

CHAPTER III.

STATISTICS FOR MINES AND QUARRIES, BY STATES.

ALABAMA.

Summary.—The gross value of the products of all mines and quarries in Alabama in 1909 amounted to \$24,350,667, which includes a duplication of \$128,176, representing the value of coal produced by some operators and used as materials for coking by others. Thus the net value of the products was \$24,222,491. Bituminous coal mining was the leading industry, with a net value of products amounting to \$18,331,257, or 75.7 per cent of the total for the state. Of the net value of products of this industry, \$10,649,300 represented the value of coal sold as such, \$7,670,711 the value of coke made at the mines, and \$11,246 the value of other products. The two industries next in importance were iron ore mining and limestone quarrying, for which products valued at \$4,939,149 and \$599,353, respectively, were reported.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 177 operators, 128, or 72.3 per cent, were corporations. These corporations reported 98.3 per cent of the total value of products and employed 96.1 per cent of all wage earners.

earners employed in all industries, 25,546, or 82.9 per cent, were employed in the 67 establishments employing over 100 wage earners each. In bituminous coal mines 10,285 wage earners, or 43.8 per cent of the total number employed in that industry, were employed in the 6 enterprises employing over 1,000 wage earners each.

Table 1 PRODUCING ENTERPRISES: 1909

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of operators.		Value of products.		Per cent distribution.		
	Number of operators.	Number of wage earners.	Total.	Per operator.	Oper-ators.	Wage earners.	Value of prod-ucts.
							Value of prod-ucts.
All industries.....	177	30,795	\$24,350,667	\$137,574	100.0	200.0	100.0
Individual.....	29	751	273,558	9,433	11.4	2.4	1.1
Firm.....	20	447	136,026	6,803	11.3	1.6	0.6
Corporation.....	128	29,597	23,941,083	187,938	72.3	96.1	98.3
Bituminous coal.....	112	23,479	18,459,423	164,215	100.0	100.0	100.0
Individual.....	16	491	121,250	7,575	14.3	2.1	1.3
Firm.....	10	199	73,265	7,327	8.9	0.8	0.4
Corporation.....	86	22,789	18,187,908	211,477	76.8	97.1	98.3
Iron.....	25	5,066	4,939,149	197,568	100.0	100.0	100.0
Individual.....	5	147	23,491	4,697	20.0	2.9	0.5
Firm.....	20	5,519	4,935,743	245,787	80.0	97.4	99.5
Limestone.....	21	979	599,353	28,541	100.0	100.0	100.0
Individual.....	5	181	64,625	12,925	23.8	18.7	10.8
Firm.....	6	139	43,015	7,169	28.6	13.4	7.2
Corporation.....	10	659	491,713	49,171	47.6	67.9	82.0

¹ Includes 2 firms.

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according to the number of wage earners employed per enterprise or operating unit. Out of a total of 30,795 wage

Table 2 Incorporated. Unincorporated.

	Incorporated.	Unincorporated.
Number of operators.....	128	49
Number of mines.....	247	26
Proprietors and firm members total.....	79	26
Number performing manual labor.....	29,597	25,546
Salaried employees.....	1,966	21
Officers of corporations.....	254	—
Superintendents and managers.....	371	—
Clerks and other salaried employees.....	1,341	—
Wage earners, Dec. 15, 1909, or nearest representative day.....	29,597	1,206
Capital.....	\$24,350,667	\$281,797
Expenses of operation and development.....	\$2,362,807	\$70,371
Salaries—		
Officers of corporations.....	254,215	—
Superintendents and managers.....	371,000	10,304
Clerks and other salaried employees.....	730,300	6,695
Wages.....	24,026,202	251,206
Royalties and rent of mines.....	989,989	25,849
Taxes.....	179,793	4,367
Supplies and miscellaneous expenses.....	1,288,124	75,728
Cost of coal purchased for material.....	129,176	—
Value of products.....	\$23,941,083	\$411,604

Table 3 PRODUCING ENTERPRISES: 1909

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	255	100.0	30,795	100.0
No wage earners.....	1	0.3	—	—
Contract work.....	2	0.9	—	—
1 to 5.....	11	4.0	36	0.1
6 to 25.....	43	16.7	936	1.9
26 to 50.....	62	24.0	2,423	6.9
51 to 100.....	55	21.1	3,502	9.1
101 to 500.....	22	8.3	11,041	29.8
501 to 1,000.....	6	2.3	3,000	7.8
Over 1,000.....	6	2.3	20,285	53.4
Bituminous coal.....	207	100.0	21,679	100.0
1 to 5.....	6	4.4	21	0.1
6 to 25.....	29	20.4	373	1.6
26 to 50.....	39	27.7	1,237	5.5
51 to 100.....	27	18.3	1,037	4.6
101 to 500.....	14	9.9	7,002	29.3
501 to 1,000.....	4	2.9	2,004	7.9
Over 1,000.....	6	4.4	10,285	43.8
Iron.....	61	100.0	5,066	100.0
6 to 25.....	8	14.0	65	1.0
26 to 50.....	8	14.0	267	4.7
51 to 100.....	16	28.4	754	12.7
Over 100.....	17	30.6	4,180	69.6
Limestone.....	23	100.0	979	100.0
Contract work.....	1	4.0	—	—
6 to 25.....	3	13.0	79	8.1
26 to 50.....	10	47.0	200	20.4
Over 50.....	8	37.0	600	61.5

MINES AND QUARRIES.

Prevailing hours of labor.—In Table 4 the producing mines and quarries, except those which employed no wage earners or were operated exclusively by contract work, have been classified according to the prevailing hours of labor per day in each enterprise, or operating unit. The table shows the percentage of the total number of enterprises falling in each group and also a percentage distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, employees worked a greater or less number of hours than those generally prevailing in the enterprise. In the mining industries of Alabama 10 hours or more per day are the usual hours of labor in a majority of the enterprises.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries	212	100.0	100.0
8 hours and under.....	38	17.9	8.4
9 hours.....	45	21.2	28.2
10 hours.....	126	59.4	53.7
11 hours.....	2	0.9	0.3
12 hours.....	1	0.5	11.5
Bituminous coal	135	100.0	100.0
8 hours and under.....	31	23.0	9.2
9 hours.....	34	25.2	28.5
10 hours.....	69	51.1	47.0
12 hours.....	1	0.7	15.3
Iron	41	100.0	100.0
8 hours and under.....	3	7.3	4.6
9 hours.....	7	17.1	20.7
10 hours.....	30	73.2	73.9
11 hours.....	1	2.4	0.8
Limestones	20	100.0	100.0
8 hours and under.....	1	5.0	2.1
9 hours.....	3	15.0	23.5
10 hours.....	16	80.0	74.3

¹ Exclusive of 2 bituminous coal mines and 1 graphite mine for which number of hours was not reported.

Duplication between manufactures and mining.—Some of the operators of limestone and marble quarries and bituminous coal mines subjected the product of the mine or quarry to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufacturing and for mining. As a result of this fact the

combined value of products for the manufacturing and mining industries in Alabama involves a duplication of \$7,918,305, of which \$7,670,711 represents the value of coke made at the coal mines.

Engines and power.—The aggregate horsepower employed in producing enterprises, as shown by Table 5, was 91,924, of which 91,261 horsepower was developed by engines and water wheels owned by the enterprises using them, and 663 by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Bituminous coal.	Iron.	Limestone.	All other.
Primary power:					
Aggregate horsepower.....	91,924	54,084	31,838	3,696	2,306
Owned.....	91,261	53,421	31,838	3,696	2,306
Steam engines—					
Number.....	851	503	268	54	26
Horsepower.....	90,852	53,334	31,838	3,674	2,006
Gas or gasoline engines—					
Number.....	12	10			2
Horsepower.....	109	87			22
Water wheels—					
Number.....	1				1
Horsepower.....	300				300
Electric motors operated by purchased current—					
Number.....	15	15			
Horsepower.....	663	663			
Electric motors run by current generated by enterprise using:					
Number.....	397	366	6		25
Horsepower.....	12,204	11,584	50		570

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902, it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement; to omit from the 1909 figures, as they appear in other tables in this chapter, statistics for the manufacture of coke at bituminous coal mines; and to add to 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase.
Wages and salaries.....	\$14,093,631	\$11,273,928	33.0
Supplies and materials.....	\$3,667,948	\$1,935,942	83.7
Royalties and rent of mines.....	\$333,148	\$195,045	70.8
Contract work.....	\$767,035	\$267,279	187.0
Value of products.....	\$22,491,204	\$17,247,992	30.4
Primary horsepower.....	92,647	27,433	237.7

¹ Exclusive of amount paid to miners compensated by a share of the product, which is included under "Contract work," in Table 7.

DETAILED STATISTICS FOR MINING INDUSTRIES 1929

Table 7

Aggregate	PRODUCING MINES AND QUARRIES								Nonpro- ducing mines, quarries, and wells
	Total	Anthracite coal	Iron	Limestone	Shaleslimestone	Flour sand or gravel	All other	Nonpro- ducing mines, quarries, and wells	
Number of operators.....	184	177	112	27	27	2	3	8	7
Number of mines, quarries, and wells.....	1,128	1,122	722	171	171	12	13	56	54
Capital.....	\$87,209,431	\$85,081,844	\$39,002,036	\$22,038,178	\$1,522,704	\$67,136	\$32,436	\$1,030,248	\$2,189,027
Expenses of operation and development	\$22,506,390	\$22,442,278	\$18,809,435	\$4,034,264	\$660,968	\$22,632	\$22,226	\$220,330	\$66,122
Services—									
Salaried officers of corporations, superintendents, and managers.....	\$948,907	\$941,237	\$668,171	\$178,878	\$22,999	\$6,228	\$1,661	\$14,229	\$7,490
Clerks and other salaried employees.....	\$739,989	\$737,139	\$590,841	\$146,298	\$22,449	\$6,448	\$1,661	\$14,229	\$7,490
Wage earners.....	\$14,278,707	\$14,257,736	\$11,022,113	\$2,706,623	\$327,772	\$66,000	\$1,661	\$14,229	\$7,490
Miscellaneous—									
Supplies.....	\$2,719,790	\$2,692,214	\$1,854,030	\$718,184	\$78,796	\$24,226	\$1,661	\$14,229	\$7,490
Cost of coal purchased for material.....	\$128,176	\$128,176	\$128,176						
Fuel and rent of power.....	\$1,049,318	\$1,049,318	\$856,894	\$192,424	\$0	\$0	\$0	\$0	\$0
Royalties and rent of mines.....	\$333,826	\$333,826	\$324,429	\$9,397	\$0	\$0	\$0	\$0	\$0
Taxes.....	\$185,578	\$185,578	\$139,442	\$46,136	\$0	\$0	\$0	\$0	\$0
Contract work.....	\$778,783	\$767,389	\$741,394	\$26,000	\$0	\$0	\$0	\$0	\$0
Rent of offices and other sundry expenses.....	\$1,559,325	\$1,550,430	\$1,152,139	\$398,291	\$0	\$0	\$0	\$0	\$0
Value of products	\$34,359,667	\$34,359,667	\$13,433,433	\$4,939,149	\$660,968	\$66,037	\$27,123	\$220,330	\$66,122
Persons engaged in industry	32,733	32,643	24,332	6,022	1,022	22	27	267	26
Proprietors and officials.....	844	832	540	180	31	14	6	25	13
Proprietors and firm members.....	78	78	46	7	1	1	1	1	1
Number performing manual labor.....	12	11	6	3	1	1	1	1	1
Salaried officers of corporations.....	139	134	133	6	0	0	0	0	0
Superintendents and managers.....	607	602	382	104	33	6	1	27	4
Clerks and other salaried employees.....	1,127	1,094	787	180	33	3	1	11	11
Wage earners, Dec. 15, 1929, or nearest representative day.....	29,962	29,786	23,472	1,000	970	100	21	271	27
Above ground.....	19,323	19,266	15,153	3,924	370	100	21	271	27
Below ground.....	20,129	20,129	17,324	2,622	600	0	0	0	0
Men 16 years of age or over.....	29,156	29,099	23,039	1,000	969	104	22	271	27
Above ground.....	19,481	19,414	15,166	2,967	369	104	22	271	27
Below ground.....	19,694	19,684	17,874	2,497	600	0	0	0	0
Engineers, firemen, mechanics, etc.....	3,124	3,099	1,939	972	38	18	1	47	25
Above ground.....	2,625	2,599	1,597	945	38	18	1	47	25
Below ground.....	499	499	372	127	0	0	0	0	0
Miners, miners' helpers, quarrymen, and stonecutters.....	14,729	14,700	11,478	2,291	660	60	23	113	29
Above ground.....	1,333	1,333	1,028	322	660	60	23	113	29
Below ground.....	13,396	13,367	10,450	1,969	0	0	0	0	0
All other employees.....	14,312	14,309	7,022	2,041	299	123	11	276	3
Above ground.....	4,321	4,318	4,208	1,234	299	123	11	276	3
Below ground.....	3,791	3,791	2,814	807	0	0	0	0	0
Boys under 16 years of age.....	497	497	430	262	11	4	0	0	0
Above ground.....	382	382	300	137	11	4	0	0	0
Below ground.....	245	245	230	125	0	0	0	0	0
Number of wage earners employed on the 15th day of each month:									
January.....	29,920	29,892	23,433	1,000	732	102	26	265	26
February.....	27,310	27,282	21,338	4,911	749	120	26	449	6
March.....	28,868	28,870	21,476	3,117	821	142	26	472	6
April.....	27,594	27,579	20,968	3,190	799	142	26	454	16
May.....	26,962	26,961	20,367	3,026	820	140	27	431	11
June.....	26,441	26,422	20,394	4,769	762	115	27	421	18
July.....	27,065	27,067	20,463	3,327	809	140	23	406	14
August.....	27,419	27,397	20,802	3,129	827	130	23	389	22
September.....	26,560	26,484	21,426	3,260	834	125	23	365	18
October.....	29,382	29,334	22,462	3,213	900	200	23	390	26
November.....	26,789	26,790	22,458	3,622	940	200	23	379	26
December.....	31,636	31,598	24,927	3,498	929	175	22	370	21
Land controlled, acres	889,756	889,972	776,244	63,226	3,337	1,221	1,338	6,421	59,794
Owned.....	782,893	784,205	701,790	20,419	1,622	236	1,143	5,121	58,594
Held under lease.....	97,863	97,867	74,454	4,807	1,715	1,085	1,995	2,300	11,200
Mineral and oil land.....	689,339	689,721	598,239	22,959	2,117	1,211	1,338	4,821	54,949
Owned.....	574,177	574,729	528,339	42,337	1,122	210	1,143	4,230	54,649
Held under lease.....	115,162	115,000	79,900	20,622	995	1,001	1,995	2,591	11,300
Timber land.....	190,417	190,251	178,005	4,267	1,220	1,010	1,000	1,600	5,845
Owned.....	174,877	174,877	163,105	4,267	1,220	1,010	1,000	1,600	5,845
Held under lease.....	15,540	15,374	14,900	0	0	0	0	0	0
Other land.....	10,406	10,000	9,999	0	0	0	0	0	0
Primary horsepower	32,234	31,924	54,094	21,223	2,026	271	65	1,690	230

1 Includes operators as follows: Bauxite, 1; limestones and millstones, 1; fuller's earth, 1; gold and silver, deep mines, 1; graphite, 2; marble, 1; pyrites, 1.
 2 Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

ALASKA.

Summary.—While the present census was the first to make an actual canvass of the mines and quarries in Alaska, complete returns were not secured for all mining operations. Particularly is this the case in placer gold mining. In this industry there is a large transient element which moves from place to place, and many of these operators had moved away from the territory before the canvass began. The total value of products of the enterprises in this industry, canvassed by the agent of the Bureau of the Census, was 78 per cent of the total production of placer gold in the territory, as estimated by the Director of the Mint.

Statistics for all mining enterprises in the territory of Alaska, including amalgamation and concentration mills operated in connection with gold and silver mines, are presented in Table 5. This table gives statistics for all industries combined and for the principal producing enterprises separately. The most important nonproducing enterprises are also separately shown.

The total value of the products of all mining industries in Alaska in 1909 was \$16,933,427. Of this amount gold and silver mining contributed \$16,327,752, or 96.4 per cent. This product came principally from the placer gold mines, the gold produced at these mines having a value of \$12,762,032, which represented 55.5 per cent of all placer gold produced in the United States in 1909. The value of the gold and silver produced in deep mines was \$3,565,720. The industry next in importance was the production of copper, the total value of which was reported as \$464,225.

In the operation of the coal mines and in the combined total for the industries shown as "All other," the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work which added to the permanent value of the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the territory under the form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 607 operators for all producing enterprises 452, or 74.5 per cent, were firms. This form of organization reported 62.2 per cent of the total value of products and employed 53.4 per cent of all wage earners. In the placer gold mines, 81.2 per cent of the value of products was reported by firms.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.....	607	5,956	\$16,933,427	\$27,897	100.0	100.0	100.0
Individual.....	116	923	2,056,864	17,732	19.1	15.5	12.1
Firm.....	452	3,183	10,532,503	23,302	74.5	53.4	62.2
Corporation.....	32	1,787	4,277,330	133,667	5.3	30.0	25.2
Other.....	7	63	66,640	9,520	1.2	1.1	0.4
Placer gold.....	573	4,337	12,762,032	22,272	100.0	100.0	100.0
Individual.....	112	888	2,010,861	17,954	19.5	20.5	15.8
Firm.....	444	3,137	10,537,934	23,302	77.5	72.3	81.2
Corporation.....	11	260	317,097	28,827	1.9	6.0	2.5
Other.....	6	52	66,140	11,023	1.0	1.2	0.5
Gold and silver, deep mines.....	12	1,297	\$3,565,720	297,143	100.0	100.0	100.0
Firm.....	6	27	57,003	9,500	50.0	2.1	1.6
Corporation.....	6	1,270	3,508,717	584,786	50.0	97.9	98.4

¹ Includes 1 individual.

	Incorporated.	Unincorporated.
Number of operators.....	32	575
Proprietors and firm members, number.....		1,418
Number performing manual labor.....		411
Salaries employees:		
Officers of corporations.....	27	
Superintendents and managers.....	37	74
Clerks and other salaried employees.....	27	8
Wage earners, Dec. 15, 1909, or nearest representative day.....	1,787	4,169
Capital.....	\$14,245,607	\$18,854,397
Expenses of operation and development.....	3,350,190	9,184,249
Salaries—		
Officers of corporations.....	50,807	
Superintendents and managers.....	75,663	149,736
Clerks and other salaried employees.....	26,552	7,282
Wages.....	1,893,575	4,236,265
Royalties and rent of mines.....		1,526,495
Taxes.....	6,855	
Supplies and miscellaneous expenses.....	1,296,738	3,264,471
Value of products.....	4,277,330	12,656,097

Size of enterprises.—In Table 3 the producing mining enterprises are classified according to the number of wage earners employed per enterprise or operating unit. Of the 607 enterprises reporting, 6, employing over 100 wage earners each, reported 25.9 per cent of the total number of all wage earners; while the 176 enterprises employing from 6 to 20 wage earners reported 33.6 per cent of the total.

