and expended for development 5.6 per cent of the aggregate expenditures reported for all mining operations in the state in 1919.

Table 3 shows that 60 per cent of all producing enterprises were incorporated and that these employed 93.4 per cent of the total number of wage earners and reported 94.3 per cent of the total value of products.

The small number of large enterprises, as measured by the average number of wage earners, is shown in Table 4. One copper mine employed more than 50 and one gold mine more than 100 wage earners. Of the other enterprises, 11 employed no wage earners and 37 employed less than 50 and averaged only 12 wage earners each.

The mining enterprises are grouped by prevailing hours of labor per week in Table 5, which shows that a majority of enterprises employing 39.2 per cent of the total number of wage earners, worked 44 to 53 hours per week, and that more than a third of the enterprises employing 60.3 per cent of the total number of wage earners worked 54 to 62 hours per week. The 8-hour day prevailed generally with a 7-day week in the metal-mining industries and a 6-day week in the quarrying industries.

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

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

MINES AND QUARRIES—OREGON.

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

	MINING INDUSTRIES.		Per cent of increase. ¹		MINING INDUSTRIES.		Per cent of increase. ¹
	1919	1909			1919	1909	
Number of enterprises.....	50	116	-56.9	Principal expenses:			
Number of mines and quarries.....	52	161	-67.7	Salaries.....	\$147,821	\$124,833	18.4
Persons engaged.....	847	1,072	-21.0	Wages.....	992,957	705,192	40.8
Proprietors and firm members, total.....	37	112	-67.0	Contract work.....	35,889	7,717	365.1
Number performing manual labor in or about the mines and quarries.....	20	66	-70.0	Supplies and materials.....	545,949	186,796	192.3
Salaried employees.....	70	100	-30.0	Fuel and power.....	133,472	96,692	38.2
Wage earners (average number).....	740	860	-14.0	Royalties and rents.....	48,047	16,935	183.7
Power used (horsepower).....	6,264	8,070	-22.4	Taxes.....	26,656	12,917	106.4
Capital.....	\$4,780,913	\$9,166,834	-47.8	Value of products.....	1,884,871	1,191,512	58.2

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

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

INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.		INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.	
		Average number.	Per cent distribution.	Amount.	Per cent distribution.			Average number.	Per cent distribution.	Amount.	Per cent distribution.
All industries.....	50	740	100.0	\$1,884,871	100.0	Limestone.....	4	69	9.3	\$138,708	7.4
Gold and silver, lode and placer mines, and copper.....	27	423	57.2	1,221,552	64.8	Coal, bituminous.....	3	63	8.5	63,566	3.4
Basalt.....	9	124	16.8	294,812	15.6	All other industries ¹	7	61	8.2	166,233	8.8

¹ Includes enterprises in industries as follows: Abrasive materials, 1; chromite, 1; clay, 1; granite, 2; gypsum, 1; quicksilver, 1.

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

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprise.	Enterprises.	Wage earners.	Value of products.
ALL INDUSTRIES.....	50	740	\$1,884,871	\$37,697	100.0	100.0	100.0
Corporation.....	30	691	1,777,720	59,257	60.0	93.4	91.3
Individual.....	11	23	62,168	5,652	22.0	3.1	3.3
Firm ¹	9	26	44,983	4,998	18.0	3.5	2.4
GOLD AND SILVER, LOPE AND PLACER MINES, AND COPPER.....	27	423	1,221,552	45,243	100.0	100.0	100.0
Corporation.....	14	401	1,180,534	84,324	51.9	94.8	96.6
Individual.....	5	1	4,457	891	18.5	0.2	0.4
Firm ¹	8	21	36,561	4,570	29.6	5.0	3.0
BASALT AND LIMESTONE.....	13	193	433,520	33,348	100.0	100.0	100.0
Corporation.....	10	180	402,304	40,230	76.9	93.3	92.8
Individual ¹	3	13	31,216	10,405	23.1	6.7	7.2

¹ Includes 1 other form of organization.

¹ Includes 1 firm.