In the placer gold mining industry 42.3 per cent of the wage earners were employed in enterprises reporting from 6 to 20 wage earners, while in gold and silver deep mining 94.8 per cent of the wage earners were reported by the 4 enterprises reporting more than 100 wage earners each.

Table 3

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES, 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number	Per cent distribution.
All industries.....	697	100.0	5,996	100.0
No wage earners.....	81	11.6		
Contract work.....	63	9.0		
1 to 5.....	233	33.4	651	10.9
6 to 20.....	176	25.3	2,013	33.6
21 to 50.....	39	5.6	1,182	19.7
51 to 100.....	9	1.3	377	6.3
Over 100.....	6	0.8	1,543	25.6
Placer gold.....	573	100.0	4,337	100.0
No wage earners.....	79	13.8		
Contract work.....	63	11.0		
1 to 5.....	225	39.3	631	14.5
6 to 20.....	162	28.3	1,846	42.4
21 to 50.....	34	5.9	1,040	24.0
Over 50.....	19	3.3	821	18.8
Gold and silver, deep mines.....	12	100.0	1,297	100.0
No wage earners.....	1	8.3		
1 to 5.....	3	25.0	4	0.3
6 to 100.....	4	33.3	64	4.9
Over 100.....	4	33.3	1,229	94.8

Persons employed in mining.—As shown by Table 5, of the total of 8,025 persons employed in mining in Alaska on December 15, 1909, or the nearest representative day, the producing gold and silver mines reported 7,173, or 89.3 per cent of the total number. Placer mining showed a total of 5,809 persons distributed as follows: Wage earners, 4,337; salaried employees, 87; proprietors and firm members, 1,385, of whom 402 performed manual labor about the mines. The deep mines gave employment to 1,364 persons, of whom 1,297 were wage earners, 44 were salaried employees, and 23 were proprietors and firm members.

Engines and power.—The detailed summary shows that the aggregate horsepower employed in producing mining enterprises was 19,039, of which 18,999 was developed by engines, water wheels and motors owned by the operators using them, and 40 horsepower by electric motors operated by purchased current. In the gold and silver deep mines, 10,502 horsepower was employed, while in placer mining 7,589 was used.

In addition to the power used by the producing enterprises 3,308 horsepower was employed by non-producing enterprises, making a total of 22,347 horsepower employed in all enterprises in the territory.

Nonproducing enterprises.—Table 4 presents statistics comparing producing and nonproducing enterprises. In the latter are included the enterprises which were still in the development stage, as well as those which were productive in the past but whose operations in 1909 were confined to the maintenance of the property or to development work with a view to renewing production. Out of a total of 673 operators, 66, or 9.8 per cent, were of this class, and the capital invested by them in 1909 represented 30.7 per cent of the total capital invested in all mining enterprises in Alaska. The principal industries in which the nonproducing activities occurred were gold and silver and copper. Of the \$14,649,160 of capital invested in all nonproducing enterprises, \$6,334,250 were invested in gold and silver, deep mines, and \$1,261,593 in placer mines, while \$6,346,132 were invested in copper mines.

Of the total capital invested in all copper-mining properties in Alaska, nearly one half—47.9 per cent—was invested in the enterprises reported as nonproductive in 1909.

Table 4

	All enter-prises	Producing enterprises	NONPRODUCING ENTERPRISES.	
			Number or amount	Per cent of total
Number of operators.....	673	607	66	9.8
Persons engaged in industry.....	8,025	7,173	478	5.9
Proprietors and firm members.....	1,385	1,410	90	6.5
Number performing manual labor.....	461	401	20	4.3
Salaried employees.....	219	173	46	21.0
Wage earners Dec. 15, 1909, or nearest representative day.....	5,996	5,956	140	2.3
Above ground.....	2,364	2,360	224	9.5
Below ground.....	3,741	3,596	125	3.3
Engineers, firemen, mechanics, etc.....	737	690	20	2.7
Miners and miners' helpers, quarry men, and others.....	4,701	4,449	252	5.4
All other employees.....	667	608	59	8.8
Primary horsepower.....	22,347	20,009	2,338	10.5
Capital.....	\$47,749,164	\$33,100,000	\$14,649,160	30.7
Expenses of operation and development.....	13,220,380	12,504,430	697,700	5.2
Personnel.....	6,979,830	6,439,800	579,970	8.3
Materials.....	300,540	280,000	40,540	13.5
Wages.....	6,411,440	6,129,480	281,960	4.4
Expenses including fuel and rent of power.....	2,000,000	1,705,000	295,000	14.7
Contract work.....	1,645,000	1,630,000	15,000	0.9
Rent of offices and other sundry expenses.....	1,652,000	1,730,000	178,000	10.8

MINES AND QUARRIES.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 3	PRODUCING MINES AND QUARRIES.							PRINCIPAL NONPRODUCING MINES, ¹		
	Aggregate.	Total.	Placer gold.	Gold and silver, deep mines.	Copper.	Coal.	All other. ²	Placer gold.	Gold and silver, deep mines.	Copper.
Number of operators	673	607	573	12	11	5	6	27	23	11
Capital	\$47,749,174	\$33,100,004	\$13,139,348	\$10,648,969	\$7,130,661	\$581,004	\$1,598,822	\$1,261,593	\$6,334,220	\$6,546,132
Expenses of operation and development	\$13,230,206	\$12,034,439	\$9,275,899	\$2,653,656	\$357,321	\$56,338	\$191,223	\$272,392	\$213,087	\$159,665
Salaries of officers of corporations, superintendents, and managers	\$399,876	\$276,206	\$151,789	\$47,334	\$39,857	\$20,000	\$17,229	\$9,240	\$39,375	\$32,265
Clerks and other salaried employees	\$18,644	\$13,834	\$9,492	\$11,332	\$11,700	\$1,200	\$1,200	\$2,400	\$2,400	\$2,400
Wage earners	\$7,417,340	\$6,139,940	\$4,301,467	\$1,513,221	\$218,476	\$17,573	\$79,103	\$97,449	\$96,876	\$68,375
Materials—										
Explosives	\$2,645,011	\$2,461,965	\$1,569,754	\$721,060	\$77,229	\$15,400	\$77,618	\$66,158	\$63,483	\$39,854
Fuel and rent of power	\$267,943	\$264,623	\$37,182	\$195,782	\$4,895		\$6,795		\$200	\$3,000
Repairs and rent of mines	\$1,527,993	\$1,529,495	\$1,522,976	\$3,519				\$1,590		
Taxes	\$7,083	\$6,855	\$290	\$5,475	\$1,042		\$75	\$230		
Contract work	\$1,645,963	\$1,638,388	\$1,538,676	\$98,412	\$300		\$900			\$6,675
Rent of offices and other sundry expenses	\$317,251	\$197,131	\$124,192	\$57,523	\$3,622	\$3,365	\$9,229	\$95,415	\$13,153	\$7,096
Value of products	\$16,933,427	\$16,933,427	\$12,762,032	\$3,585,720	\$469,225	\$16,450	\$120,000			
Persons engaged in industry	8,025	7,547	5,809	1,384	233	44	97	221	114	98
Proprietors and officials	1,883	1,556	1,462	30	29	7	8	64	37	17
Proprietors and firm managers	1,501	1,418	1,383	23	5	4	1	57	22	2
Number performing manual labor	441	411	402	7	2			20	6	2
Salaries of officers of corporations	31	27	4	4	12					4
Superintendents and managers	131	111	73	15	10		2	7	7	11
Clerks and other salaried employees	37	35	10	17	7			1	1	1
Wage earners Dec. 15, 1909, or nearest representative day	6,305	5,956	4,337	1,297	197	37	88	156	77	60
Above ground	2,564	2,349	1,665	459	82	34	70	111	43	46
Below ground	3,741	3,607	2,672	838	115	3	18	45	34	34
Men 16 years of age and over	6,296	5,939	4,337	1,297	181	36	88	156	77	78
Engineers, firemen, mechanics, etc.	717	669	396	270	19	4	10	17	11	7
Above ground	713	673	394	248	19	4	10	17	11	7
Below ground	24	24	2	22						
Miners, miners' helpers, quarrymen, and stonecutters	4,701	4,449	3,516	738	129	18	57	116	53	69
Above ground	1,142	1,011	825	11	11	15	39	73	19	37
Below ground	3,559	3,438	2,691	727	109	3	18	43	34	32
All other employees	848	791	425	269	42	14	21	23	13	2
Above ground	693	638	366	200	37	14	21	21	13	2
Below ground	155	153	59	69	5			2		
Boys under 16 years of age ³	19	17			16	1				2
Number of wage earners employed on the 15th day of each month:										
January	2,333	2,254	1,006	1,095	125	4	26	9	41	38
February	2,426	2,313	1,100	1,045	137	4	47	8	44	50
March	2,605	2,443	1,243	1,043	134	5	49	11	48	41
April	3,043	2,867	1,308	1,095	167	6	91	20	76	58
May	4,392	4,165	2,688	1,210	183	2	82	67	76	70
June	5,274	5,015	3,287	1,399	206	11	112	74	79	75
July	5,352	5,071	3,381	1,350	208	20	112	85	64	76
August	5,444	5,164	3,428	1,368	221	20	107	82	90	76
September	4,790	4,525	2,793	1,436	222	20	84	62	72	68
October	2,953	2,878	1,618	1,327	201	12	120	58	56	55
November	2,331	2,179	1,095	1,201	185	13	76	52	55	56
December	2,247	2,085	717	1,156	148	14	50	58	60	34
Primary power:										
Aggregate horsepower	22,347	19,039	7,589	10,302	576	46	326	229	47	2,979
Owed	22,367	18,969	7,549	10,302	576	46	326	229	47	2,979
Steam engines:										
Number	339	517	477	17	10	3	10	17	2	3
Horsepower	14,196	13,903	6,887	6,227	423	46	320	164	47	82
Gas or gasoline engines:										
Number	61	50	45		3		2	2		6
Horsepower	737	597	544		47		6	65		22
Water wheels:										
Number	433	450	412	35	73					3
Horsepower	7,374	4,499	118	4,275	166					2,875
Electric motors operated by purchased current:										
Number	2	2	2							
Horsepower	40	46	40							
Electric motors run by current generated by the enterprise using:										
Number	17	9	7		2					3
Horsepower	381	151	86		65					220

¹ Includes operators as follows: Garnet, 1; gypsum, 1; marble, 3; and marl, 1.
² Other nonproducing enterprises were reported as follows: Anthracite coal, 1; antimony, 1; marble, 1; and tin, 2.
³ In the copper mining industry 3 boys were employed below ground, 1 in producing and 2 in nonproducing enterprises.
⁴ Includes 3 water motors of 125 horsepower.
⁵ Includes 5 water motors of 64 horsepower.
⁶ Includes 3 water motors of 60 horsepower.
⁷ Includes 1 water motor of 1 horsepower.

ARIZONA.

Summary.—The statistics for Arizona include the operation of smelters, concentrating mills, and cyaniding plants operated in connection with metalliferous mines.

The gross value of the products of all mines and quarries in Arizona in 1909 was \$34,217,651, which includes a duplication of \$1,370,391, representing the value of copper ore produced by some operators and used as material by others. Thus the net value of products was \$32,847,260. Of this amount, the value of the products of the copper industry, including the ore produced and sold as such and the copper product of the mills and smelters operated in connection with the mines, represented \$30,243,725, or 92.1 per cent. Gold and silver mining (deep mines), for which products valued at \$2,170,627 were reported, ranked next to copper mining, and the only other industry of importance was the quarrying of sandstone, with products valued at \$297,184. In the sandstone industry the expenses of operation and development were greater than the reported value of products. This may have been due to unprofitable mining ventures or to expenditures for development work.

In addition to the operations of the producing mines and quarries, considerable work was done in Arizona in 1909 on properties which did not report production during the year. These enterprises, with a combined capital of over \$57,000,000, employed 3,990 persons on December 15, 1909, or the nearest representative day, and expended \$5,111,100 during the year. Over 21 per cent of all persons engaged in mining were employed by enterprises of this class, which expended over 15 per cent of the aggregate expenditures of mining operations and development.

The nonproducing enterprises included operators as follows: Metalliferous mines, 301; asbestos, 1; placer gold, 1; and petroleum and natural gas, 1.

Character of organization.—Table 1 classifies the mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for producing enterprises distinguishing incorporated enterprises from those which are unincorporated.

As shown by Table 1, out of a total of 439 operators in Arizona, 298 were corporations. These corporations reported 98.6 per cent of the total value of products and employed 94.6 per cent of all wage earners.

Size of enterprises.—In Table 3 the mining enterprises have been classified according to the number of wage earners employed. In this table the operating unit, not the operator, has been made the basis of classification. Nonproducing enterprises are considerably

more numerous than producing enterprises, but employ far fewer wage earners. In the former class, 18.9 per cent of all wage earners are employed in 1 enterprises which have from 101 to 500 wage earners each, but in the latter, 27 enterprises of this magnitude employ more than four-fifths of all the wage earners. In copper mining 9 enterprises employing over 500 wage earners give employment to nearly two-thirds of all who are employed in the industry. In gold and silver deep mining there are no enterprises having more than 500 wage earners.

Table 1

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of operators.	Number of wage earners.	GROSS VALUE OF PRODUCTS.		NET VALUE OF PRODUCTS.		
			Total.	Per person employed.	Wage earners.	Wage earners.	Value of products.
All industries	439	18,817	\$34,217,651	\$263,466	100.0	100.0	100.0
Individual	58	415	67,094	2,605	19.3	2.5	0.2
Firm	71	328	6,717	15,404	38.8	3.5	0.3
Corporation	299	18,088	32,782,550	61,457	87.9	94.0	99.5
Producing enterprises	136	11,461	\$4,217,651	\$23,464	100.0	100.0	100.0
Individual	26	229	66,284	2,653	19.3	1.8	0.2
Firm	27	282	47,817	15,404	38.8	3.3	1.2
Corporation	82	12,950	31,735,650	61,457	87.7	96.0	98.6
Nonproducing enterprises	303	1,946			100.0	100.0	
Individual	41	216			13.6	5.9	
Firm	46	124			14.1	3.0	
Corporation	215	1,606			71.1	96.0	
Copper (producing enterprises)	49	11,304	\$1,014,135	\$43,189	100.0	100.0	100.0
Individual	4	26	3,279	2,735	6.2	0.3	(7)
Firm	3	18	2,379	678	23.2	0.3	(9)
Corporation	42	11,260	\$1,008,477	706,776	81.6	99.3	99.9
Gold and silver, deep mines (producing enterprises)	79	1,618	2,170,627	\$1,360	100.0	100.0	100.0
Individual	15	90	13,023	921	21.4	6.1	0.6
Firm	17	115	169,774	9,391	24.3	7.1	0.5
Corporation	46	1,403	2,027,830	22,548	54.3	86.8	92.9

¹ Includes 1 limited liability company.
² Less than one-tenth of 1 per cent.

Table 2

	Incorporated.	Unincorporated.
Number of operators	298	61
Number of mines and quarries	129	62
Proprietors and firm members, total		230
Number performing manual labor		41
Salaries employees:		
Officers of corporations	87	
Superintendents and managers	129	6
Clerks and other salaried employees	253	19
Wages—Jan. 15, 1909, or nearest representative day	12,660	261
Capital	\$57,000,000	\$600,000
Expenses of operation and development	\$5,111,100	\$22,000
Salaries—		
Officers of corporations	175,204	
Superintendents and managers	402,524	20,000
Clerks and other salaried employees	428,394	30,000
Wages	12,660,000	455,000
Expenses and rent of mines	9,230	4,917
Taxes	481,237	700
Supplies and miscellaneous expenses	13,189,240	67,400
Cost of ore purchased	1,370,391	
Value of products	\$3,203,000	\$27,000

¹ Includes 1 limited liability company.

MINES AND QUARRIES.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries	453	100.0	15,917	100.0
No wage earners.....	19	4.2	.....	.....
Contract work.....	24	5.3	.....	.....
1 to 5.....	179	39.5	539	3.2
6 to 20.....	137	30.2	1,447	8.6
21 to 50.....	37	8.2	1,169	6.9
51 to 100.....	27	6.0	2,006	11.9
101 to 500.....	21	4.6	4,494	26.6
Over 500.....	9	2.0	7,262	42.9
Producing enterprises	140	100.0	12,451	100.0
No wage earners.....	8	5.4	.....	.....
Contract work.....	1	0.7	.....	.....
1 to 5.....	45	28.9	120	0.9
6 to 20.....	40	26.8	451	3.4
21 to 50.....	12	8.1	593	2.9
51 to 100.....	18	12.1	1,387	10.3
101 to 500.....	18	12.1	3,835	28.5
Over 500.....	9	6.0	7,262	54.0
Nonproducing enterprises	304	100.0	3,466	100.0
No wage earners.....	11	3.6	.....	.....
Contract work.....	23	7.6	.....	.....
1 to 5.....	136	44.7	419	12.1
6 to 20.....	87	31.9	996	28.7
21 to 50.....	25	8.2	776	22.4
51 to 100.....	9	3.0	619	17.9
Over 100.....	3	1.0	656	18.9
Copper (producing enterprises)	57	100.0	11,394	100.0
1 to 5.....	9	15.8	26	0.2
6 to 20.....	19	33.3	194	1.7
21 to 50.....	3	5.3	178	1.6
51 to 100.....	13	22.8	984	8.6
101 to 500.....	11	19.3	2,840	24.9
Over 500.....	9	15.8	7,262	63.7
Gold and silver, deep mines (producing enterprises)	79	100.0	1,618	100.0
No wage earners.....	5	6.3	.....	.....
Contract work.....	1	1.4	.....	.....
1 to 5.....	24	30.4	62	3.8
6 to 20.....	22	31.4	257	15.9
21 to 50.....	4	5.1	122	7.5
51 to 100.....	4	5.1	403	24.9
Over 100.....	6	7.6	774	47.8

Persons employed in mining.—There were employed on the 15th day of December, 1909, or the nearest representative day, in the mining industry of Arizona, 18,094 persons, of whom 16,917 were wage earners and 1,177 were salaried employees and proprietors and firm members. Persons engaged in mining industries represent very nearly 25 per cent of the adult males of the state.

Prevailing hours of labor.—In Table 4 all enterprises combined, and producing and nonproducing enterprises separately, except those which employed no wage earners and those operated exclusively by contract work, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. Petroleum and natural gas wells were not included in this table, because the lack of regularity in the number of hours worked per day in a large number of enterprises rendered such a classification impracticable. The table shows the percentage of the total number of enterprises falling into each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since,

in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise. Where an enterprise had two operating units and reported a different number of hours per day for each, the two units have been counted as two enterprises in this table. In the copper industry all enterprises and in the gold and silver industry all but one were operated on an eight-hour basis.

CLASS OF ENTERPRISES AND NUMBER OF HOURS PER DAY.	ENTERPRISES.		Per cent distribution of enterprises, weighted according to number of wage earners.
	Number.	Per cent distribution.	
All enterprises	409	100.0	100.0
8 hours.....	394	96.3	98.9
9 hours.....	8	2.0	0.6
10 hours.....	7	1.7	0.5
Producing enterprises	140	100.0	100.0
8 hours.....	133	95.0	99.4
9 hours.....	6	4.3	0.5
10 hours.....	1	0.7	0.1
Nonproducing enterprises	269	100.0	100.0
8 hours.....	261	97.0	97.0
9 hours.....	2	0.7	1.0
10 hours.....	6	2.2	2.0

1 Exclusive of petroleum and natural gas wells.

Engines and power.—The aggregate horsepower employed in all enterprises, as shown by Table 5, was 55,773, of which 47,272 was used in producing enterprises and 8,501 in enterprises engaged in development work only.

CHARACTER OF POWER.	All enterprises.	PRODUCING ENTERPRISES: 1909				Non-producing enterprises: 1909
		Total.	Copper.	Gold and silver, deep mines.	All other.	
Primary power:						
Aggregate horsepower.....	55,773	47,272	35,159	10,498	1,615	8,501
Owned.....	51,676	43,568	33,825	9,413	330	8,108
Steam engines:						
Number.....	376	245	168	70	7	131
Horsepower.....	46,020	40,130	31,863	8,052	275	5,890
Gas or gasoline engines:						
Number.....	231	113	54	54	5	118
Horsepower.....	5,656	3,438	2,022	1,361	55	2,218
Electric motors operated by purchased current:						
Number.....	119	111	68	21	22	8
Horsepower.....	4,097	3,704	1,334	1,085	1,285	393
Electric motors run by current generated by enterprise using:						
Number.....	249	228	214	14	.....	12
Horsepower.....	7,122	6,557	6,614	243	.....	265

Comparison of mining industries: 1902-1909.—In order to make a comparison between the census of 1909 and the preceding census of mines and quarries, that of 1902, it is necessary to omit from the 1909 figures, as they appear in other tables in this chapter, statistics for the operation of copper smelters. In any case, only the few items specified in Table 6 can be compared for the two years.

Table 6

	PRODUCING ENTERPRISES		
	1909	1908	Per cent of increase
Wages and salaries.....	\$12,444,283	\$9,769,346	127.7
Supplies and materials.....	\$6,828,909	\$3,969,521	172.1
Royalties and rent of mines.....	\$9,256	\$14,567	-35.5
Contract work.....	\$121,156	\$159,942	-24.3
Value of products.....	\$26,967,772	\$11,197,373	132.8
Primary horsepower.....	35,179	11,973	217.7

1 A minus sign (-) denotes decrease.
 2 Exclusive of amount paid to miners compensated by a share of the product which is included under "Contract work" in Table 7.

Duplication between manufactures and mining.—In the copper and sandstone industries some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result the combined gross value of products for the manufacturing and mining industries in Arizona involves a duplication of \$24,419,315, of which \$24,177,315 represents the value of copper and \$242,000 the value of the sandstone.

DETAILED STATISTICS FOR MINING INDUSTRIES 1909

Table 7

	Aggregate	PRODUCING MINES AND QUARRIES						NONPRODUCING MINES AND WELLS		
		Total	Copper	Gold and silver deep mines	Sandstone	Fluorapatite	All other	Total	Manufacturing mines	All other
Number of operators.....	439	126	41	70	1	0	11	304	299	5
Number of mines, quarries, and wells.....	1,147	251	99	117	16	0	19	896	896	0
Capital.....	\$176,817,626	\$119,772,791	\$95,317,326	\$22,824,187	\$294,229	\$21,499,591	\$1,299,699	\$27,624,833	\$27,624,833	\$0,000
Expenses of operation and development.	\$33,719,326	\$28,608,226	\$25,282,622	\$2,781,292	\$266,771	\$24,971	\$239,682	\$5,111,100	\$5,224,624	\$86,476
Services:										
Salaried officers of corporations, superintendents, and managers.....	\$626,948	\$677,885	\$462,573	\$119,767	\$13,770	\$2,975	\$7,809	\$269,055	\$269,055	.....
Clerks and other salaried employees.....	\$545,630	\$428,226	\$377,262	\$59,733	\$29,339	.....	\$21,909	\$264,733	\$264,733	.....
Wage earners.....	\$15,939,796	\$13,592,799	\$11,799,348	\$1,499,591	\$264,923	\$24,524	\$29,824	\$2,499,393	\$2,499,393	\$0,000
Miscellaneous:										
Supplies.....	\$5,961,196	\$1,558,267	\$4,949,297	\$682,928	\$17,769	\$1,714	\$26,020	\$1,491,929	\$1,491,929	\$0,000
Cost of ore purchased.....	\$1,379,391	\$1,379,391	\$1,379,391	.....	.....	.....	.....	.....	.....	.....
Fuel and rent of power.....	\$5,945,626	\$5,662,989	\$5,199,962	\$469,122	\$9,714	.....	\$4,961	\$264,167	\$264,167	.....
Royalties and rent of mines.....	\$9,256	\$9,256	\$2,498	\$5,813	.....	.....	\$1,745	\$1,745	\$1,745	.....
Taxes.....	\$454,119	\$431,429	\$404,048	\$26,374	.....	.....	\$7,007	\$23,299	\$23,299	.....
Contract work.....	\$499,696	\$238,962	\$212,290	\$26,672	.....	.....	\$2,000	\$279,714	\$279,714	.....
Rent of offices and other sundry expenses.....	\$1,127,684	\$974,462	\$773,423	\$210,039	\$1,260	\$2,492	\$9,017	\$222,222	\$222,222	\$0,000
Value of products.....	\$24,217,681	\$24,217,681	\$21,914,116	\$2,179,627	\$227,124	\$24,496	\$79,238	.....	.....	.....
Persons engaged in industry.....	14,094	14,194	11,943	1,784	204	29	238	2,950	2,950	25
Proprietors and officials.....	796	801	159	495	13	4	14	685	685	.....
Proprietors and firm members.....	309	300	20	91	7	1	11	298	298	.....
Number performing manual labor.....	128	61	12	45	2	.....	2	67	67	.....
Salaried officers of corporations.....	120	67	50	14	1	.....	1	67	67	.....
Superintendents and managers.....	277	234	69	36	3	.....	2	243	243	.....
Clerks and other salaried employees.....	471	362	292	35	23	.....	2	359	359	.....
Wage earners, Dec. 15, 1909, or nearest representative day.....	16,917	13,451	11,394	1,418	278	25	199	1,491	1,491	25
Above ground.....	6,934	5,667	4,395	641	279	22	229	1,297	1,297	22
Below ground.....	9,983	7,784	6,798	677	.....	3	.....	2,694	2,694	.....
Men 16 years of age and over.....	16,911	13,446	11,389	1,415	278	25	229	1,490	1,490	24
Engineers, firemen, mechanics, etc.....	2,150	1,956	1,215	235	43	.....	9	204	204	9
Above ground.....	1,789	1,245	899	261	43	.....	9	245	245	9
Below ground.....	361	711	316	27	.....	.....	.....	49	49	.....
Miners, miners' helpers, quarrymen, and stonecutters.....	9,946	7,624	6,498	921	58	25	192	2,322	2,322	25
Above ground.....	797	672	547	21	53	.....	94	228	228	5
Below ground.....	2,149	7,052	6,141	900	.....	.....	.....	1,997	1,997	.....
All other employees.....	4,815	4,268	3,696	499	147	.....	20	149	149	.....
Above ground.....	4,347	3,992	3,321	339	147	.....	25	405	405	.....
Below ground.....	468	434	364	60	.....	.....	.....	54	54	.....
Boys under 16 years of age.....	96	85	.....	.....	.....	.....	.....	1	1	.....
Number of wage earners employed on the 15th day of each month:										
January.....	14,223	12,301	10,792	1,239	266	25	209	1,642	1,642	.....
February.....	14,576	12,397	10,396	1,292	269	21	209	1,679	1,679	.....
March.....	14,929	12,799	10,995	1,345	272	21	209	1,716	1,716	.....
April.....	14,777	12,697	10,793	1,398	275	27	209	1,753	1,753	.....
May.....	15,073	12,592	11,417	1,451	278	25	209	1,790	1,790	.....
June.....	15,278	12,687	11,373	1,422	286	17	209	1,827	1,827	.....
July.....	14,898	12,588	10,794	1,391	289	9	209	1,864	1,864	.....
August.....	15,090	12,679	11,164	1,315	292	8	209	1,901	1,901	.....
September.....	15,219	12,870	11,172	1,393	295	8	209	1,938	1,938	.....
October.....	15,749	13,267	11,638	1,354	279	8	195	2,075	2,075	.....
November.....	15,792	13,967	11,911	1,293	251	8	195	2,112	2,112	.....
December.....	15,679	13,969	11,294	1,299	253	13	195	2,149	2,149	.....
Land controlled, acres.....	121,963	44,317	33,872	12,421	283	121	1,262	24,746	24,746	425
Owned.....	121,979	38,996	29,299	10,399	283	121	993	27,624	27,624	425
Held under lease.....	12,964	6,121	2,692	2,692	.....	.....	.....	6,121	6,121	.....
Mineral and oil land.....	121,248	39,967	29,792	11,128	283	121	1,262	24,746	24,746	425
Owned.....	119,269	32,791	21,129	10,393	283	121	993	24,746	24,746	425
Held under lease.....	12,979	7,176	8,663	80	.....	.....	.....	6,121	6,121	.....
Timber land.....	2,629	2,629	2,629	.....	.....	.....	.....	.....	.....	.....
Other land.....	4,065	2,691	2,691	.....	.....	.....	.....	.....	.....	.....
Primary horsepower.....	35,773	47,322	25,129	14,492	1,492	.....	283	1,941	1,492	25

1 Includes operators as follows: Clay, 1; fluorapatite, 2; granite, 1; gypsum, 1; limestone, 2; marble, 1; placer gold, 1; quartz, 1; tungsten, 1.
 2 Includes operators as follows: Asphaltum, 1; petroleum and natural gas, 1; and placer gold, 1.
 3 In the copper industry 5 boys were employed below ground.

ARKANSAS.

Summary.—The total value of the products of mines, quarries, and wells in Arkansas in 1909 was \$4,603,845, and the number of persons employed in the different industries was 6,774. Bituminous coal mining, the leading industry, reported products valued at \$3,508,590, which represented 76.2 per cent of the total value of products, and gave employment to 5,678 persons, or 83.8 per cent of the total number employed in all mining industries of the state in 1909. The industry next in importance was the production of bauxite, in which the value of the product in Arkansas in 1909 was equal to over one-half of the value of the world's output of bauxite. Statistics for this industry can not be shown separately without revealing the operations of an individual enterprise, which is also the case with respect to the production of granite, precious stones, whetstones, manganese iron ore, and phosphate rock. The value of the products of all these industries combined amounted to \$565,272 in 1909, and the number of persons employed in them was 470.

In the production of bituminous coal, petroleum and natural gas, and lead and zinc, the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to the expenditure of considerable sums for development work resulting in permanent improvements to the mining properties.

In addition to the activities of the producing mines, nine operators expended \$15,474 in developing mining properties which did not report production in 1909.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. As shown in Table 1, out of the total of 96 operators in the state of Arkansas 52 are corporations. These corporations reported 93.1 per cent of the total value of products and employed 89.5 per cent of all wage earners. The average number of wage earners employed by corporations was 111, while the average number under other forms of organization was only 15.

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according to the number of wage earners employed.

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage-earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage-earners.	Value of products.
All industries.....	96	6,422	\$4,603,845	\$47,957	100.0	100.0	100.0
Individual.....	29	343	159,076	5,175	30.2	5.3	3.3
Firm.....	15	331	168,678	11,245	15.6	5.2	3.7
Corporation.....	52	5,748	4,285,091	82,406	54.2	89.5	93.1
Bituminous coal..	44	5,462	3,508,590	79,741	100.0	100.0	100.0
Individual.....	5	226	84,253	16,851	11.4	4.1	2.4
Firm.....	19	297	143,203	14,329	22.7	5.4	4.1
Corporation.....	29	4,939	3,281,134	113,143	65.9	90.4	93.5

	Incorporated.	Unincorporated.
Number of operators.....	52	44
Number of mines.....	95	51
Number of wells.....	62	.....
Proprietors and firm members, total.....	.....	75
Number performing manual labor.....	.....	41
Salaried employees:		
Officers of corporations.....	44	.....
Superintendents and managers.....	87	9
Clerks and other salaried employees.....	96	6
Wage earners, December 15, 1909, or nearest representative day.....	5,748	574
Capital.....	\$6,700,708	\$499,709
Expenses of operation and development.....	4,002,316	307,065
Salaries—		
Officers of corporations.....	51,910	.....
Superintendents and managers.....	102,105	8,487
Clerks and other salaried employees.....	73,780	2,185
Wages.....	2,857,563	168,577
Royalties and rent of mines.....	157,125	36,865
Taxes.....	15,223	2,861
Supplies and miscellaneous expenses.....	744,410	88,120
Value of products.....	4,285,091	318,754

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	112	100.0	6,422	100.0
Contract work and part-time employees.....	4	3.6	.....	.....
1 to 5.....	30	26.8	81	1.3
6 to 20.....	23	20.5	276	4.3
21 to 50.....	21	18.8	763	11.9
51 to 100.....	13	11.6	841	13.1
Over 100.....	21	18.8	4,461	69.5
Bituminous coal.....	60	100.0	5,462	100.0
1 to 20.....	13	21.7	125	2.3
21 to 50.....	16	26.7	591	10.8
51 to 100.....	12	20.0	754	13.8
Over 100.....	19	31.7	3,992	73.1

Of the 112 producing enterprises reported, 21 employed more than 100 wage earners each. The total number of wage earners employed by these enterprises represented 69.5 per cent of the number employed in all enterprises, and the average number employed per enterprise was 212. In this table the operating unit, not the operator, has been made the basis of classification. The bituminous coal mining enterprises, numbering 60, employed on the average 91 wage earners, while other enterprises, 52 in number, employed on the average 18 wage earners.

Prevailing hours of labor.—In Table 4 all producing mines and quarries, except those operated exclusively by contract work and part-time employees, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. Petroleum and natural gas wells are not included in this table, because the lack of regularity in the number of hours worked per day in a large number of enterprises rendered such classification impracticable. The table shows the percentage of the total number of enterprises falling in each group, and also a percentage distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise.

The large percentage of all enterprises weighted according to number of wage earners, operating on the eight-hour-per-day basis, is explained by the fact that in the coal mining industry, which employs 5,462 wage earners, or 85.1 per cent of the total number, each of the 60 enterprises was operated on this basis.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises:		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries ¹	107	100.0	100.0
8 hours.....	63	58.9	85.2
9 hours.....	16	15.0	1.8
10 hours.....	28	26.2	13.0

¹ Exclusive of petroleum and natural gas wells.

Engines and power.—The aggregate horsepower (Table 5), employed in producing enterprises was

14,080, of which 13,970 was developed by engines owned by the enterprises and 110 by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Bituminous coal.	Limestone.	Trap-rock.	All other.
Primary power:					
Aggregate horsepower.....	14,080	13,968	650	825	2,097
Owned.....	13,970	13,908	650	825	1,987
Steam engines—					
Number.....	190	140	11	5	34
Horsepower.....	13,908	13,908	590	825	1,985
Gas or gasoline engines—					
Number.....	2		1		1
Horsepower.....	62		60		2
Electric motors operated by purchased current—					
Number.....	4				4
Horsepower.....	110				110
Electric motors run by current generated by enterprise using:					
Number.....	42	20	1		21
Horsepower.....	1,971	1,746	40		185

Comparison of mining industries: 1902-1909.—In order to make a comparison between the census of 1909 and the preceding census of mines and quarries, that of 1902, it is necessary to omit from the 1909 figures, as they appear in other tables in this chapter, the value of the by-products of bituminous coal mines; and to add to the 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. In any case, only the few items specified in Table 6 can be compared for the two years.

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase.
Wages and salaries.....	\$3,325,154	\$2,137,007	55.6
Supplies and materials.....	\$585,357	\$244,379	139.5
Royalties and rent of mines.....	\$194,179	\$40,818	375.7
Contract work.....	\$1,111,574	\$890	12,620.2
Value of products.....	\$4,784,784	\$2,840,341	67.8
Primary horsepower.....	14,217	7,396	92.2

¹ Exclusive of amount paid to miners compensated by a share of the product and also of the wages of part-time employees for the petroleum and natural gas industry, which are included under "Contract work," in Table 7.

Duplication between manufactures and mining.—In the enterprises engaged in the production of fuller's earth, limestone, and whetstones, some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined gross value of products for the manufacturing and mining industries in Arkansas involves a duplication of \$115,430.