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

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Number.	Per cent distribution.	Number.	Per cent distribution.		Number.	Per cent distribution.	Number.	Per cent distribution.
ALL INDUSTRIES.....	50	100.0	740	100.0	BASALT.....	9	100.0	124	100.0
No wage earners.....	11	22.0			1 to 5.....	2	22.2	9	7.3
1 to 5.....	13	26.0	39	5.3	6 to 20.....	5	55.6	56	45.2
6 to 20.....	17	34.0	184	24.9	21 to 50.....	2	22.2	59	47.6
21 to 50.....	7	14.0	223	30.1					
51 to 100.....	1	2.0	78	10.5	LIMESTONE.....	4	100.0	69	100.0
101 to 500.....	1	2.0	216	29.2	1 to 5.....	1	25.0	4	5.8
GOLD AND SILVER, LODE AND PLACER MINES, AND COPPER.....	27	100.0	423	100.0	6 to 20.....	1	25.0	7	10.1
No wage earners.....	9	33.3			21 to 50.....	2	50.0	58	84.1
1 to 5.....	7	25.9	12	2.8					
6 to 20.....	8	29.6	95	22.5	COAL, BITUMINOUS.....	3	100.0	63	100.0
21 to 50.....	1	3.7	22	5.2	1 to 5.....	1	33.3	4	6.3
51 to 100.....	1	3.7	78	18.4	6 to 20.....	1	33.3	10	15.9
101 to 500.....	1	3.7	216	51.1	21 to 50.....	1	33.3	49	77.8

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

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—							
	Enter-prises.	Wage earners.	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.
All industries.....	139	740	23	290	14	446	1	1	1	3
Gold and silver, lode and placer mines, and copper.....	18	423	5	25	11	394	1	1	1	3
Basalt.....	9	124	7	107	2	17				
Limestone.....	4	69	4	69						
Coal, bituminous.....	3	63	3	63						
All other industries.....	5	61	4	26	1	35				

¹ Exclusive of 11 enterprises employing no wage earners in industries as follows: Chromite, 1; clay, 1; gold and silver, lode and placer mines, and copper, 9.

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

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

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		Janu-ary.	Febru-ary.	March.	April.	May.	June.	July.	Aug-ust.	Sep-tember.	Octo-ber.	Novem-ber.	Decem-ber.	
All industries.....	776	638	592	587	603	722	735	832	916	999	962	879	847	58.8
Producing enterprises.....	740	617	565	556	590	695	721	810	869	934	912	826	796	59.4
Gold and silver, lode and placer mines, and copper.....	423	423	361	362	366	423	436	462	449	487	457	431	419	74.1
Basalt.....	124	<i>58</i>	60	70	88	101	108	147	207	214	190	137	99	27.1
Limestone.....	69	40	36	21	<i>19</i>	43	55	75	86	77	119	115	142	13.4
Coal, bituminous.....	63	63	64	63	60	60	56	<i>50</i>	50	69	71	68	82	61.0
All other industries.....	61	<i>33</i>	35	39	47	68	66	<i>50</i>	77	87	75	75	54	37.9
Nonproducing enterprises.....	36	21	27	32	23	27	14	22	47	65	50	53	51	21.5