MINES AND QUARRIES.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7

	Aggregate.	PRODUCING MINES, QUARRIES, AND WELLS.										Nonpro- ducing mines, quar- ries, and wells.
		Total.	Bituminous coal.	Petro- leum and natural gas.	Lead and zinc.	Lime- stone.	Sand- stone.	Trap- rock.	Oil- stones.	Fuller's earth.	All other	
Number of operators.....	105	96	44	3	5	6	12	3	11	4	4	9
Number of mines, quarries, and wells.....	218	208	69	62	6	12	3	35	4	10	10	
Capital ¹	\$7,331,017	\$7,200,417	\$2,256,942	\$956,333	\$680,000	\$294,300	\$65,539	\$212,304	\$43,763	\$130,160	\$2,501,016	\$130,600
Expenses of operation and develop- ment.....	\$4,324,685	\$4,309,211	\$3,630,526	\$157,030	\$39,583	\$104,531	\$47,173	\$74,365	\$13,342	\$21,641	\$221,080	\$15,474
Services.....												
Salaried officers of corporations, superintendents, and man- agers.....	\$163,222	\$162,502	\$109,071	\$10,950	\$7,792	\$10,167	\$2,400	\$4,750	\$460	\$2,700	\$14,212	\$720
Clerks and other salaried em- ployees.....	\$75,965	\$75,965	\$56,996	\$3,191		\$3,100	\$600	\$7,870			\$4,268	
Wage earners.....	\$3,031,333	\$3,026,140	\$2,753,127	\$1,074	\$19,270	\$38,572	\$26,982	\$24,911	\$3,937	\$12,105	\$141,162	\$5,193
Miscellaneous.....												
Supplies.....	\$370,522	\$368,207	\$272,231	\$37,389	\$3,700	\$18,160	\$5,534	\$21,287	\$530	\$1,996	\$7,380	\$2,315
Fuel and rent of power.....	\$139,412	\$138,987	\$89,981	\$89,981	\$2,710	\$9,940	\$2,724	\$5,323	\$221	\$2,674	\$28,414	\$425
Royalties and rent of mines.....	\$194,523	\$193,990	\$163,896	\$14,272	\$950	\$1,353	\$2,060	\$4,483	\$641		\$6,333	\$533
Taxes.....	\$18,405	\$18,084	\$10,250	\$1,768	\$218	\$701	\$306	\$187		\$288	\$3,838	\$321
Contract work.....	\$121,475	\$117,195	\$26,511	\$78,231	\$506		\$4,465	\$360			\$4,289	
Rent of offices and other sundry expenses.....	\$209,828	\$208,141	\$143,463	\$10,155	\$4,437	\$22,538	\$2,102	\$4,694	\$403	\$1,878	\$18,471	\$1,687
Value of products.....	\$4,603,845	\$4,603,845	\$3,508,590	\$126,400	\$34,810	\$112,488	\$78,160	\$79,918	\$72,714	\$25,518	\$685,272	
Persons engaged in industry.....	6,774	6,739	5,678	14	101	144	130	140	35	27	470	25
Proprietors and officials.....	226	215	135	7	9	9	14	6	14	3	18	11
Proprietors and firm members.....	86	75	38			3	12	1	12	1	8	11
Number performing manual labor.....	44	41	20			1	5		7	1	7	3
Salaried officers of corporations.....	44	44	27	4	5	3		2		1	2	
Superintendents and managers.....	96	96	70	3	4	3	2	3	2	1	8	
Clerks and other salaried employees.....	102	102	81	4		3	1	8			8	
Wage earners, Dec. 15, 1909, or near- est representative day.....	6,446	6,422	5,462	3	92	132	115	126	21	24	447	24
Above ground.....	1,582	1,568	701	3	34	132	115	126	9	24	424	14
Below ground.....	4,864	4,854	4,761		58				12		23	10
Men 16 years of age and over.....	6,418	6,394	5,449	3	92	132	115	126	21	24	432	24
Above ground.....	1,566	1,552	700	3	34	132	115	126	9	24	406	14
Below ground.....	4,852	4,842	4,749		58				12		23	10
Engineers, firemen, me- chanics, etc.....	486	477	392	3	21	1	4	22			34	9
Above ground.....	444	435	350	3	21	1	4	22			34	9
Below ground.....	42	42	42									
Miners, miners' helpers, quarrymen, and stonecut- ters.....	4,556	4,544	3,800		39	136	78	80	20	16	361	12
Above ground.....	675	673			3	130	78	80	8	16	358	2
Below ground.....	3,881	3,871	3,800		36				12		23	10
All other employees.....	1,376	1,373	1,257		32	1	33	24	1	8	17	3
Above ground.....	447	444	350		10	1	33	24	1	8	17	3
Below ground.....	929	929	907		22							
Boys under 16 years of age.....	28	28	13								15	
Above ground.....	16	16	1								15	
Below ground.....	12	12	12									
Number of wage earners employed on the 15th day of each month:												
January.....	5,307	5,307	4,840	3	29	35	61	53	2	44	249	
February.....	4,680	4,677	4,122	3	29	54	62	53	2	43	239	
March.....	4,298	4,295	3,681	2	33	66	60	83	12	35	228	
April.....	3,260	3,260	2,674	2	29	72	81	88	15	30	269	
May.....	3,420	3,414	2,789	1	29	83	90	90	17	28	287	
June.....	4,312	4,305	3,607	1	33	99	123	80	21	31	310	
July.....	4,799	4,792	4,060		29	103	125	55	18	16	336	
August.....	5,469	5,466	4,736	4	29	96	123	55	11	17	395	
September.....	5,738	5,730	4,914	1	73	114	119	55	6	16	432	
October.....	5,980	5,968	5,099	3	88	128	116	55	4	21	454	
November.....	6,089	6,077	5,253	5	92	89	84	55	4	22	473	
December.....	5,937	5,925	5,151	3	88	85	87	53	4	14	440	
Land controlled, acres.....	111,852	110,526	54,688	46,048	970	123	180	100	3,604	2,561	2,384	1,328
Owned.....	32,088	30,802	24,137	530	845	83	140		512	2,561	2,654	1,286
Held under lease.....	79,764	79,724	30,549	45,518	125	40	20	100	3,092		299	40
Mineral and oil land.....	109,460	108,534	54,359	46,043	970	123	160	80	3,524	2,341	649	826
Owned.....	29,791	28,905	23,885	530	845	83	140		432	2,341	299	40
Held under lease.....	79,669	79,629	30,474	45,518	125	40	20	80	3,092		1,139	240
Timber land.....	1,509	1,269	130								296	160
Other land.....	883	723	197					20		160		
Primary horsepower.....	14,260	14,080	10,508		385	650	201	825	65	261	1,145	180

¹ Includes industries as follows: Barxite, 2; granite, 1; manganiferous iron, 1; phosphate rock, 1; precious stones, 2; whetstones, 1.

² Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

CALIFORNIA.

Summary.—Statistics for mining enterprises in the state of California include smelters, concentrating mills, and cyaniding plants operated in connection with gold and silver and copper mines.

The gross output of all mining industries in California in 1909 was valued at \$63,382,454. Deducting from this amount, \$2,762,660, the value of the gold and silver and copper ore sold by some establishments and used as materials by others, and the natural gas sold by some producers to others who sold it again, leaves \$60,619,794 as the net value of the products. Of this amount, petroleum and natural gas contributed \$29,306,185, or almost one-half. Gold and silver mining, the industry second in importance, reported products valued at \$18,324,618, of which amount, \$9,573,586 was produced at deep mines, and \$8,751,032 at placer mines. The next industry in importance was the production of copper, the net value of which amounted to \$7,463,233. California ranked fifth among the states in the total net value of all mineral products, second in the value of petroleum and natural gas, and second and fifth, respectively, in the value of gold and silver and copper produced.

In the operation of gypsum mines the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work which added to the permanent value of the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 1,329 operators for all industries combined, 587, or 44.2 per cent, were corporations. These corporations reported 91 per cent of the total value of products and employed 85 per cent of all wage earners. In the petroleum and natural gas industry 95.7 per cent of the value of products was reported by corporations.

Size of enterprises.—In Table 3 the producing mining enterprises are classified according to the number of wage earners employed per enterprise or operating

unit. Of the 1,333 enterprises reported, only 44 employed over 100 wage earners each. These enterprises, however, reported 45 per cent of all wage earners. In the copper industry 7 enterprises, each of which employed over 100 wage earners, reported 85.4 per cent of the wage earners in that industry.

Table 1

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of operators.	Number of wage earners.	PRODUCING ENTERPRISES: 1909				
			Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.....	1,329	23,358	\$63,382,454	\$47,692	100.0	100.0	100.0
Individual.....	364	1,432	2,514,038	6,907	27.4	8.1	4.9
Firm.....	371	1,992	3,127,978	8,431	27.9	8.5	4.9
Corporation.....	587	19,832	57,651,197	98,213	44.2	85.4	91.0
Other.....	7	82	89,241	12,749	0.5	0.4	0.1
Petroleum and natural gas.....	339	7,007	29,310,335	\$6,461	100.0	100.0	100.0
Individual.....	49	166	943,566	19,256	14.5	2.4	3.2
Firm.....	26	66	309,559	11,473	7.7	0.9	1.9
Corporation.....	264	6,775	28,056,210	106,309	77.9	96.7	95.7
Gold and silver, deep mines.....	395	6,622	9,690,356	24,534	100.0	100.0	100.0
Individual.....	103	531	616,678	5,987	26.1	8.0	6.4
Firm.....	152	897	1,072,531	7,050	28.5	13.3	11.1
Corporation.....	136	5,146	7,976,255	58,649	34.4	77.7	82.3
Other.....	4	48	25,492	6,378	1.0	0.7	0.3
Placer gold.....	392	3,073	3,751,032	22,224	100.0	100.0	100.0
Individual.....	148	366	526,837	3,560	37.8	11.9	6.0
Firm.....	161	522	538,870	3,347	41.1	17.0	6.2
Corporation.....	83	2,185	7,685,325	92,594	21.2	71.1	87.8

Table 2

	Incorporated.	Unincorporated.
Number of operators.....	587	742
Number of mines and quarries.....	493	515
Number of wells.....	3,777	539
Proprietors and firm members, total.....		799
Number performing manual labor.....		836
Salaried employees:		
Officers of corporations.....	370	
Superintendents and managers.....	684	74
Clerks and other salaried employees.....	879	53
Wage earners, Dec. 15, 1909, or nearest representative day.....	19,832	3,506
Capital.....	\$236,325,964	\$17,041,538
Expenses of operation and development.....	47,564,683	5,000,565
Salaries—		
Officers of corporations.....	675,183	
Superintendents and managers.....	1,358,724	143,369
Clerks and other salaried employees.....	721,900	59,592
Wages.....	16,689,888	2,359,554
Royalties and rent of mines.....	2,299,982	514,277
Taxes.....	508,334	68,112
Supplies and miscellaneous expenses.....	22,929,632	1,432,590
Cost of ore purchased and of natural gas purchased and resold.....	2,370,570	232,090
Value of products.....	\$7,651,197	5,731,237

MINES AND QUARRIES.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries	1,333	100.0	23,358	100.0
No wage earners.....	179	13.4	.....	.....
Contract work and part-time employees.....	55	4.1	.....	.....
1 to 5.....	530	39.8	1,374	5.9
6 to 20.....	349	26.2	3,904	16.7
21 to 50.....	128	9.6	4,043	17.3
51 to 100.....	48	3.6	3,518	15.1
Over 100.....	44	3.3	10,519	45.0
Petroleum and natural gas	342	100.0	7,007	100.0
No wage earners.....	10	2.9	.....	.....
Contract work and part-time employees.....	50	14.6	.....	.....
1 to 5.....	98	28.7	304	4.3
6 to 20.....	132	38.6	1,479	21.1
21 to 50.....	31	9.1	968	13.8
51 to 100.....	9	2.6	536	8.4
Over 100.....	12	3.5	3,609	52.4
Copper	14	100.0	2,510	100.0
1 to 100.....	7	50.0	366	14.6
Over 100.....	7	50.0	2,144	85.4
Gold and silver, deep mines	395	100.0	6,622	100.0
No wage earners.....	70	17.7	.....	.....
Contract work.....	2	0.5	.....	.....
1 to 5.....	162	41.0	414	6.3
6 to 20.....	86	21.8	967	14.6
21 to 50.....	46	11.6	1,392	20.6
51 to 100.....	13	3.3	1,040	15.7
Over 100.....	16	4.1	2,539	42.9
Placer gold	392	100.0	3,073	100.0
No wage earners.....	96	24.5	.....	.....
Contract work.....	1	0.3	.....	.....
1 to 5.....	197	50.3	458	14.9
6 to 20.....	71	18.1	774	25.2
21 to 50.....	18	4.6	638	20.8
Over 50.....	9	2.3	1,203	39.1

Persons employed in mining.—While the petroleum and natural gas industry ranks first among the mining enterprises when measured by the value of products, gold and silver holds the first place when measured by the number of persons employed, the total number employed in deep and placer mines aggregating 11,768, as compared with 8,081 engaged in the petroleum and natural gas industry. Of the total of 31,938 persons employed in all industries on December 15, 1909, or the nearest representative day, 26,978 were wage earners, 2,509 were salaried employees, and 2,451 were proprietors and firm members, of whom 1,145 performed manual labor in or about the mines.

Prevailing hours of labor.—In Table 4 all producing mines and quarries, except those employing no wage earners and those operated exclusively by contract work and part-time employees, have been classified according to the prevailing hours of labor in each enterprise or operating unit. Petroleum and natural gas wells are not included in the table because the lack of regularity in the number of hours worked per day in a large number of enterprises rendered such classification impracticable. The table shows

the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise.

For all industries combined and for each of the principal industries a day of eight hours prevailed in over three-fourths of the enterprises weighted according to the number of wage earners.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries ¹	820	100.0	100.0
8 hours and under.....	603	73.5	79.9
9 hours.....	103	12.6	10.2
10 hours.....	109	13.3	9.6
11 hours.....	2	0.2	0.1
12 hours.....	3	0.4	0.1
Copper	16	100.0	100.0
8 hours.....	14	87.5	94.6
9 hours.....	2	12.5	5.4
Gold and silver, deep mines	323	100.0	100.0
8 hours and under.....	293	90.7	97.0
9 hours.....	17	5.3	2.3
10 hours.....	12	3.7	0.7
12 hours.....	1	0.3	(²)
Placer gold	295	100.0	100.0
8 hours and under.....	201	68.1	77.5
9 hours.....	29	9.8	13.7
10 hours.....	63	21.4	8.3
11 hours.....	1	0.3	0.2
12 hours.....	1	0.3	0.2

¹ Exclusive of petroleum and natural gas.
² Less than one-tenth of 1 per cent.

Engines and power.—As shown by Table 5, the aggregate horsepower employed in producing mining enterprises was 162,238, of which 118,986 was developed by engines and water wheels and motors owned by the operators using them, and 43,252 horsepower by electric motors operated by purchased current. In the petroleum and natural gas industry 76,589 horsepower was employed, while in gold and silver (deep mines) 40,360 horsepower was employed.

In addition to the power used by the producing enterprises, 18,826 horsepower was employed by non-producing enterprises, making a total of 181,064 horsepower employed in all enterprises in the state.

Table 5 PRODUCING ENTERPRISES: 1909

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909											
	Total.	Petro- leum and natural gas.	Copper.	Gold and silver, deep mines.	Placer gold.	Granite.	Trap- rock.	Lime- stone.	Sand- stone.	Quick- silver.	Gyp- sum.	All other.
Primary power:												
Aggregate horsepower.....	182,238	76,589	11,157	40,360	18,867	3,381	7,684	425	1,214	727	790	1,044
Owned.....	118,986	76,559	3,434	27,951	3,392	2,124	1,913	260	954	727	790	882
Steam engines—												
Number.....	3,022	2,712	19	160	28	49	22	2	14	8	3	5
Horsepower.....	73,150	56,638	3,390	7,103	800	1,781	1,015	50	954	487	750	182
Gas or gasoline engines—												
Number.....	1,118	930	1	104	12	17	15	4	.....	6	1	28
Horsepower.....	24,353	19,921	44	1,937	279	311	898	210	.....	123	40	560
Water wheels—												
Number.....	1,520	.....	.....	2,417	289	1	.....	.....	.....	4	.....	49
Horsepower.....	21,483	.....	.....	18,911	2,313	32	.....	.....	.....	117	.....	110
Electric motors operated by purchased current—												
Number.....	972	3	120	265	396	26	140	7	8	.....	.....	7
Horsepower.....	43,252	30	7,723	12,409	15,475	1,257	5,771	165	260	.....	.....	162
Electric motors run by current generated by enter- prise using:												
Number.....	159	6	12	93	23	8	7	.....	.....	9	.....	1
Horsepower.....	4,829	100	145	3,395	625	310	60	.....	.....	179	.....	15

¹ Includes 61 water motors of 902 horsepower.
² Includes 49 water motors of 805 horsepower.

³ Includes 4 water motors of 12 horsepower.
⁴ Includes 8 water motors of 85 horsepower.

Nonproducing enterprises.—Table 6 presents statistics comparing producing and nonproducing enterprises. In the latter are included the enterprises which were still in the development stage as well as those which were productive in the past but whose operations in 1909 were confined to the maintenance of the property or to development work with a view to renewing production. Out of a total of 2,021 operators, 692, or 34.2 per cent, were of this class, and the capital invested by them represented 11 per cent of the total capital invested in all mining enterprises. The principal industries in which the nonproducing activities occurred were in the production of gold and silver and petroleum and natural gas. Of the \$31,260,935 of capital invested in all nonproducing enterprises, \$18,100,862 was invested in gold and silver mines, of which \$15,954,784 was invested in deep mines and \$2,146,078 in placer mines.

The total expenditure during the year by nonproducing mines was \$8,685,907, or 14.2 per cent of the total expenditures by all mines and quarries. Of the total number of wage earners employed, 13.4 per cent were employed in these nonproducing enterprises. This, however, does not represent the total number of persons engaged in such industries, since persons employed in prospecting are omitted from the statistics.

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement and enterprises operated by governmental institutions; to omit from the 1909 figures, as they appear in other tables in this chapter, statistics for the operation of copper smelters; and to add to the 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 7.

Table 6

	All enterprises.	Producing enterprises.	NONPRODUCING ENTERPRISES.	
			Number or amount.	Per cent of total.
Number of operators.....	2,021	1,329	692	34.2
Number of mines, quarries, and wells.....	6,510	5,595	915	14.1
Persons engaged in industry.....	31,938	27,219	4,719	14.8
Proprietors and firm members, total.....	2,451	1,799	652	26.6
Number performing manual labor.....	1,145	856	289	25.2
Salaried employees.....	2,509	2,062	447	17.8
Wage earners, Dec. 15, 1909, or nearest representative day.....				
Above ground.....	26,978	23,358	3,620	13.4
Below ground.....	18,381	16,287	2,094	11.4
Engineers, firemen, mechanics, etc.....	8,597	7,071	1,526	17.8
Miners, miners' helpers, quarrymen, and stonecutters.....	8,660	7,458	1,202	13.9
All other employees.....	11,962	10,107	1,855	15.5
	6,356	5,793	563	8.9
Land controlled, acres.....	1,062,596	827,285	235,311	22.1
Primary horsepower.....	181,064	162,238	18,826	10.4
Capital.....	\$284,838,487	\$253,577,552	\$31,260,935	11.0
Expenses of operation and development.....	61,251,185	52,565,278	8,685,907	14.2
Services.....	24,531,641	22,018,221	2,513,420	10.2
Salaries.....	3,378,805	2,968,779	410,026	12.1
Wages.....	21,152,836	19,049,442	2,103,394	9.9
Supplies, including fuel and rent of power.....	29,830,100	24,327,955	5,502,145	18.4
Contract work.....	783,973	595,130	188,843	24.1
Rent of offices and other sundry expenses.....	6,105,471	5,623,972	481,499	7.9

Table 7 PRODUCING ENTERPRISES.