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

	Aggregate.	PRODUCING ENTERPRISES.						Nonproduc- ing enter- prises. ²
		Total.	Gold and silver, lode and placer mines, and copper.	Basalt.	Limestone.	Coal, bitumi- nous.	All other. ¹	
Number of enterprises.....	56	50	27	9	4	3	7	6
Number of mines and quarries.....	58	52	29	9	4	3	7	6
Capital.....	\$5,872,553	\$4,780,913	\$2,759,342	\$477,054	\$372,501	\$693,690	\$478,326	\$1,091,640
Principal expenses:								
Salaries and wages—								
Officers.....	\$31,299	\$31,299	\$19,740	\$9,417			\$2,142	
Superintendents and managers.....	\$79,788	\$77,088	\$52,972	\$11,160	\$4,350	\$2,400	\$6,200	\$2,700
Technical employees.....	\$17,867	\$17,365	\$14,665				\$2,400	\$802
Clerks, etc.....	\$23,769	\$22,369	\$9,300	\$4,840		\$1,800	\$6,429	\$1,400
Wage earners.....	\$1,038,820	\$992,947	\$575,373	\$189,123	\$60,868	\$91,549	\$76,044	\$45,863
Supplies and materials.....	\$593,623	\$545,949	\$341,410	\$102,114	\$63,083	\$4,253	\$35,689	\$47,674
Fuel.....	\$70,098	\$68,639	\$18,887	\$21,591	\$7,109	\$14,606	\$6,496	\$1,409
Power.....	\$64,783	\$64,783	\$38,366	\$3,121	\$269	\$64	\$2,943	
Royalties and rents.....	\$48,047	\$48,047	\$33,509	\$2,238	\$3,026	\$1,840	\$6,534	
Taxes.....	\$28,445	\$26,656	\$18,472	\$3,548	\$824	\$1,392	\$2,420	\$1,789
Contract work.....	\$50,362	\$35,888	\$14,349			\$10,217	\$11,322	\$14,474
Expenditures for development (included in the above items).....	\$320,269	\$205,972	\$179,798	\$420		\$3,806	\$21,948	\$114,237
Value of products.....	\$1,884,871	\$1,884,871	\$1,221,552	\$294,812	\$138,708	\$63,566	\$166,233	
Persons engaged in industry.....	889	847	492	142	72	67	74	42
Proprietors and firm members (total).....	38	37	29	3	1	2	2	1
Number performing manual labor.....	20	20	17	2			1	
Salaried officers.....	9	9	6	3				
Superintendents and managers.....	38	36	21	7	2	1	5	2
Technical employees.....	10	9	8				1	1
Clerks, etc.....	18	16	5	5		1	5	2
Wage earners (average number).....	776	740	423	124	69	63	61	36
Wage earners by occupation (Dec. 15):								
Above ground (total).....	675	651	240	173	158	20	60	24
Below ground (total).....	377	322	256			63	3	55
Foremen, shift bosses, etc.—								
Above ground.....	29	27	11	9	3	2	2	2
Below ground.....	15	13	12			1	1	2
Engineers, hoistmen, electricians, mechanics, etc.—								
Above ground.....	104	101	53	24	8	13	3	3
Below ground.....	39	37	32			5		2
Miners, quarrymen, and drillmen, including their helpers—								
Above ground.....	120	114	8	33	57		16	6
Below ground.....	169	139	97			40	2	30
Timbermen, trackmen, and men engaged in hauling, tramping, etc.—								
Above ground.....	88	82	25	35	20	1	1	6
Below ground.....	63	60	46			14		3
Muckers, loaders, laborers, and others not classified—								
Above ground.....	232	225	74	72	70	1	8	7
Below ground.....	91	73	69			3	1	18
Wage earners employed in mills and beneficiating plants—								
Above ground.....	102	102	69			3	30	
Number of females included in wage earners reported above—								
Above ground.....	9	9	4	2	1		2	
Mineral land operated..... acres	26,993	22,963	13,667	3,871	1,509	1,169	2,747	4,030
Land controlled, total..... acres	28,673	24,643	15,347	3,871	1,509	1,169	2,747	4,030
Mineral land owned.....	19,132	16,472	12,720	262	1,219	924	1,347	2,660
Mineral land leased.....	7,961	6,591	1,047	3,609	290	245	1,400	1,370
Timber and other lands owned and leased.....	1,580	1,580	1,580					
Power used: Aggregate horsepower.....	6,499	6,264	3,894	1,255	35	393	657	235
Prime movers (horsepower, total).....	1,814	1,579	450	692	10	375	52	235
Steam engines—								
Number.....	30	27	3	18		6		3
Horsepower.....	1,311	1,201	140	656		375		110
Internal-combustion engines—								
Number.....	10	9	4	1	2		2	1
Horsepower.....	161	141	73	6	10		52	20
Water wheels, turbines, and motors—								
Number.....	12	10	10					2
Horsepower.....	342	237	237					105
Purchased power (horsepower, total).....	4,685	4,685	3,444	593	25	18	605	
Electric motors operated by purchased current—								
Number.....	111	111	88	10	1	3	9	
Horsepower.....	4,685	4,685	3,444	593	25	18	605	
Electric motors run by current generated by enterprise using:								
Number.....	22	22	7			15		
Horsepower.....	464	464	109			355		
Fuel used:								
Coal, bituminous..... tons, 2,000 pounds.....	5,280	5,280	161	259		4,869		320
Wood..... cords.....	4,008	3,683	1,580	1,752	272		104	
Fuel oils..... barrels.....	6,548	6,548	290	4,220			2,038	
Gasoline and other volatile oils..... barrels.....	710	682	259	6	321		76	48

¹ Includes enterprises as follows: Abrasive materials, 1; chromite, 1; clay, 1; granite, 2; gypsum, 1; quicksilver, 1.² Includes enterprises as follows: Coal, bituminous, 1; gold, silver, copper, lead and zinc, lode mines, 5.