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$21,430,590	\$12,842,480	66.9
Supplies and materials.....	\$20,463,053	\$5,533,565	269.8
Royalties and rent of mines.....	\$2,814,926	\$658,982	310.3
Contract work.....	\$496,568	\$520,894	-4.7
Value of products.....	\$59,012,946	\$28,611,307	198.3
Primary horsepower.....	155,115	69,532	123.1

¹ A minus sign (-) denotes decrease.
² Exclusive of amount paid to miners compensated by a share of the product and also of the wages of part-time employees for the petroleum and natural gas industry, which are included under "Contract work," in Table 8.

Duplication between manufactures and mining.—In a number of industries some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in California involves a duplication of \$9,317,878.

MINES AND QUARRIES.

DETAILED STATISTICS FOR

Table 8	Aggregate.	PRODUCING MINES, QUARRIES, AND WELLS.								
		Total.	Petroleum and natural gas.	Copper.	Gold and silver, deep mines.	Placer gold.	Granite.	Traprock.	Limestone.	
1	Number of operators.....	2,021	1,329	339	9	365	392	62	43	11
2	Number of mines, quarries, and wells.....	6,510	5,595	4,316	16	551	435	71	50	15
3	Capital.....	\$284,838,487	\$253,577,552	\$144,176,437	\$15,082,993	\$38,104,583	\$40,698,628	\$1,756,610	\$2,415,931	\$424,327
4	Expenses of operation and development. Services—	\$61,251,185	\$52,565,278	\$25,210,087	\$7,749,834	\$9,467,344	\$5,608,855	\$1,225,519	\$1,317,499	\$306,479
5	Salaried officers of corporations, superintendents, and managers.	\$2,551,869	\$2,177,287	\$952,269	\$123,322	\$441,471	\$268,719	\$63,654	\$97,554	\$20,809
6	Clerks and other salaried employees	\$826,936	\$791,492	\$353,526	\$99,979	\$102,723	\$50,192	\$16,922	\$32,526	\$4,605
7	Wage earners.....	\$21,152,836	\$19,049,442	\$6,727,857	\$2,398,914	\$5,135,333	\$2,120,827	\$917,535	\$658,008	\$163,432
8	Miscellaneous—									
9	Supplies.....	\$24,053,469	\$18,789,652	\$12,532,920	\$1,225,058	\$2,302,615	\$1,991,334	\$110,740	\$252,905	\$65,162
10	Cost of ore purchased and natural gas purchased and resold.	\$2,762,660	\$2,762,660	\$4,150	\$2,641,140	\$117,370				
11	Fuel and rent of power.....	\$3,013,971	\$2,775,643	\$126,766	\$1,085,253	\$769,969	\$541,901	\$45,346	\$77,350	\$9,331
12	Royalties and rent of mines.....	\$2,848,061	\$2,814,259	\$2,460,983	\$29,212	\$84,791	\$123,595	\$22,538	\$75,561	\$5,732
13	Taxes.....	\$626,456	\$576,946	\$276,669	\$48,603	\$122,656	\$91,000	\$3,158	\$7,115	\$1,301
14	Contract work.....	\$783,973	\$595,130	\$272,633		\$99,842	\$73,054		\$13,922	\$24,641
15	Rent of offices and other sundry expenses.	\$2,630,954	\$2,232,767	\$1,502,314	\$98,353	\$290,574	\$348,233	\$39,626	\$102,558	\$11,386
15	Value of products.....	\$63,382,454	\$63,382,454	\$29,310,335	\$10,104,373	\$9,690,956	\$8,751,032	\$1,518,916	\$1,404,401	\$368,486
16	Persons engaged in industry.....	\$31,938	\$27,219	8,081	2,635	7,896	3,872	1,445	1,417	285
17	Proprietors and officials.....	\$3,934	\$2,927	651	33	1,173	721	104	90	19
18	Proprietors and firm members.....	2,451	1,799	113		649	589	65	22	6
19	Number performing manual labor.	1,145	856	13		337	421	50	2	3
20	Salaried officers of corporations.....	\$484	\$370	193	10	57	35	16	29	5
21	Superintendents and managers.....	\$999	\$758	345	23	167	97	23	39	8
22	Clerks and other salaried employees.....	\$1,026	\$924	423	92	101	78	23	65	22
23	Wage earners, Dec. 15, 1909, or nearest representative day.	26,978	23,358	7,007	2,510	6,622	3,073	1,318	1,262	244
24	Above ground.....	18,351	16,287	7,007	1,203	1,842	2,494	1,318	1,262	244
25	Below ground.....	8,597	7,071		1,307	4,780	579			
26	Men 16 years of age and over.....	26,970	23,350	7,006	2,510	6,617	3,073	1,316	1,262	244
27	Engineers, firemen, mechanics, etc.	8,660	7,458	5,049	325	1,045	596	147	137	15
28	Above ground.....	8,391	7,238	5,049	234	955	567	147	137	15
29	Below ground.....	269	220		91	90	29			
30	Miners, miners' helpers, quarrymen, and stonecutters.	11,962	10,107		1,172	4,279	1,697	956	966	192
31	Above ground.....	4,286	3,898		18	141	1,153	956	966	192
32	Below ground.....	7,676	6,209		1,154	4,138	544			
33	All other employees.....	6,348	5,785	1,957	1,013	1,293	780	213	159	37
34	Above ground.....	5,698	5,145	1,957	951	743	774	213	159	37
35	Below ground.....	650	640		62	550	6			
36	Boys under 16 years of age ^a	8	8	1		5		2		
37	Number of wage earners employed on the 15th day of each month:									
38	January.....	20,597	19,077	5,657	2,150	5,321	2,403	1,159	1,023	256
39	February.....	20,507	18,974	5,659	2,219	5,256	2,407	1,102	1,000	245
40	March.....	21,154	19,533	5,910	2,256	5,434	2,337	1,164	1,213	214
41	April.....	21,794	20,090	6,122	2,206	5,403	2,392	1,124	1,387	217
42	May.....	22,409	20,558	6,199	2,245	5,520	2,544	1,097	1,445	235
43	June.....	22,401	20,458	5,992	2,255	5,688	2,534	1,164	1,411	229
44	July.....	23,133	20,957	6,261	2,459	5,697	2,568	1,181	1,326	249
45	August.....	23,271	20,898	6,257	2,517	5,610	2,487	1,244	1,308	275
46	September.....	23,983	21,501	6,471	2,635	5,720	2,544	1,378	1,271	261
47	October.....	24,039	21,427	6,714	2,678	5,631	2,501	1,239	1,249	248
48	November.....	23,812	21,162	6,796	2,617	5,447	2,452	1,189	1,305	247
49	December.....	24,155	21,516	6,971	2,451	5,633	2,526	1,284	1,218	242
49	Land controlled, acres.....	1,062,596	827,285	455,444	9,957	108,795	123,158	7,743	6,955	1,751
50	Owned.....	588,234	427,112	107,074	9,877	97,019	108,741	7,062	2,389	1,454
51	Held under lease.....	474,362	400,173	348,370	80	11,776	14,417	681	4,566	297
52	Mineral and oil land.....	960,885	765,805	455,444	6,817	88,302	116,251	7,400	4,937	1,666
53	Owned.....	521,823	370,667	107,074	6,737	88,043	104,094	6,719	1,544	1,454
54	Held under lease.....	468,962	395,138	348,370	80	10,259	12,157	681	3,393	212
55	Timber land.....	13,305	12,545			6,702	700	73		
56	Other land.....	58,406	48,935		3,140	3,791	6,207	270	2,018	85
57	Primary horsepower.....	181,064	162,238	76,589	11,157	40,360	18,867	3,381	7,684	425

¹ Includes operators as follows: Asphaltum and bituminous rock, 2; bituminous coal, 2; borax, 2; feldspar, 1; fuller's earth, 1; infusorial earth, 2; mineral pigments, 2; pyrite, 1; slate, 1; talc and soapstone, 1.

² Includes operators as follows: Asbestos, 1; bituminous coal, 1; borax, 1; clay, 2; feldspar, 1; graphite, 1; gypsum, 3; infusorial earth, 1; limestone, 1; lithium, 1; magnesite, 1; manganese, 1; marble, 3; mineral pigments, 1; molybdenum, 2; precious stones, 4; tungsten, 2.

³ Includes \$2,307,793 which could not be distributed among the several industries.

MINING INDUSTRIES: 1909.

PRODUCING MINES, QUARRIES, AND WELLS—continued.										NONPRODUCING MINES, QUARRIES, AND WELLS.					
Sandstone.	Marble.	Quick-silver.	Tungsten.	Precious stones.	Gypsum.	Clay (sold as such).	Magnetite.	All other. ¹	Total.	Gold and silver, deep mines.	Placer gold.	Petroleum and natural gas.	Quick-silver.	All other. ²	
19	6	10	3	7	5	7	6	15	692	397	85	168	15	27	
20	15	10	9	8	12	8	13	16	915	709	115	24	25	42	
3	\$181,226	\$514,216	\$2,594,500	\$134,928	\$251,919	\$392,968	\$178,500	\$89,016	\$4,272,977	\$31,260,935	\$15,954,784	\$2,146,078	\$11,904,813	\$846,900	\$408,360
4	\$263,351	\$54,514	\$585,165	\$114,065	\$68,129	\$118,847	\$56,114	\$62,444	\$357,032	\$8,685,907	\$1,947,920	\$335,843	\$6,244,528	\$89,671	\$67,945
5	\$12,644	\$2,700	\$49,316	\$9,301	\$6,700	\$12,800	\$7,080	\$5,338	\$26,450	\$374,582	\$186,792	\$35,286	\$134,557	\$7,056	\$10,897
6	\$5,342		\$7,540			\$5,897	\$425	\$2,105	\$12,136	\$35,444	\$10,746	\$775	\$22,423	\$900	\$600
7	\$155,285	\$27,596	\$339,375	\$71,201	\$41,170	\$41,827	\$29,408	\$32,479	\$189,195	\$2,103,394	\$997,596	\$164,809	\$844,707	\$63,354	\$32,928
8	\$63,046	\$15,810	\$91,763	\$21,010	\$16,895	\$16,997	\$11,608	\$6,282	\$65,517	\$5,263,817	\$478,110	\$105,008	\$4,659,533	\$9,292	\$11,874
9															
10	\$14,874	\$702	\$50,465	\$3,951		\$13,896	\$540	\$7,556	\$27,743	\$238,328	\$61,136	\$6,154	\$168,675	\$1,970	\$393
11	\$3,910		\$5,268			\$1,917	\$279	\$253	\$200	\$33,502	\$4,813	\$1,000	\$27,989		
12	\$3,158	\$969	\$6,415	\$124	\$328	\$838	\$504	\$252	\$7,856	\$49,510	\$19,007	\$2,888	\$24,088	\$2,920	\$607
13	\$450		\$9,878			\$12,723	\$250		\$7,113	\$188,843	\$58,972	\$1,812	\$127,044		\$1,015
14	\$4,042	\$6,737	\$25,155	\$8,478	\$3,036	\$11,952	\$6,020	\$8,179	\$20,822	\$398,187	\$130,748	\$18,111	\$235,512	\$4,185	\$9,631
15	\$289,579	\$89,467	\$729,095	\$191,795	\$110,339	\$103,845	\$74,404	\$68,463	\$576,968						
16	348	36	492	72	34	100	46	84	270	4,719	2,534	521	1,411	122	131
17	23	11	21	12	9	11	7	8	22	1,007	623	131	198	16	39
18	15	9	3	8		3	5	3	9	652	470	98	46	8	30
19	12	2		4		3	4	2	3	289	183	74	16	6	10
20	1		6		3	2	1	2	6	114	43	11	51	4	5
21	7	2	12	4	6	6	1	3	7	241	110	22	101	4	4
22	5		9		7	7		2	13	92	25	4	61	1	1
23	320	25	462	60	25	82	39	74	235	3,620	1,886	386	1,152	105	91
24	320	25	219	22	16	82	39	57	137	2,094	593	224	1,152	49	76
25			243	38	9			17	98	1,293	1,626	162		56	15
26	320	25	462	60	25	82	39	74	235	3,620	1,886	386	1,152	105	91
27	18	1	56	4		24		7	34	1,202	287	57	837	13	8
28	18	1	54	4		24		7	26	1,153	246	50	837	13	7
29			2						8	49	41	7			1
30	270	15	280	40	24	21	34	33	128	1,855	1,413	292		77	73
31	270	15	61	2	15	21	34	16	38	388	171	137		21	59
32			219	38	9			17	90	1,467	1,242	155		56	14
33	32	9	126	16	1	37	5	34	73	563	186	37	315	15	19
34	32	9	104	16	1	37	5	34	73	553	176	37	315	15	10
35			22							10	10				
36															
37	169	34	438	61	51	54	37	50	214	1,520	871	123	445	44	37
38	180	35	429	62	37	55	36	39	213	1,533	855	125	477	42	34
39	169	45	410	60	31	41	38	42	219	1,571	827	128	542	43	31
40	326	43	413	60	35	63	36	40	223	1,704	917	138	571	47	31
41	335	47	441	58	36	64	34	44	214	1,851	968	194	609	45	35
42	269	42	423	61	34	51	37	52	216	1,943	975	213	628	90	37
43	271	87	429	57	34	55	40	65	228	2,176	1,073	289	671	91	52
44	284	25	432	54	35	52	58	54	206	2,373	1,200	287	721	90	65
45	293	24	427	56	28	56	75	54	208	2,482	1,258	300	772	98	59
46	311	23	392	42	20	74	36	52	217	2,612	1,317	276	860	98	61
47	225	19	411	59	22	68	37	51	217	2,650	1,251	263	970	104	62
48	225	21	451	58	25	69	34	51	227	2,639	1,227	226	1,025	104	57
49	3,492	1,464	21,701	1,160	1,138	18,000	1,264	2,369	62,894	235,311	58,014	39,671	103,281	8,129	26,216
50	1,372	1,364	18,661	1,160	1,138	4,200	1,258	1,569	62,774	161,122	49,364	32,213	51,750	7,769	20,026
51	2,120	100	3,040			13,800	6	800	120	74,189	8,650	7,458	51,531	860	6,190
52	2,682	1,304	13,456	1,160	1,138	18,000	1,264	2,306	33,678	225,080	55,453	33,661	103,231	1,749	25,968
53	562	1,204	10,416	1,160	1,138	4,200	1,258	1,506	33,558	151,256	46,808	31,203	51,750	1,749	19,746
54	2,120	100	3,040			13,800	6	800	120	73,824	8,645	7,458	51,531		6,190
55			5,070							760	400			360	
56	810	160	3,175					63	29,216	9,471	2,161	1,010		6,020	280
57	1,214	144	727	79		790	50	126	645	18,826	9,660	2,458	6,517	120	71

¹In some cases the same operator conducted two or more enterprises producing different kinds of products, all enterprises being managed through one central administrative office. The total office expenses were accordingly apportioned among the several industries in proportion to the total expenses of each and the estimated amounts of such administrative expenses were added to "Sundry expenses" for each industry. In the totals for all enterprises, however, the expenses appear under the proper headings. The amounts included in "Rent of offices and other sundry expenses" for individual industries and properly distributed in the total for all industries are as follows: Salaried officers of corporations, superintendents, and managers, \$77,100; clerks and other salaried employees, \$97,574; and contract work, \$80,624.

²The following numbers of persons, which could not be distributed among the several industries, are included under the proper headings in the totals for all enterprises: Aggregate, 106; salaried officers of corporations, 4; superintendents and managers, 8; and clerks and other salaried employees, 94.

³In the gold and silver (deep mines) industry, 2 boys were employed below ground.

COLORADO.

Summary.—Table 7 shows that the gross value of the products of all mines, quarries, and wells in Colorado in 1909 was \$45,680,135. Deducting from this amount, \$4,930,144, the value of the gold and silver ore and coal sold by some mines and used as material by others, leaves \$40,749,991 as the net value of the products, which gives Colorado the rank of ninth in importance among the states in mining. The principal industries were metalliferous deep mines, producing gold, silver, copper, lead and zinc; and bituminous coal mines. The value of the products of these two industries, after deducting the ore purchased by the metalliferous mines and the coal purchased for coke making by the bituminous coal mines, was \$38,177,900, which represented 93.7 per cent of the products of all mines, quarries, and wells in the state. Of the total for the two industries, \$22,657,178 represented the value of the products of the metalliferous deep mines and \$15,520,722 the value of the products of the coal industry. Of this latter amount, \$12,222,061 represented the value of bituminous coal, \$3,296,590 the value of coke made at the mines, and \$2,071 the value of other products. Placer gold mining, the industry next in importance, reported products valued at \$448,586. Of the other industries, tungsten mining, with products valued at \$332,067, was the most important. This amount represents 58.9 per cent of the total of \$563,457 produced in the United States. The production of tungsten is a comparatively new industry in the United States, as the total value of the product which was reported in 1902 was \$5,975, produced in the states of Colorado and Connecticut.

In two industries, the production of petroleum and natural gas and the production of granite, the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work, resulting in permanent improvements to the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. As shown by Table 1, 58.9 per cent of all operators of producing enterprises were corporations. These corporations reported 94.7 per cent of the value of products of the state and employed

93.1 per cent of all wage earners. In the bituminous coal mining industry 97.3 per cent of the value of the products were produced and 97.7 per cent of the wage earners were employed by corporations.

Table 1

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.....	672	24,769	\$45,680,135	\$67,976	100.0	100.0	100.0
Individual.....	156	1,019	1,473,134	9,443	23.2	4.1	3.2
Firm.....	117	681	938,546	8,022	17.4	2.7	2.1
Corporation.....	396	23,053	43,255,616	100,231	58.9	93.1	94.7
Other.....	3	16	12,839	4,280	0.4	0.1	(1)
Metalliferous deep mines.....	453	7,689	27,325,847	60,322	100.0	100.0	100.0
Individual.....	93	708	1,145,636	12,319	20.5	9.2	4.2
Firm.....	84	314	509,530	6,066	18.5	4.1	1.9
Corporation.....	276	6,667	25,670,581	93,009	60.9	86.7	93.9
Bituminous coal.....	86	15,461	15,782,197	183,514	100.0	100.0	100.0
Individual.....	12	114	115,282	9,607	14.0	0.7	0.7
Firm.....	8	236	304,851	38,106	9.3	1.5	1.9
Corporation.....	66	15,111	15,362,064	232,759	76.7	97.7	97.3

¹ Less than one-tenth of 1 per cent.

² Includes 2 cooperative associations.

³ Includes 1 cooperative association.