WASHINGTON.

Washington, which ranks nineteenth among the states in size (land area 66,836 square miles) and thirtieth in population (1,356,621 in 1920), ranked twenty-seventh in value of mineral products for 1919. The state also ranked twenty-seventh on the basis of total number of persons engaged in the mining industries and the average number of wage earners employed.

The total value of products of mines and quarries in Washington in 1919 was \$13,329,129 which amount includes, in addition to the receipts by operators for the products indicated by the names of the industries specified, \$70,769, the value of by-products, of power sold, and work or miscellaneous services for other enterprises. The total value of products for 1919 is larger by 26.5 per cent than the corresponding amount reported by the census of 1909. This increase and the increases in wages and cost of supplies and materials and fuel, and power as shown in Table 1, are largely due to general price increases and, therefore, can not properly be used to measure the growth of mining during the census period 1909 to 1919. The average number of wage earners employed, which is a better basis for comparison, was 26.9 per cent less in 1919 than in 1909.

The mining industries reported for 1919, classified by principal products and listed in the order of value of products, were bituminous coal, magnesite, gold and silver from lode mines, basalt, copper, lead and zinc, granite, sandstone, clay, abrasive materials, iron ore, talc and soapstone, asbestos, and gold from placer mines. The industries for which statistics can be shown without disclosure of individual operations are ranked by value of products in Table 2.

The leading mineral industry in Washington in 1919 was bituminous coal mining which reported 35 out of a total of 83 productive enterprises in the state, employed 87.4 per cent of the total number of wage earners, and reported products valued at \$10,737,656, which represents 80.6 per cent of the total value of products of all mining industries in the state. Production was reported principally from Kittitas, King, and Pierce but also from Lewis, Skagit, Thurston, and Whatcom Counties.

Mining and calcining of magnesite was second in importance among the mineral industries in the state, and in this industry, which is confined to Stevens County, Washington leads all other states.

The metalliferous lode mining industry, producing gold, silver, copper, lead and zinc ores, was third in importance in Washington in 1919, with an output valued by the producers at \$670,869, which came

chiefly from Stevens and Ferry but also from Okanogan and Snohomish Counties.

Operations on nonproducing mining properties were reported by 15 enterprises in Washington in 1919; these included 11 metalliferous lode mines, 2 coal mines, and 2 petroleum and natural-gas ventures. These enterprises, with a combined capital of \$2,946,772, employed 105 wage earners and expended \$381,662 for development during 1919. These figures represent 2 per cent of the aggregate number of wage earners and 3.2 per cent of the aggregate expenditures reported for all mining operations in the state.

The form or character of organizations conducting mining enterprises in Washington in 1919 is shown in Table 3, which brings out the preponderance of corporations. They operated 78.3 per cent of all mining enterprises, employed 98 per cent of the total number of wage earners, and reported 98.1 per cent of the total value of products. In each of the leading industries also the corporation was the most common form of operating organization and conducted the more important enterprises.

The relatively large number of small enterprises, as measured by the average number of wage earners, is shown in Table 4. Of the 83 mining enterprises in Washington, 70 were in classes having no wage earners or less than 101, and such enterprises employed 28.6 per cent of the total number of wage earners. On the other hand, only 13 of the total number of enterprises had more than 100 wage earners each, but these enterprises employed 71.5 per cent of the total number of wage earners. The larger enterprises were in the coal and magnesite mining industries.

Table 5 shows that in a majority of enterprises and for 95.1 per cent of all the wage earners the hours of labor were 44 to 53 per week, the 8-hour day and the 6-day week prevailing. These hours of labor prevailed in each of the mining industries, except metalliferous lode mining and the mining of magnesite, in which the 8-hour day and 7-day week was the rule.

The statistics for wage earners given in Table 6, showing the changes in the number employed month by month, reflect conditions prevailing in the mining industries during the census year. The unusually low minimum in the coal industry in November, instead of in the summer months, as has been usual, was the result of the great November strike and affects the figures for all industries combined.

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

MINES AND QUARRIES—WASHINGTON.

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

	MINING INDUSTRIES.		Per cent of increase. ¹		MINING INDUSTRIES.		Per cent of increase. ¹
	1919	1909			1919	1909	
Number of enterprises.....	83	93	—45.3	Principal expenses:			
Number of mines and quarries.....	93	170	—45.3	Salaries.....	\$662,546	\$344,666	92.2
Persons engaged.....	5,397	7,214	—25.2	Wages.....	7,465,652	5,891,007	26.7
Proprietors and firm members, total.....	33	48	—25.2	Contract work.....	86,624	14,462	499.0
Number performing manual labor in or about the mines and quarries.....	16	16	—	Supplies and materials.....	1,728,585	843,025	105.0
Salaried employees.....	314	262	19.8	Fuel and power.....	947,330	245,852	285.3
Wage earners (average number).....	5,050	6,904	—26.9	Royalties and rents.....	177,429	141,231	25.6
Power used (horsepower).....	38,198	20,742	84.2	Taxes.....	283,318	93,593	202.7
Capital.....	\$22,914,934	\$13,074,691	75.3	Value of products.....	13,329,129	10,537,556	26.5

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

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

INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.		INDUSTRY.	Number of enterprises.	WAGE EARNERS.		VALUE OF PRODUCTS.	
		Average number.	Per cent distribution.	Amount.	Per cent distribution.			Average number.	Per cent distribution.	Amount.	Per cent distribution.
All industries.....	83	5,050	100.0	\$13,329,129	100.0	Basalt.....	8	99	2.0	\$240,742	1.8
Coal, bituminous.....	35	4,413	87.4	10,737,656	80.6	Granite.....	5	42	0.8	74,958	0.6
Gold, silver, copper, lead and zinc, lode mines.....	19	221	4.4	670,869	5.0	Abrasive materials.....	4	13	0.3	16,769	0.1
						All other industries ¹	12	262	5.2	1,588,135	11.9

¹ Includes enterprises in industries as follows: Asbestos, 1; clay, 4; gold, placer mines, 1; iron ore, 1; magnesite, 3; sandstone, 1; talc and soapstone, 1.

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

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of enterprises.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per enterprises.	Enterprises.	Wage earners.	Value of products.
ALL INDUSTRIES.....	83	5,050	\$13,329,129	\$160,592	100.0	100.0	100.0
Corporation.....	35	4,950	13,073,858	201,136	78.3	98.0	98.1
Individual.....	7	11	37,783	5,395	8.4	0.2	0.3
Firm.....	11	89	217,488	19,772	13.3	1.8	1.6
COAL, BITUMINOUS.....	35	4,413	10,737,656	306,790	100.0	100.0	100.0
Corporation.....	31	4,361	10,645,391	343,400	88.6	98.8	99.1
Firm.....	4	52	92,265	23,066	11.4	1.2	0.9
GOLD, SILVER, COPPER, LEAD AND ZINC, LOE MINES.....	19	221	670,869	35,309	100.0	100.0	100.0
Corporation.....	16	216	647,728	40,483	84.2	97.7	96.6
Firm ¹	3	5	23,141	7,714	15.8	2.3	3.4
BASALT AND GRANITE.....	13	141	315,700	24,285	100.0	100.0	100.0
Corporation.....	7	106	209,175	29,882	53.8	75.2	66.3
Individual.....	3	8	33,181	11,060	23.1	5.7	10.5
Firm.....	3	27	73,344	24,448	23.1	19.1	23.2
ABRASIVE MATERIALS.....	4	13	16,769	4,192	100.0	100.0	100.0
Corporation.....	4	13	16,769	4,192	100.0	100.0	100.0

¹ Includes 1 individual.

MINES AND QUARRIES—WASHINGTON.