Table 2

	Incorporated.	Unincorporated.
Number of operators.....	396	276
Number of mines and quarries.....	1,102	473
Number of wells.....	62	14
Proprietors and firm members, total.....		647
Number performing manual labor.....		232
Salaried employees:		
Officers of corporations.....	240	
Superintendents and managers.....	456	38
Clerks and other salaried employees.....	582	21
Wage earners, Dec. 15, 1909, or nearest representative day.....	23,053	1,716
Capital.....	\$137,752,832	\$6,886,726
Expenses of operation and development.....	36,511,759	2,118,529
Salaries:		
Officers of corporations.....	444,496	
Superintendents and managers.....	946,262	51,111
Clerks and other salaried employees.....	656,405	14,666
Wages.....	17,361,513	1,101,733
Royalties and rent of mines.....	737,011	230,436
Taxes.....	520,746	22,226
Supplies and miscellaneous expenses.....	10,865,182	698,307
Cost of coal and ore purchased for material.....	4,930,144	
Value of products.....	43,255,616	2,424,519

Size of enterprises.—In Table 3 all producing mining industries combined and metalliferous deep mines and bituminous coal mines separately are classified by the number of wage earners employed. In this table the operating unit, not the operator, has been made the basis of classification. Of the 722 producing enterprises only 56 employed more than 100 wage earners

each. These enterprises, however, employed 15,707 wage earners, or 63.4 per cent of the number of wage earners employed in all enterprises.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	722	100.0	24,769	100.0
No wage earners.....	44	6.1	---	---
Contract work and part-time employees.....	94	13.0	---	---
1 to 5.....	232	32.1	678	2.7
6 to 20.....	163	22.6	1,763	7.1
21 to 50.....	32	11.4	2,763	11.2
51 to 100.....	51	7.1	3,853	15.6
Over 100.....	56	7.8	15,707	63.4
Metalliferous deep mines.....	463	100.0	7,689	100.0
No wage earners.....	28	6.0	---	---
Contract work.....	78	16.8	---	---
1 to 5.....	162	35.0	456	5.9
6 to 20.....	121	26.1	1,295	16.8
21 to 50.....	44	9.5	1,507	19.6
51 to 100.....	15	3.2	1,076	14.0
Over 100.....	15	3.2	3,355	43.6
Bituminous coal.....	126	100.0	15,461	100.0
Contract work.....	1	0.8	---	---
1 to 5.....	13	10.3	44	0.3
6 to 20.....	18	14.3	220	1.4
21 to 50.....	24	19.0	873	5.6
51 to 100.....	31	24.6	2,424	15.7
Over 100.....	39	31.0	11,900	77.0

Persons employed in mining.—While metalliferous mining was the leading industry in 1909 when measured by the value of products, bituminous coal mining ranks first when the number of persons employed is considered. Out of a total of 26,783 persons employed in producing mines, 16,166, or 60.4 per cent, were employed in coal mines, and only 8,789 in metalliferous mines.

Prevailing hours of labor.—In Table 4 all producing mines and quarries, except those employing no wage earners and those operated exclusively by contract work and part-time employees, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. Petroleum and natural gas wells are not included in this table because the lack of regularity in the number of hours worked per day in a large number of enterprises rendered such classification impracticable. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise.

The table shows a marked difference in the number of hours persons are employed in the two leading industries. In the metalliferous deep mines in 97.4 per cent of the enterprises weighted according to number of wage earners, 8 hours and under were the prevailing hours of labor, while in the bituminous coal industry the corresponding per cent was 28.7, 61 per cent of the enterprises in this industry being run on a 10-hour per day basis.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries¹.....	575	100.0	100.0
8 hours and under.....	433	75.3	49.9
9 hours.....	34	5.9	8.4
10 hours.....	96	16.7	41.5
12 hours.....	12	2.1	0.2
Metalliferous deep mines.....	357	100.0	100.0
8 hours and under.....	332	93.0	97.4
9 hours.....	8	0.8	0.8
10 hours.....	10	2.8	1.1
12 hours.....	12	3.4	0.8
Bituminous coal.....	125	100.0	100.0
8 hours and under.....	58	46.4	28.7
9 hours.....	22	17.6	10.3
10 hours.....	45	36.0	61.0

¹ Exclusive of petroleum and natural gas.

Engines and power.—The aggregate horsepower employed in producing enterprises as shown by Table 5 was 98,777, of which 74,501 was developed by engines and water wheels owned by the enterprises using them and 24,276 by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Metalliferous deep mines.	Bituminous coal.	Petroleum and natural gas.	All other.
Primary power:					
Aggregate horsepower.....	98,777	56,413	34,085	2,472	5,807
Owned.....	74,501	36,189	32,139	2,472	3,701
Steam engines—					
Number.....	931	369	404	112	46
Horsepower.....	65,996	29,469	32,132	2,397	1,998
Gas or gasoline engines—					
Number.....	27	17	2	4	4
Horsepower.....	407	272	7	75	53
Water wheels—					
Number.....	161	147	---	---	14
Horsepower.....	8,098	6,448	---	---	1,650
Electric motors operated by purchased current—					
Number.....	694	605	52	---	37
Horsepower.....	24,276	20,224	1,946	---	2,106
Electric motors run by current generated by enterprise using:					
Number.....	372	80	281	---	11
Horsepower.....	14,829	3,798	9,816	---	1,215

¹ Includes 1 water motor of 75 horsepower.

Comparison of mining industries: 1902-1909.—Only the few items specified in Table 6 can be compared for the two years, 1909 and 1902.

Table 6	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$10,959,195	\$21,518,169	-7.2
Supplies and materials.....	\$7,273,927	\$6,969,706	-4.4
Royalties and rent of mines.....	\$1,017,847	\$1,064,652	-4.4
Contract work.....	\$139,828	\$393,985	-68.6
Value of products.....	\$39,397,859	\$40,508,256	-2.7
Primary horsepower.....	98,777	83,639	19.0

¹ A minus sign (-) denotes decrease.

² Exclusive of amount paid to miners compensated by a share of the product and also of the wages of part-time employees for the petroleum and natural gas industry, which are included under "Contract work," in Table 7.

In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as

given in the mines and quarries report for that year, statistics for the production of cement and enterprises operated by governmental institutions; to omit from the 1909 figures, as they appear in other tables in this chapter, statistics for the manufacture of coke at bituminous coal mines; and to add to the 1909 statistics figures for the production of lime, which were omitted from the census of mines and quarries in 1909.

Duplication between manufactures and mining.—In four industries, granite and sandstone quarrying, and gypsum and bituminous coal mining, some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in Colorado involves a duplication of \$3,484,491.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	PRODUCING MINES, QUARRIES, AND WELLS.											Non-producing mines, quarries, and wells. ²
	Aggregate.	Total.	Metalliferous deep mines.	Placer gold.	Bituminous coal.	Petroleum and natural gas.	Tungsten.	Limestone.	Sandstone.	Granite.	All other. ¹	
Number of operators.....	1,010	672	453	9	86	23	17	9	35	15	25	338
Number of mines, quarries, and wells.....	3,065	1,651	1,177	37	155	70	105	9	39	17	30	1,414
Capital.....	\$170,439,166	\$144,630,558	\$105,310,030	\$1,444,920	\$28,919,137	\$1,460,800	\$1,252,500	\$434,513	\$668,915	\$160,425	\$3,348,289	\$25,799,608
Expenses of operation and development.....	\$41,060,260	\$38,630,288	\$22,317,760	\$261,632	\$14,279,495	\$328,130	\$214,380	\$315,942	\$172,477	\$79,441	\$661,031	\$2,429,972
Services:												
Salaried officers of corporations, superintendents, and managers.....	\$1,713,422	\$1,441,860	\$828,833	\$22,000	\$413,970	\$13,724	\$13,400	\$8,121	\$9,040	\$7,591	\$46,711	\$271,553
Clerks and other salaried employees.....	\$705,298	\$671,071	\$202,403	\$3,000	\$208,330	\$175	\$3,240	\$3,722	\$1,385	\$1,500	\$16,438	\$34,227
Wage earners.....	\$19,663,445	\$18,463,296	\$6,981,220	\$78,655	\$10,383,706	\$117,927	\$81,584	\$232,553	\$124,074	\$41,121	\$422,300	\$1,200,149
Miscellaneous:												
Supplies.....	\$5,958,730	\$5,459,660	\$3,474,030	\$69,045	\$1,601,712	\$116,312	\$61,275	\$59,912	\$9,600	\$11,392	\$54,532	\$409,073
Cost of ore and coal purchased for material.....	\$4,030,144	\$4,030,144	\$4,008,000		\$261,475							
Fuel and rent of power.....	\$2,068,943	\$1,955,934	\$1,543,688	\$47,200	\$303,980	\$28,721	\$3,752	\$4,802	\$2,000	\$4,616	\$16,579	\$110,959
Royalties and rent of mines.....	\$1,018,123	\$1,017,447	\$545,982	\$4,373	\$430,136	\$8,295	\$1,375	\$1,329	\$4,564	\$5,900	\$15,493	\$976
Taxes.....	\$572,511	\$542,972	\$366,042	\$13,111	\$133,126	\$8,140	\$2,729	\$1,801	\$928	\$383	\$9,757	\$29,539
Contract work.....	\$3,145,334	\$2,936,083	\$2,935,178		\$9,139	\$2,951	\$40,076		\$1,750	\$972	\$5,417	\$140,251
Rent of offices and other sundry expenses.....	\$1,286,301	\$1,151,750	\$680,220	\$22,382	\$443,861	\$31,885	\$6,040	\$3,702	\$18,530	\$6,200	\$73,604	\$134,545
Value of products.....	\$45,680,135	\$45,680,135	\$27,325,847	\$448,586	\$15,782,197	\$317,080	\$332,067	\$331,408	\$189,780	\$78,865	\$873,705	
Persons engaged in industry.....	29,455	26,783	8,689	134	16,166	151	119	412	243	118	685	2,672
Proprietors and officials.....	2,108	1,411	778	25	417	23	28	8	43	18	40	757
Proprietors and firm members.....	1,204	647	362	15	165	16	23	2	36	12	16	557
Number performing manual labor.....	318	232	104	8	10	3	15		19	3	10	86
Salaried officers of corporations.....	287	240	144	2	73	2		1	1		5	47
Superintendents and managers.....	677	524	272	8	179	5	5	5	6	6	19	153
Clerks and other salaried employees.....	651	603	222	3	288	2	5	4	3	2	10	48
Wage earners, Dec. 15, 1909, or nearest representative day.....	20,630	24,769	7,689	106	15,461	126	86	400	197	98	606	1,867
Above ground.....	8,471	8,004	3,154	102	3,400	126	16	400	197	98	511	467
Below ground.....	18,165	16,765	4,535	4	12,061		70				95	1,400
Men 16 years of age and over.....	20,576	24,709	7,088	106	15,404	126	86	398	197	98	606	1,866
Engineers, firemen, mechanics, etc.....	2,757	2,485	1,337	33	966	85	4	17	11	4	28	272
Above ground.....	2,392	2,131	1,179	33	770	85	4	17	11	4	28	261
Below ground.....	365	354	158		196							11
Miners, miners' helpers, quarrymen, and stonecutters.....	10,746	15,292	4,470	59	9,047		70	355	156	88	447	1,454
Above ground.....	1,608	1,400	371	55				355	156	88	376	108
Below ground.....	15,238	13,892	4,099	4	9,047		70				72	1,346
All other employees.....	7,072	6,932	1,881	14	4,791	41	12	26	30	6	151	140
Above ground.....	4,544	4,447	1,603	14	2,607	41	12	26	30	6	108	97
Below ground.....	2,528	2,485	278		2,184						23	43
Boys under 16 years of age.....	61	60	1		57			2				1
Number of wage earners employed on the 15th day of each month:												
January.....	22,630	21,853	6,009	33	14,043	110	00	368	113	54	463	786
February.....	21,909	21,198	6,458	60	13,582	112	50	394	125	59	388	801
March.....	22,045	21,193	6,535	71	13,327	109	54	406	162	61	468	852
April.....	21,311	20,410	6,560	81	12,536	116	02	324	186	65	474	901
May.....	21,228	20,190	6,765	98	11,859	117	07	331	200	77	676	1,038
June.....	21,470	20,260	6,795	100	11,703	117	72	383	233	85	772	1,210
July.....	21,776	20,387	6,937	95	11,707	121	60	374	239	95	700	1,389
August.....	22,163	20,808	6,942	97	12,344	120	74	411	224	88	508	1,355
September.....	22,994	21,701	6,820	94	13,370	127	74	363	187	83	583	1,293
October.....	24,053	22,765	7,032	82	14,246	124	74	383	200	74	550	1,288
November.....	24,444	23,138	7,025	67	14,650	122	68	402	185	62	559	1,306
December.....	25,221	23,892	7,089	44	15,396	122	77	400	124	80	560	1,329
Land controlled, acres.....	360,088	213,875	38,649	7,477	113,636	31,223	5,124	1,765	8,751	1,735	5,515	88,153
Owned.....	101,254	160,082	33,461	4,468	84,915	7,416	5,106	1,725	7,895	1,175	3,021	41,172
Held under lease.....	108,774	63,793	5,188	3,009	28,721	23,807	18	40	856	500	1,594	44,981
Mineral and oil land.....	270,834	186,413	35,891	7,477	92,942	31,223	3,994	1,765	7,866	1,735	4,020	84,421
Owned.....	163,392	123,872	30,235	4,468	65,101	7,416	3,979	1,725	7,050	1,175	2,726	39,520
Held under lease.....	107,442	62,541	5,156	3,009	27,841	23,807	18	40	816	560	1,294	44,901
Timber land.....	1,115	912			400						509	203
Other land.....	28,079	26,550	3,246		20,204		1,130		885		995	1,529
Primary horsepower.....	110,180	98,777	56,413	1,491	34,085	2,472	367	325	330	189	3,105	11,403

¹ Includes operators as follows: Anthracite coal, 2; clay, 0; fluorspar, 2; fuller's earth, 1; graphite, 1; grindstones, 1; gypsum, 4; iron, 1; manganese iron, 1; marble, 2; mica, 1.

² Includes operators as follows: Asphaltum and bituminous rock, 1; bituminous coal, 2; fluorspar, 1; gold and silver, deep mines, 321; marble, 1; molybdenum, 1; placer gold, 2; petroleum and natural gas, 2; slate, 1; tungsten, 4; uranium, 1; vanadium, 1.

³ Includes \$1,021,123, which could not be distributed among the several industries.

⁴ In some cases the same operator conducted two or more enterprises producing different kinds of products, all enterprises being managed through one central administrative office. The total office expenses were accordingly apportioned among the several industries in proportion to the total expenses of each and the estimated amounts of such administrative expenses were added to "Sundry expenses" for each industry. In the totals for all enterprises, however, the expenses appear under the proper headings. The amounts included in "Rent of offices and other sundry expenses" for individual industries and properly distributed in the total for all industries are as follows: Salaried officers of corporations, superintendents, and managers, \$78,479; clerks and other salaried employees, \$49,978; and taxes, \$6,355.

⁵ The following numbers of persons, which could not be distributed among the several industries, are included under the proper headings in the totals for all enterprises: Aggregate, 86; salaried officers of corporations, 12; superintendents and managers, 19; and clerks and other salaried employees, 65.

⁶ In the bituminous coal industry 84 of the boys are employed below ground.

CONNECTICUT.

Summary.—The total value of the products of all mines and quarries in Connecticut in 1909 was \$1,375,765, of which the stone industry, comprising the quarrying of granite, traprock, and sandstone reported \$1,168,447, or 84.9 per cent.

In the feldspar industry and in the aggregate for the three industries shown under "All other" in Table 7 the expenses of operation and development exceeded the total value of the products. This may have been due to unprofitable mining ventures or to expenditures for development work resulting in improvements to the mining properties.

Character of organization.—Tables 1 and 2 present statistics classifying the mining operations of the state under form of organization.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of operators.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries	71	1,690	\$1,375,765	\$19,377	100.0	100.0	100.0
Individual.....	36	372	315,357	8,700	50.7	22.0	22.9
Firm.....	16	164	126,907	7,932	22.5	9.7	9.2
Corporation.....	19	1,154	933,501	49,132	26.8	68.3	67.9
Granite	38	868	617,667	16,254	100.0	100.0	100.0
Individual.....	23	230	142,956	6,215	60.5	26.5	23.1
Firm.....	9	107	88,508	9,834	23.7	12.3	14.3
Corporation.....	6	531	386,203	64,367	15.8	61.2	62.5
Traprock	16	317	359,020	22,439	100.0	100.0	100.0
Individual and firm ¹	9	102	127,646	14,183	56.2	32.2	35.6
Corporation.....	7	215	231,374	33,053	43.8	67.8	64.4

¹ Includes 7 individuals and 2 firms.

	Incorporated.	Unincorporated.
Number of operators.....	19	52
Number of mines and quarries.....	20	55
Proprietors and firm members, total.....		76
Number performing manual labor.....		29
Salaried employees:		
Officers of corporations.....	7	
Superintendents and managers.....	25	17
Clerks and other salaried employees.....	28	8
Wage earners, Dec. 15, 1909, or nearest representative day.....	1,154	536
Capital.....	\$2,686,237	\$268,205
Expenses of operation and development.....	798,984	359,507
Salaries—		
Officers of corporations.....	16,000	
Superintendents and managers.....	29,347	13,764
Clerks and other salaried employees.....	19,190	4,883
Wages.....	516,654	212,723
Royalties and rent of mines.....	2,596	14,175
Taxes.....	15,614	2,043
Supplies and miscellaneous expenses.....	199,583	112,419
Value of products.....	933,501	442,264

Out of a total of 71 enterprises 19 were corporations. These corporations reported 67.9 per cent of

the total value of products and employed 68.3 per cent of all wage earners. In the granite industry the corresponding percentages were 62.5 and 61.2, respectively.

Size of enterprises.—In Table 3 the mining enterprises of the state have been classified according to the number of wage earners employed. Of the 71 enterprises only 4 employed more than 100 wage earners each. These enterprises, however, employed 694 wage earners, or 41.1 per cent of the total number employed in all enterprises.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	ENTERPRISES.		WAGE EARNERS.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries	71	100.0	1,690	100.0
No wage earners.....	2	2.8		
Contract work.....	1	1.4		
1 to 5.....	17	23.9	54	3.2
5 to 20.....	33	46.5	350	20.7
21 to 50.....	11	15.5	358	21.2
51 to 100.....	3	4.2	234	13.8
Over 100.....	4	5.6	694	41.1
Granite	38	100.0	868	100.0
No wage earners.....	1	2.6		
1 to 5.....	12	31.6	44	5.1
6 to 20.....	17	44.7	181	20.9
21 to 50.....	4	10.5	126	14.5
Over 50.....	4	10.5	517	59.6
Traprock	16	100.0	317	100.0
1 to 20.....	10	62.5	95	30.0
Over 20.....	6	37.5	222	70.0

Prevailing hours of labor.—In Table 4 all mines and quarries, except those employing no wage earners and one operated exclusively by contract work, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise. As appears from the table, a majority of all enterprises are operated on a 10-hour basis. Of the total number of enterprises, weighted according to the number of wage earners, 60.4 per cent were operated on this basis. For granite and traprock quarrying, the two leading industries, the corresponding percentages were, respectively, 45.9 and 95.6.