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

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.		INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Number.	Per cent distribution.	Number.	Per cent distribution.		Number.	Per cent distribution.	Number.	Per cent distribution.
ALL INDUSTRIES.....	83	100.0	5,050	100.0	GOLD, SILVER, COPPER, LEAD AND ZINC, LODE MINES.....	19	100.0	221	100.0
No wage earners.....	5	6.0	60	1.2	No wage earners.....	2	10.5	18	8.1
1 to 5.....	22	26.5	225	4.5	1 to 5.....	9	47.4	75	33.9
6 to 20.....	20	24.1	378	7.5	6 to 20.....	5	26.3	46	20.8
21 to 50.....	13	15.7	777	15.4	21 to 50.....	2	10.5	82	37.1
51 to 100.....	10	12.0	2,594	51.4	51 to 100.....	1	5.3		
101 to 500.....	12	14.5	1,016	20.1					
Over 1,000.....	1	1.2							
COAL, BITUMINOUS.....	35	100.0	4,413	100.0	BASALT AND GRANITE.....	13	100.0	141	100.0
1 to 5.....	2	5.7	7	0.2	No wage earners.....	1	7.7	10	7.1
6 to 20.....	3	8.6	38	0.9	1 to 5.....	3	23.1	74	52.5
21 to 50.....	10	28.6	301	6.8	6 to 20.....	8	61.5	57	40.4
51 to 100.....	8	22.9	638	14.5	51 to 100.....	1	7.7		
101 to 500.....	11	31.4	2,413	54.7					
Over 1,000.....	1	2.9	1,016	23.0					

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

INDUSTRY.	TOTAL.		NUMBER WHERE THE PREVAILING HOURS OF LABOR PER WEEK WERE—					
	Enter-prises.	Wage earners.	35 and under.		44 to 53.		54 to 62.	
			Enter-prises.	Wage earners.	Enter-prises.	Wage earners.	Enter-prises.	Wage earners.
All industries.....	178	5,050	1	2	63	4,803	14	245
Coal, bituminous.....	35	4,413	1	2	34	4,411		
Gold, silver, copper, lead and zinc, lode mines.....	17	221			6	14	11	207
Basalt and granite.....	12	141			12	141		
Abrasive materials.....	4	13			4	13		
All other industries.....	10	262			7	224	3	38

¹ Exclusive of 5 enterprises employing no wage earners in industries as follows: Basalt, 1; clay, 1; gold, silver, copper, lead and zinc, lode mines, 2; gold, placer mines, 1.

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

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

INDUSTRY.	Average number employed during year.	NUMBER EMPLOYED ON 15TH DAY OF THE MONTH OR NEAREST REPRESENTATIVE DAY.												Per cent minimum is of maximum.
		Janu-ary.	Febru-ary.	March.	April.	May.	June.	July.	Aug-ust.	Sep-tember.	Octo-ber.	Novem-ber.	Decem-ber.	
All industries.....	5,155	6,034	5,802	5,715	5,359	5,182	5,056	5,318	5,595	5,813	5,717	1,098	4,271	33.1
Producing enterprises.....	5,050	5,956	5,737	5,672	5,321	5,104	4,948	5,195	5,455	5,659	5,567	1,844	4,142	31.0
Coal, bituminous.....	4,413	5,259	5,248	5,195	4,885	4,698	4,531	4,575	4,652	4,814	4,714	1,018	3,367	19.4
Gold, silver, copper, lead and zinc, lode mines.....	221	263	184	174	194	200	210	205	250	280	255	235	193	62.1
Basalt.....	99	55	33	38	36	50	98	134	167	108	168	166	135	19.6
Granite.....	42	39	49	40	48	43	37	41	51	42	41	39	34	66.7
Abrasive materials.....	13	1	3	2	7	16	20	27	28	24	14	7	7	3.6
All other industries.....	262	339	220	223	151	88	52	213	307	391	375	379	406	12.8
Nonproducing industries.....	105	78	65	43	38	78	108	123	140	154	150	154	129	24.7
Gold, silver, copper, lead or zinc, lode mines.....	50	30	30	24	25	31	53	57	63	71	76	70	70	31.6
All other industries.....	55	48	35	19	13	47	55	66	77	83	74	84	59	15.5