INDUSTRY AND HOURS PER DAY.	ENTERPRISES.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries.....	68	100.0	100.0
8 hours.....	13	19.1	22.0
9 hours.....	18	26.5	17.6
10 hours.....	37	54.4	60.4
Granite.....	37	100.0	100.0
8 hours.....	13	35.1	42.9
9 hours.....	9	24.3	11.3
10 hours.....	15	40.5	45.0
Traprock.....	16	100.0	100.0
9 hours.....	2	12.5	4.4
10 hours.....	14	87.5	95.6

Engines and power.—As shown by Table 5 the aggregate horsepower employed in mining enterprises in Connecticut in 1909 was 6,298, of which 6,123 horsepower was developed by engines and water wheels owned by the enterprises using them and 175 by electric motors operated by purchased current.

CHARACTER OF POWER.	Total.	Granite.	Trap-rock.	Sand-stone.	All other.
Primary power:					
Aggregate horsepower.....	6,298	2,227	2,167	963	941
Owned.....	6,123	2,227	1,992	963	941
Steam engines—					
Number.....	144	83	24	24	13
Horsepower.....	6,032	2,107	1,992	903	880
Gas or gasoline engines—					
Number.....	3	2			1
Horsepower.....	41	30			11
Water wheels—					
Number.....	2				2
Horsepower.....	50				50
Electric motors operated by purchased current—					
Number.....	3		3		
Horsepower.....	175		175		
Electric motors run by current generated by enterprise using:					
Number.....	1				1
Horsepower.....	10				10

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902, it is necessary to omit from the 1902 figures, statistics for enterprises operated by governmental institutions, and to add to the 1909 statistics, figures for the production of lime which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6. The principal increases in the value of products were in the value of the sandstone, which increased from \$128,579 to \$191,760, and in siliceous crystalline rock, consisting of granite and traprock, which increased from \$812,141 to \$976,687.

	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$1,000,409	\$900,614	11.1
Supplies and materials.....	\$474,711	\$223,813	112.1
Royalties and rent of mines.....	\$20,176	\$17,855	13.0
Contract work.....	² \$13,121		
Value of products.....	\$1,928,965	\$1,372,144	40.6
Primary horsepower.....	6,468	7,965	-18.8

¹ A minus sign (-) denotes decrease.
² Exclusive of amount paid to miners compensated by a share of the product, which is included under "Contract work," in Table 7.

Duplication between manufactures and mining.—In three industries, the mining of feldspar and quartz and the quarrying of granite, some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in Connecticut involves a duplication of \$535,927, of which \$449,134 represents the value of the granite reported, \$46,793 the value of the feldspar, and \$40,000 the value of the quartz.

MINES AND QUARRIES.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	Total.	Granite.	Traprock.	Sandstone.	Quartz.	Feldspar.	All other. ¹
Number of operators.....	71	38	16	7	3	4	3
Number of mines and quarries.....	75	40	18	7	3	4	3
Capital.....	\$2,964,442	\$1,340,171	\$216,849	\$671,595	\$162,725	\$69,490	\$258,500
Expenses of operation and development.....	\$1,158,491	\$547,405	\$284,792	\$123,368	\$41,527	\$64,059	\$97,340
Services—							
Salaried officers of corporations, superintendents, and managers.....	\$59,111	\$25,368	\$15,173	\$10,580	\$2,340	\$3,250	\$2,400
Clerks and other salaried employees.....	\$23,573	\$14,317	\$7,061	\$210	\$420	\$965	\$600
Wage earners.....	\$729,377	\$401,747	\$126,100	\$76,966	\$18,450	\$30,510	\$75,604
Miscellaneous—							
Supplies.....	\$127,424	\$38,536	\$49,350	\$9,595	\$2,900	\$13,653	\$7,420
Fuel and rent of power.....	\$71,917	\$31,937	\$18,188	\$8,250	\$2,500	\$2,230	\$5,592
Royalties and rent of mines.....	\$16,771	\$905	\$9,999	\$10	\$1,200	\$4,657	\$25
Taxes.....	\$17,657	\$3,317	\$1,783	\$11,278	\$196	\$458	\$25
Contract work.....	\$13,251	\$1,600	\$640		\$11,521		
Rent of offices and other sundry expenses.....	\$93,900	\$29,678	\$56,483	\$6,539	\$2,000	\$2,396	\$1,889
Value of products.....	\$1,375,765	\$617,667	\$359,020	\$191,760	\$51,521	\$60,104	\$95,693
Persons engaged in industry.....	1,851	956	354	229	56	79	177
Proprietors and officials.....	125	68	27	15	4	4	7
Proprietors and firm members.....	76	46	13	10	1	2	4
Number performing manual labor.....	29	22	2	3		1	1
Salaried officers of corporations.....	7	3		4			
Superintendents and managers.....	42	19	14	1	3	2	3
Clerks and other salaried employees.....	36	20	10	1	1	3	1
Wage earners, Dec. 15, 1909, or nearest representative day.....	1,690	868	317	213	51	72	169
Above ground.....	1,545	868	317	213	51	72	24
Below ground (all men 16 years of age and over).....	145						145
Men 16 years of age and over.....	1,868	858	317	213	51	72	169
Engineers, firemen, mechanics, etc. (all above ground).....	168	88	32	30	7	6	6
Miners, miners' helpers, quarrymen, and stonecutters.....	1,287	661	235	170	14	47	160
Above ground.....	1,142	661	235	170	14	47	15
Below ground.....	145						145
All other employees (all above ground).....	225	109	50	13	30	19	4
Boys under 16 years of age (all above ground).....	10	10					
Number of wage earners employed on the 15th day of each month:							
January.....	757	328	93	90	33	59	154
February.....	690	309	73	64	33	57	154
March.....	984	436	160	140	39	56	153
April.....	1,394	705	200	193	51	76	169
May.....	1,556	796	261	212	51	83	153
June.....	1,734	862	360	227	51	81	153
July.....	1,749	924	331	217	47	76	154
August.....	1,761	954	372	207	3	71	154
September.....	1,757	944	387	200	7	67	152
October.....	1,681	887	369	180	7	69	169
November.....	1,517	776	336	183	6	63	153
December.....	1,044	466	211	142	7	64	154
Land controlled, acres.....	3,878	1,308	749	362	1,133	203	123
Owned.....	2,171	919	634	362	133		123
Held under lease.....	1,707	389	115		1,000	203	
Mineral land.....	3,239	1,149	476	155	1,133	203	123
Owned.....	1,571	790	370	155	133		123
Held under lease.....	1,668	359	106		1,000	203	
Timber land.....	80	80					
Other land.....	559	79	273	207			
Primary power.....	6,298	2,227	2,167	963	450	370	121

¹ Includes operators as follows: Bluestone, 1; infusorial earth, 1; iron, 1.

² Includes \$244,712 which could not be distributed among the several industries.

DELAWARE.

Summary.—Only nine operators of mines and quarries were reported in Delaware in 1909. Six of these were engaged in quarrying granite and three in mining clay. The total value of the granite produced was \$453,284, while the value of the clay produced and sold as such was \$62,929. The total number of persons engaged in the two industries was 671. This total was composed of 628 wage earners, 34 salaried employees, and 9 proprietors and firm members. Statistics for the clay produced and used by the producer in the manufacture of clay products are not included in the statistics of mines and quarries.

Comparison of mining industries: 1902-1909.—Table 1 presents for 1909 and 1902 such items as are comparable for the two years.

	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$287,742	\$250,669	14.8
Supplies and materials.....	\$178,432	\$45,361	293.4
Royalties and rent of mines.....	\$4,392	\$16,187	-72.9
Contract work.....	\$5,800	.....	.....
Value of products.....	\$516,213	\$448,467	15.1
Primary horsepower.....	1,480	1,396	6.0

¹ A minus sign (-) denotes decrease.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

	Total.	Granite.	Clay (sold as such).		Total.	Granite.	Clay (sold as such).	
Number of operators.....	9	0	3	Number of wage earners employed on the 15th day of each month:				
Number of mines and quarries.....	9	6	3		January.....	190	139	57
Capital.....	\$959,078	\$869,722	\$89,356		February.....	235	179	56
Expenses of operation and development..	\$508,937	\$448,733	\$60,204		March.....	391	329	62
Services—					April.....	534	473	61
Salaried officers of corporations, superintendents, and managers.....	\$61,900	\$57,000	\$4,900		May.....	554	490	64
Clerks and other salaried employees.....	\$8,115	\$7,115	\$1,000		June.....	631	566	65
Wage earners.....	\$217,727	\$198,078	\$19,649		July.....	641	575	66
Miscellaneous—					August.....	722	653	69
Supplies.....	\$152,054	\$133,850	\$18,204		September.....	693	626	67
Fuel and rent of power.....	\$26,378	\$24,388	\$1,990		October.....	614	542	72
Royalties and rent of mines.....	\$4,392	\$2,120	\$2,263		November.....	449	383	66
Taxes.....	\$1,624	\$1,149	\$475	December.....	257	204	53	
Contract work.....	\$5,800	.....	\$5,800	Land controlled, acres.....	642	126	518
Rent of offices and other sundry expenses.....	\$30,047	\$24,424	\$5,623	Owned.....	628	112	516	
Value of products.....	\$516,213	\$453,284	\$62,929	Held under lease.....	14	14	.....
Persons engaged in industry.....	671	596	75	Mineral land.....	282	126	156	
Proprietors and officials.....	30	19	11	Owned.....	268	112	156	
Proprietors and firm members.....	9	4	5	Held under lease.....	14	14	.....
Number performing manual labor.....	4	1	3	Timber land.....	24	.....	24
Salaried officers of corporations.....	6	6	.....	Other land.....	336	.....	336
Superintendents and managers.....	15	9	6	Primary horsepower.....	1,480	1,160	320	
Clerks and other salaried employees.....	13	11	2					
Wage earners, Dec. 15, 1909, or nearest representative day (all above ground).....	628	566	62					
Men 16 years of age and over.....	625	564	61					
Engineers, firemen, mechanics, etc.....	61	57	4					
Miners, miners' helpers, quarrymen, and stonecutters.....	470	458	18					
All other employees.....	88	49	39					
Boys under 16 years of age.....	3	2	1					

FLORIDA.

Summary.—Statistics for the producing mining enterprises in the state of Florida are presented at the close of this chapter in Table 6, which gives statistics for all industries combined and for each industry separately. Development work on nonproductive mining properties was unimportant in Florida during 1909. There were only two operators engaged exclusively in such work and the total number of persons employed was only 70.

The production of phosphate rock was the only mining industry of any considerable importance. The value of the products of this industry was \$8,488,801, which represented 96 per cent of the value of the products of all mines and quarries in the state and 78.7 per cent of the value of all phosphate rock produced in the United States in 1909 (\$10,781,192). The production of fuller's earth, valued at \$203,236, was the industry next in importance. In this industry Florida also ranked first among the states, reporting 64.4 per cent of the total value of products for this industry in the country (\$315,762). Clay mining and limestone quarrying, the only other industries, reported products valued, respectively, at \$125,601 and \$29,027. In these two industries the expenses of operation and development exceeded the value of the products. This may have been due to unprofitable mining ventures or to the expenditure of a considerable sum for development work for permanent improvements.

Character of organization.—As shown by Table 1, out of 36 operators of producing enterprises in the state of Florida, 32 were corporations. These corporations reported 96.3 per cent of the total value of products and employed 96.6 per cent of the wage earners.

	Incorporated.	Unincorporated.
Number of operators.....	32	4
Number of mines and quarries.....	31	5
Proprietors and firm members.....		9
Salaried employees:		
Officers of corporations.....	52	4
Superintendents and managers.....	108	4
Clerks and other salaried employees.....	136	4
Wage earners, Dec. 15, 1909, or nearest representative day.....	5,299	184
Capital.....	\$20,582,022	\$212,879
Expenses of operation and development:		
Salaries.....	5,770,490	139,042
Officers of corporations.....	181,085	
Superintendents and managers.....	177,189	7,920
Clerks and other salaried employees.....	126,749	2,818
Wages.....	2,277,954	72,906
Royalties and rent of mines.....	184,936	12,856
Taxes.....	69,982	531
Supplies and miscellaneous expenses.....	2,752,615	42,019
Value of products.....	8,522,593	324,072

Size of enterprises.—In Table 2 the producing mining enterprises of the state are classified according to the number of wage earners employed. Of the 5,483 wage

earners employed in all industries, 4,519, or 82.4 per cent, were employed in the 16 phosphate rock enterprises employing over 100 wage earners each.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	36	100.0	5,483	100.0
6 to 20.....	3	8.3	44	0.8
21 to 50.....	9	25.0	293	5.3
51 to 100.....	8	22.2	627	11.4
Over 100.....	16	44.4	4,519	82.4
Phosphate rock.....	26	100.0	5,105	100.0
6 to 20.....	1	3.8	16	0.3
21 to 50.....	4	15.4	155	3.0
51 to 100.....	5	19.2	415	8.1
Over 100.....	16	61.5	4,519	88.5

Prevailing hours of labor.—In Table 3 all producing mines and quarries have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprises.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises, weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries.....	135	100.0	100.0
9 hours.....	1	2.9	0.4
10 hours.....	20	57.1	57.4
11 hours.....	3	8.6	10.0
12 hours.....	11	31.4	32.2
Phosphate rock.....	125	100.0	100.0
10 hours.....	13	52.0	56.9
11 hours.....	2	8.0	9.1
12 hours.....	10	40.0	33.9

¹ Exclusive of 1 enterprise for which the number of hours was not reported.

Engines and power.—The aggregate horsepower employed in producing enterprises as shown by Table 4 was 42,366, all of which was developed by engines owned by the operators.

Table 4

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Phosphate rock.	Fuller's earth.	Clay.	Limestone.
Primary power (all owned):					
Total.....	42,366	41,047	640	570	109
Steam engines—					
Number.....	434	403	19	10	2
Horsepower.....	38,894	37,584	640	570	100
Gas or gasoline engines—					
Number.....	22	21			1
Horsepower.....	3,472	3,463			9
Electric motors run by current generated by enterprise using:					
Number.....	220	219	1		
Horsepower.....	12,315	12,300	15		

Comparison of mining industries: 1902-1909.—In order to make a comparison between the census of 1909 and the preceding census of mines and quarries, that of 1902, it is necessary to add to the 1909 statis-

tics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. In any case, only the few items specified in Table 5 can be compared for the two years.

The total increase from 1902 to 1909 in the value of the products of mines and quarries was \$5,971,375, or over 200 per cent. Substantially all of this increase was in the value of the phosphate rock, which increased from \$2,655,463 in 1902 to \$8,488,801 in 1909.

Table 5

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase.
Wages and salaries.....	\$2,570,113	\$1,310,598	118.0
Supplies and materials.....	\$1,992,450	\$618,057	222.4
Royalties and rent of mines.....	\$197,792	\$131,493	50.4
Contract work.....	\$217,691	\$4,021	5,319.9
Value of products.....	\$8,915,181	\$2,943,506	202.8
Primary horsepower.....	42,375	10,257	309.1

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 6

	PRODUCING MINES AND QUARRIES.						PRODUCING MINES AND QUARRIES.				
	Total.	Phosphate rock.	Fuller's earth.	Clay (sold as such).	Limestone.		Total.	Phosphate rock.	Fuller's earth.	Clay (sold as such).	Limestone.
Number of operators.....	36	26	3	4	3						
Number of mines and quarries.....	96	81	8	4	3						
Capital ¹	\$20,794,901	\$19,584,310	\$454,420	\$668,102	\$87,970						
Expenses of operation and development.....	\$5,909,532	\$5,594,258	\$152,057	\$128,782	\$34,435						
Services—											
Salaried officers of corporations, superintendents, and managers.....	\$366,194	\$334,934	\$12,760	\$13,900	\$4,600						
Clerks and other salaried employees.....	\$129,565	\$123,615	\$3,570	\$1,300	\$1,080						
Wage earners.....	\$2,350,854	\$2,210,919	\$71,963	\$50,663	\$17,309						
Miscellaneous—											
Supplies.....	\$738,946	\$676,596	\$22,034	\$35,223	\$5,093						
Fuel and rent of power.....	\$1,223,035	\$1,173,118	\$25,728	\$20,393	\$3,798						
Royalties and rent of mines.....	\$197,792	\$194,925		\$2,667	\$200						
Taxes.....	\$70,493	\$67,118	\$1,330	\$1,536	\$509						
Contract work.....	\$217,691	\$217,624	\$67								
Rent of offices and other sundry expenses.....	\$614,982	\$595,409	\$14,605	\$3,100	\$1,848						
Value of products.....	\$8,848,665	\$8,488,801	\$203,236	\$125,601	\$29,027						
Persons engaged in industry—	5,796	5,380	205	147	64						
Proprietors and officials.....	173	146	10	9	8						
Proprietors and firm members.....	9	4			5						
Salaried officers of corporations.....	52	42	5	4	1						
Superintendents and managers.....	112	100	5	5	2						
Clerks and other salaried employees.....	140	129	6	3	2						
Wage earners, Dec. 15, 1909, or nearest representative day.....	5,483	5,105	189	135	54						
Above ground.....	5,431	5,053	189	135	54						
Below ground.....	52	52									
Men 16 years of age and over.....	5,479	5,103	189	135	52						
Engineers, firemen, mechanics, etc.....	796	742	28	15	11						
Above ground.....	796	742	28	15	11						
Persons engaged in industry—											
Continued.											
Wage earners, Dec. 15, 1909—											
Continued.											
Men 16 years of age and over—Continued.											
Miners, miners' helpers, and quarrymen.....	2,640	2,524	50	35	31						
Above ground.....	2,588	2,472	50	35	31						
Below ground.....	52	52									
All other employees.....	2,043	1,837	111	55	10						
Above ground.....	2,043	1,837	111	55	10						
Boys under 16 years of age.....	4	2			2						
Number of wage earners employed on the 15th day of each month:											
January.....	5,697	5,292	218	135	52						
February.....	5,640	5,239	215	125	51						
March.....	5,638	5,257	194	125	52						
April.....	5,437	5,050	210	135	42						
May.....	5,432	5,035	213	132	52						
June.....	5,412	5,046	199	133	44						
July.....	5,502	5,114	201	143	44						
August.....	5,426	5,046	199	135	46						
September.....	5,366	4,986	195	135	50						
October.....	5,224	4,842	194	135	53						
November.....	5,296	4,883	213	146	54						
December.....	5,300	4,914	199	143	54						
Land controlled, acres.....	270,167	263,277	1,208	4,865	817						
Owned.....	263,147	256,957	1,208	4,665	317						
Held under lease.....	7,020	6,320		200	500						
Mineral land.....	178,371	172,521	1,208	4,125	517						
Owned.....	171,431	166,281	1,208	3,925	17						
Held under lease.....	6,940	6,240		200	500						
Timber land.....	88,501	87,461		740	336						
Other land.....	3,295	3,295									
Primary horsepower.....	42,366	41,047	640	570	109						

¹ Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

GEORGIA.