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

	Aggregate.	PRODUCING ENTERPRISES.							NONPRODUCING ENTERPRISES.		
		Total.	Coal, bituminous.	Gold, silver, copper, lead and zinc, lode mines.	Basalt.	Granite.	Abrasive materials.	All other. ¹	Total.	Gold, silver, copper, lead or zinc, lode mines.	All other. ²
Number of enterprises.....	98	83	35	19	8	5	4	12	15	11	4
Number of mines and quarries.....	106	93	43	19	10	5	4	12	13	11	2
Capital.....	\$25,861,706	\$22,914,934	\$15,987,334	\$3,670,636	\$183,113	\$208,492	\$319,377	\$2,545,982	\$2,940,772	\$2,653,997	\$286,775
Principal expenses:											
Salaries and wages—											
Officers.....	\$129,168	\$117,043	\$50,459	\$14,304	\$1,500	\$1,800	\$1,500	\$17,480	\$12,125	\$6,125	\$5,000
Superintendents and managers.....	\$299,156	\$280,215	\$185,261	\$35,963	\$8,425	\$3,142	\$4,750	\$42,734	\$18,941	\$13,261	\$5,680
Technical employees.....	\$72,162	\$66,475	\$47,818	\$7,945	\$1,611	—	—	\$1,068	\$5,687	\$3,332	\$2,355
Clerks, etc.....	\$200,646	\$198,813	\$171,476	\$6,051	\$4,200	\$351	\$1,640	\$14,195	\$1,533	—	\$1,833
Wage earners.....	\$7,629,447	\$7,465,652	\$6,515,988	\$381,090	\$102,382	\$50,303	\$15,558	\$490,331	\$163,795	\$77,325	\$89,470
Supplies and materials.....	\$1,890,278	\$1,728,585	\$1,376,254	\$163,132	\$42,468	\$6,110	\$8,980	\$131,641	\$161,693	\$63,588	\$98,105
Fuel.....	\$795,540	\$788,730	\$547,724	\$22,675	\$18,519	\$6,668	\$1,082	\$192,062	\$6,810	\$3,054	\$3,756
Power.....	\$162,100	\$158,000	\$94,723	\$30,234	\$940	\$1,753	—	\$30,910	\$3,500	\$3,500	—
Royalties and rents.....	\$186,844	\$177,429	\$166,279	\$3,457	\$2,244	\$190	\$374	\$4,885	\$9,415	\$725	\$8,690
Taxes.....	\$289,419	\$283,318	\$247,041	\$21,128	\$1,008	\$847	\$584	\$12,110	\$6,101	\$1,911	\$4,190
Contract work.....	\$94,373	\$86,624	\$60,612	\$9,783	—	—	—	\$16,229	\$7,749	\$470	\$7,279
Expenditures for development (included in the above items).....	\$1,152,728	\$771,066	\$651,734	\$80,399	—	\$3,000	\$4,500	\$25,423	\$381,662	\$170,185	\$211,477
Value of products.....	\$13,329,129	\$13,329,129	\$10,737,656	\$670,589	\$240,742	\$74,058	\$16,709	\$1,588,135	—	—	—
Persons engaged in industry.....	5,530	5,397	4,654	257	115	53	19	299	133	73	60
Proprietors and firm members (total).....	43	33	10	5	5	5	—	8	10	10	—
Number performing manual labor.....	17	16	7	4	2	1	—	2	1	1	—
Salaries officers.....	40	37	24	6	1	1	1	4	3	2	1
Superintendents and managers.....	103	92	58	12	4	4	3	11	11	9	2
Technical employees.....	40	37	26	7	1	—	—	3	3	2	1
Clerks, etc.....	149	148	123	6	5	—	—	11	1	—	1
Wage earners (average number).....	5,155	5,050	4,413	221	99	42	13	262	105	50	55
Wage earners by occupation (Dec. 15):											
Above ground (total).....	2,076	1,982	1,264	114	153	61	21	369	94	46	48
Below ground (total).....	4,024	3,071	3,705	196	—	—	—	70	53	42	11
Foremen, shift bosses, etc.—											
Above ground.....	98	96	64	8	6	5	1	12	2	1	1
Below ground.....	139	135	123	12	—	—	—	—	4	4	—
Enginemen, hoistmen, electricians, mechanics, etc.—											
Above ground.....	521	492	416	31	7	6	1	31	29	7	22
Below ground.....	196	195	183	12	—	—	—	—	1	1	—
Miners, quarrymen, and drillmen, including their helpers—											
Above ground.....	262	257	45	5	100	23	8	76	5	5	—
Below ground.....	2,379	2,344	2,262	66	—	—	—	16	35	30	5
Timbermen, trackmen, and men engaged in hauling, tramming, etc.—											
Above ground.....	156	148	126	12	—	—	—	10	8	8	—
Below ground.....	1,000	998	922	68	—	—	—	8	2	—	2
Muckers, loaders, laborers, and others not classified—											
Above ground.....	688	638	449	18	40	16	2	113	50	25	25
Below ground.....	310	299	215	38	—	—	—	46	11	7	4
Wage earners employed in mills and beneficiating plants—											
Above ground.....	351	351	164	40	—	11	9	127	—	—	—
Number of females included in wage earners reported above—											
Above ground.....	7	6	4	2	—	—	—	—	1	1	—
Number of wage earners under 16 years of age included in those reported above—											
Above ground.....	3	3	3	—	—	—	—	—	—	—	—
Mineral and oil land operated..... acres..	79,426	73,061	65,940	3,607	212	157	1,784	1,961	6,305	2,381	3,984
Land controlled, total..... acres..	96,265	89,151	80,958	3,597	212	189	1,784	2,441	7,114	3,130	3,984
Mineral and oil land owned.....	50,509	48,404	44,308	2,257	188	157	123	1,311	2,105	1,911	194
Mineral and oil land leased.....	29,157	24,897	21,812	750	24	—	1,061	650	4,260	470	3,790
Timber and other lands owned and leased.....	16,599	15,850	14,778	560	—	—	32	480	749	749	—
Power used: Aggregate horsepower.....	38,933	38,198	32,190	2,122	1,020	246	295	2,325	735	545	190
Prime movers (horsepower, total).....	24,892	24,332	20,857	1,269	980	176	295	755	560	370	190
Steam engines—											
Number.....	131	126	98	5	10	4	2	7	5	4	1
Horsepower.....	20,942	20,662	19,006	195	845	136	225	255	280	230	50
Steam turbines—											
Number.....	7	7	7	—	—	—	—	—	—	—	—
Horsepower.....	1,781	1,781	1,781	—	—	—	—	—	—	—	—
Internal-combustion engines—											
Number.....	51	41	5	20	3	2	4	7	10	3	7
Horsepower.....	1,789	1,539	70	724	135	40	70	500	250	110	140
Water wheels, turbines, and motors—											
Number.....	5	4	—	4	—	—	—	—	1	1	—
Horsepower.....	380	350	350	—	—	—	—	—	30	30	—
Purchased power (horsepower, total).....	14,041	13,866	11,333	853	40	70	—	1,570	175	175	—
Electric motors operated by purchased current—											
Number.....	287	282	196	15	2	6	—	63	5	5	—
Horsepower.....	13,841	13,666	11,333	653	40	70	—	1,570	175	175	—
Other equipment operated by purchased power—											
Horsepower.....	200	200	—	200	—	—	—	—	—	—	—
Electric motors run by current generated by enterprise using:											
Number.....	315	315	315	—	—	—	—	—	—	—	—
Horsepower.....	10,619	10,619	10,619	—	—	—	—	—	—	—	—
Fuel used:											
Coal, bituminous..... tons, 2,000 pounds..	197,668	197,152	173,052	250	534	673	165	22,478	516	20	496
Wood..... cords..	3,109	2,747	—	1,337	335	291	3	780	362	362	—
Fuel oils..... barrels..	47,095	47,095	23	564	3,180	—	20	43,308	—	—	—
Gasoline and other volatile oils..... barrels..	2,420	2,110	103	1,652	104	100	15	136	310	150	160
Natural gas..... 1,000 cubic feet..	5,000	—	—	—	—	—	—	—	5,000	—	5,000

¹ Includes enterprises as follows: Asbestos, 1; clay, 4; gold, placer mines, 1; iron ore, 1; magnesite, 3; sandstone, 1; talc and soapstone, 1.² Includes enterprises as follows: Coal, bituminous, 2; petroleum and natural gas, 2.