Summary.—The total value of the products of the mining industries in Georgia in 1909 was \$2,874,595. Of this amount, granite and marble quarrying, the two leading industries, contributed, respectively, products valued at \$852,610 and \$767,349, or a total of \$1,619,959. The production of iron ore, the industry third in importance, reported products valued at \$331,178.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated.

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries	92	4,014	\$2,874,595	\$31,246	100.0	100.0	100.0
Individual.....	21	305	150,357	7,190	22.8	7.6	5.2
Firm.....	17	595	380,890	22,750	18.5	14.8	13.5
Corporation.....	54	3,114	2,337,378	43,285	58.7	77.6	81.3
Granite	32	1,334	852,610	26,644	100.0	100.0	100.0
Individual.....	10	195	118,822	11,832	31.3	14.7	13.9
Firm.....	10	453	347,084	34,708	31.3	34.3	40.7
Corporation.....	12	680	386,704	32,225	37.5	51.0	45.4
Iron	11	815	331,178	30,107	100.0	100.0	100.0
Firm.....	5	153	22,854	4,571	45.5	18.8	6.9
Corporation.....	6	662	308,324	51,387	54.5	81.2	93.1

¹ Includes 2 individuals.

	Incorporated.	Unincorporated.
Number of operators.....	54	38
Number of mines and quarries.....	70	39
Proprietors and firm members, total.....		58
Number performing manual labor.....		12
Salaried employees:		
Officers of corporations.....	45	11
Superintendents and managers.....	72	8
Clerks and other salaried employees.....	59	
Wage earners, Dec. 15, 1909, or nearest representative day.....	3,114	900
Capital.....	\$11,190,272	\$285,438
Expenses of operation and development.....	1,679,037	385,199
Salaries—		
Officers of corporations.....	58,190	9,172
Superintendents and managers.....	79,526	8,444
Clerks and other salaried employees.....	39,574	308,825
Wages.....	969,334	1,409
Royalties and rent of mines.....	49,308	1,140
Taxes.....	12,066	53,209
Supplies and miscellaneous expenses.....	471,009	
Value of products.....	2,337,378	537,217

Out of a total of 92 operators, 54 were corporations. These corporations reported 81.3 per cent of the total value of products and employed 77.6 per cent of all wage earners. In the granite quarrying industry less than one-half of the products were reported by corpora-

tions, while in the iron industry the corporations reported nine-tenths of the total product.

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according to the number of wage earners employed per enterprise or operating unit. Of the 4,014 wage earners employed in all enterprises, 1,740, or 43.3 per cent, were reported by the nine enterprises employing over 100 wage earners each.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries	94	100.0	4,014	100.0
Contract work.....	1	1.1		
1 to 5.....	12	12.8	41	1.0
6 to 20.....	26	27.7	350	8.7
21 to 50.....	37	39.4	1,214	30.2
51 to 100.....	9	9.6	669	16.7
Over 100.....	9	9.6	1,740	43.3
Granite	32	100.0	1,334	100.0
1 to 5.....	4	12.5	10	0.7
6 to 20.....	5	15.6	73	5.5
21 to 50.....	18	56.3	621	46.6
Over 50.....	5	15.6	630	47.2
Iron	13	100.0	815	100.0
1 to 50.....	7	53.8	210	25.8
Over 50.....	6	46.2	605	74.2

Prevailing hours of labor.—In Table 4 all producing enterprises, except one operated exclusively by contract work, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries	93	100.0	100.0
8 hours.....	18	19.4	25.1
9 hours.....	6	6.5	12.9
10 hours.....	65	69.9	55.9
11 hours.....	1	1.1	1.0
12 hours.....	3	3.2	5.0
Granite	32	100.0	100.0
8 hours.....	16	50.0	70.1
9 hours.....	3	9.4	4.6
10 hours.....	12	37.5	22.1
11 hours.....	1	3.1	3.1
Iron	13	100.0	100.0
9 hours.....	1	7.7	0.5
10 hours.....	11	84.6	81.5
12 hours.....	1	7.7	18.0

The table shows the percentage of the total number of enterprises falling in each group, and also a per

cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day.

For all industries combined a day of 10 hours prevailed in slightly over one-half of the enterprises weighted according to the number of wage earners. In the granite quarries a day of 8 hours and in the iron mines a day of 10 hours generally prevailed.

Engines and power.—As shown by Table 5, the aggregate horsepower employed in producing enterprises was 10,698, of which all but 268 horsepower was developed by engines and water wheels owned by enterprises using them.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Granite.	Iron.	Marble.	All other.
Primary power:					
Aggregate horsepower.....	10,698	2,224	3,496	1,187	3,791
Owned.....	10,430	1,956	3,496	1,187	3,791
Steam engines—					
Number.....	182	40	41	29	72
Horsepower.....	9,268	1,956	3,496	1,057	2,759
Gas or gasoline engines—					
Number.....	5			2	3
Horsepower.....	62			30	32
Water wheels—					
Number.....	12			1	11
Horsepower.....	1,100			100	1,000
Electric motors operated by purchased current—					
Number.....	3	3			
Horsepower.....	268	268			
Electric motors run by current generated by enterprise using:					
Number.....	3	2			1
Horsepower.....	80	50			30

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement, and to add to the 1909 statistics figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$1,495,562	\$1,276,362	17.2
Supplies and materials.....	\$415,841	\$556,229	-25.2
Royalties and rent of mines.....	\$59,317	\$42,008	41.2
Contract work.....	\$1,187	\$122,619	-99.0
Value of products.....	\$2,924,741	\$3,080,287	-5.0
Primary horsepower.....	10,848	9,373	15.7

¹ A minus sign (-) denotes decrease.
² Exclusive of amount paid to miners compensated by a share of the product, which is included under "Contract work," in Table 7.

Duplication between manufactures and mining.—In a number of industries some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact, the combined value of products for the manufacturing and mining industries in Georgia involves a duplication of \$892,556.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7

	PRODUCING MINES AND QUARRIES.									
	Total.	Granite.	Marble.	Lime-stone.	Iron.	Placer gold.	Clay (sold as such).	Bauxite.	Mineral pigments.	All other. ¹
Number of operators.....	92	32	5	3	11	8	10	6	4	13
Number of mines and quarries.....	109	36	9	3	18	8	10	6	4	15
Capital.....	\$11,475,710	\$359,107	\$2,234,204	\$103,400	\$4,018,392	\$865,000	\$748,904	\$331,861	\$171,551	\$2,143,291
Expenses of operation and development.....	\$2,064,236	\$682,305	\$325,429	\$12,987	\$304,529	\$20,031	\$129,016	\$86,311	\$46,939	\$456,689
Services—										
Salaried officers of corporations, superintendents, and managers.....	\$146,888	\$25,755	\$32,100	\$2,000	\$25,610	\$2,570	\$18,643	\$10,885	\$6,982	\$22,343
Clerks and other salaried employees.....	\$43,018	\$9,939	\$9,446		\$9,260		\$2,463	\$2,400	\$1,200	\$8,310
Wage earners.....	\$1,278,159	\$508,834	\$156,388	\$8,334	\$156,558	\$12,670	\$65,525	\$54,070	\$20,788	\$294,092
Miscellaneous—										
Supplies.....	\$254,021	\$41,490	\$55,916	\$1,460	\$40,665	\$245	\$18,388	\$9,045	\$8,620	\$78,192
Fuel and rent of power.....	\$146,699	\$32,725	\$26,851	\$110	\$34,525	\$400	\$14,782	\$4,988	\$2,912	\$29,373
Royalties and rent of mines.....	\$58,717	\$13,130	\$22,778	\$333	\$18,468	\$1,130	\$1,034	\$1,258	\$586	
Taxes.....	\$13,236	\$2,056	\$1,678	\$650	\$3,065	\$1,100	\$1,282	\$691	\$533	\$2,181
Contract work.....	\$1,903	\$187				\$1,716				
Rent of offices and other sundry expenses.....	\$121,623	\$48,189	\$20,272	\$100	\$16,378	\$200	\$6,899	\$2,974	\$5,318	\$21,298
Value of products.....	\$2,874,585	\$852,610	\$767,349	\$15,080	\$331,178	\$19,633	\$172,248	\$100,701	\$60,742	\$555,054
Persons engaged in industry.....	4,267	1,410	475	40	882	58	251	261	117	793
Proprietors and officials.....	189	55	17	3	32	12	19	14	10	24
Proprietors and firm members.....	58	32		1	8		2		1	5
Number performing manual labor.....	12	8			9		2			1
Salaried officers of corporations.....	45	9	5		7		10	7	2	5
Superintendents and managers.....	83	14	12	2	17		3	7	7	14
Clerks and other salaried employees.....	67	21	11		15		5	3	1	11
Wage earners, Dec. 15, 1909, or nearest representative day.....	4,014	1,334	447	37	815	46	227	244	106	753
Above ground.....	3,537	1,334	447	37	750	43	227	244	106	349
Below ground.....	477				65	3				409
Men 16 years of age and over.....	3,862	1,301	447	37	788	46	223	239	106	675
Engineers, firemen, mechanics, etc. (all above ground).....	373	70	81	3	101	11	18	19	3	67
Miners, miners' helpers, quarrymen, and stonecutters.....	2,221	812	205	34	358	35	164	197	13	463
Above ground.....	1,834	812	205	34	293	32	164	197	13	84
Below ground.....	387				65	3				319
All other employees.....	1,268	419	161		329		41	23	90	205
Above ground.....	1,255	419	161		329		41	23	90	192
Below ground.....	13									13
Boys under 16 years of age ²	152	33			27		4	5		83
Number of wage earners employed on the 15th day of each month:										
January.....	3,220	1,149	454	34	504	25	157	129	37	731
February.....	3,154	1,140	442	34	513	25	161	138	46	685
March.....	3,318	1,249	440	36	491	23	177	140	67	695
April.....	3,271	1,256	415	41	428	25	170	155	80	701
May.....	2,793	808	434	40	380	26	179	176	71	679
June.....	3,279	1,213	445	38	427	28	172	167	77	707
July.....	3,406	1,315	433	35	418	35	168	187	93	722
August.....	3,005	1,366	443	45	506	34	173	244	100	694
September.....	3,598	1,328	424	35	527	41	170	242	86	745
October.....	3,590	1,275	412	38	551	38	172	221	96	727
November.....	3,615	1,241	405	34	603	38	173	247	103	771
December.....	3,772	1,294	447	25	734	39	164	234	100	735
Land controlled, acres.....	136,129	2,351	7,921	500	73,683	16,004	2,957	12,992	290	19,431
Owned.....	132,023	1,825	7,856	480	72,273	15,804	2,656	11,503	200	19,431
Held under lease.....	4,101	526	65	20	1,410	200	301	1,489	90	
Mineral land.....	124,945	1,426	7,921	500	70,570	9,480	2,695	12,842	290	19,221
Owned.....	121,254	900	7,856	480	69,160	9,280	2,654	11,503	200	19,221
Held under lease.....	3,691	526	65	20	1,410	200	41	1,339	90	
Timber land.....	4,446	510				3,624	262	150		
Other land.....	6,738	415			3,113	3,000				210
Primary horsepower.....	10,698	2,224	1,187	20	3,496	1,065	733	355	215	1,403

¹ Includes operators as follows: Asbestos, 1; barytes, 1; bituminous coal, 2; fuller's earth, 2; gold and silver, deep mines, 1; graphite, 2; pyrite, 2; slate, 1; talc and soapstone, 1.

² In the bituminous coal industry 77 boys were employed below ground.

IDAHO.

Summary.—Out of a total of 174 producing operators engaged in mining in 1909, 156 reported the production of gold and silver. The total value of the products of these enterprises was \$8,147,345, which represented 94.2 per cent of the value of the products of all mines and quarries (\$8,649,342).

In the aggregate production of placer gold the expenses of operation and development exceeded the value of the products, a result which indicates either that certain enterprises were operated at a loss, or that a considerable sum was expended for development work, which added to the permanent value of the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of 174 operators of producing enterprises in the state, 75 were organized as corporations. These corporations reported 88.9 per cent of the total value of the products of the state and employed 90.4 per cent of all wage earners.

earners each. These enterprises, however, employed 62 per cent of all wage earners. For gold and silver deep mines the average number of wage earners employed per enterprise was 51, while for placer mines the corresponding average was less than 4.

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.....	174	3,592	\$8,649,342	\$49,709	100.0	100.0	100.0
Individual ¹	64	130	112,309	1,755	36.8	3.8	1.3
Firm.....	35	210	851,809	24,337	20.1	5.8	9.8
Corporation.....	75	3,246	7,685,224	102,470	43.1	90.4	88.9
Gold and silver, deep mines.....	60	3,077	7,926,602	132,110	100.0	100.0	100.0
Individual.....	13	49	29,710	2,285	21.7	1.6	0.4
Firm.....	5	135	791,101	158,220	8.3	4.4	10.0
Corporation.....	42	2,893	7,105,791	169,186	70.0	94.0	89.6
Placer gold.....	96	313	220,743	2,299	100.0	100.0	100.0
Individual ¹	47	71	71,441	1,520	49.0	22.7	32.4
Firm.....	28	61	37,664	1,449	27.1	19.5	17.1
Corporation.....	23	181	111,638	4,854	24.0	57.8	50.6

¹ Includes 1 cooperative association.

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according to the number of wage earners employed. Out of a total of 174 enterprises only 6 employed more than 100 wage

	Incorporated.	Unincorporated.
Number of operators.....	75	99
Number of mines and quarries.....	232	133
Proprietors and firm members, total.....		169
Number performing manual labor.....		115
Salaried employees:		
Officers of corporations.....	24	6
Superintendents and managers.....	85	1
Clerks and other salaried employees.....	63	1
Wage earners, Dec. 15, 1909, or nearest representative day.....	3,246	346
Capital.....	\$48,352,454	\$540,434
Expenses of operation and development.....	6,589,696	609,067
Salaries—		
Officers of corporations.....	43,015	
Superintendents and managers.....	211,336	14,900
Clerks and other salaried employees.....	85,897	2,730
Wages.....	3,701,040	344,507
Royalties and rent of mines.....	20,762	6,870
Taxes.....	139,201	18,944
Supplies and miscellaneous expenses.....	2,388,445	221,116
Value of products.....	7,685,224	964,118

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	174	100.0	3,592	100.0
No wage earners.....	42	24.1		
Contract work.....	2	1.1		
1 to 5.....	66	37.9	157	4.4
6 to 20.....	40	23.0	475	13.2
21 to 50.....	13	7.5	431	12.0
51 to 100.....	5	2.9	303	8.4
Over 100.....	6	3.4	2,226	62.0
Gold and silver, deep mines.....	60	100.0	3,077	100.0
No wage earners.....	3	5.0		
1 to 5.....	18	30.0	52	1.7
6 to 20.....	19	31.7	246	8.0
21 to 50.....	10	16.7	351	11.4
51 to 100.....	5	8.3	303	9.8
Over 100.....	5	8.3	2,125	69.1
Placer gold.....	96	100.0	313	100.0
No wage earners.....	36	37.5		
Contract work.....	1	1.0		
1 to 5.....	42	43.8	84	26.8
Over 5.....	17	17.7	229	73.2

Prevailing hours of labor.—In Table 4 all producing mines and quarries, except those employing no wage earners and those operated exclusively by contract work, have been classified according to the

prevailing hours of labor per day in each enterprise or operating unit. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter percentage does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise.

In 74 enterprises a day of eight hours prevailed. These enterprises employed 91.7 per cent of the wage earners reported in all enterprises.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries.....	1,123	100.0	100.0
8 hours and under.....	74	57.8	91.7
9 hours.....	11	8.6	1.9
10 hours.....	25	27.3	4.1
11 hours.....	2	1.6	0.7
12 hours.....	6	4.7	1.7

¹ Exclusive of 2 enterprises for which number of hours per day was not reported.

Engines and power.—The aggregate horsepower employed in producing enterprises, as shown by Table 5, was 26,278, of which 16,945 horsepower was developed by engines and water wheels or motors owned by the enterprises using them and 9,333 by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909			
	Total.	Gold and silver, deep mines.	Placer gold.	All other.
Primary power:				
Aggregate horsepower.....	26,278	23,648	1,647	985
Owned.....	16,945	14,063	1,597	685
Steam engines—				
Number.....	54	34	15	5
Horsepower.....	2,610	1,755	505	350
Gas or gasoline engines—				
Number.....	11	8	.....	3
Horsepower.....	207	173	.....	34
Water wheels—				
Number.....	171	61	18	2
Horsepower.....	14,128	12,735	1,092	301
Electric motors operated by purchased current—				
Number.....	137	134	2	1
Horsepower.....	9,333	8,983	50	300
Electric motors run by current generated by enterprise using:				
Number.....	53	53	.....	.....
Horsepower.....	1,428	1,428	.....	.....

¹ Includes 4 water motors of 1,000 horsepower.

Development work.—In addition to the operations of producing enterprises, considerable development

work was in progress on mining properties which did not report production in 1909. Table 6 presents statistics showing the relation between the producing and nonproducing enterprises.

	All enterprises.	Producing enterprises.	NONPRODUCING ENTERPRISES.	
			Number or amount.	Per cent of total.
Number of operators.....	890	174	716	80.4
Number of mines and quarries.....	2,431	370	2,061	84.8
Persons engaged in industry.....	6,959	3,940	3,019	43.4
Proprietors and firm members.....	871	169	702	80.6
Number performing manual labor.....	297	115	182	61.3
Salaried employees.....	374	179	195	52.1
Wage earners, Dec. 15, 1909, or nearest representative day.....	5,714	3,592	2,122	37.1
Above ground.....	1,497	1,151	346	23.1
Below ground.....	4,217	2,441	1,776	42.1
Engineers, firemen, mechanics, etc.....	600	470	121	20.2
Miners, miners' helpers, and quarrymen.....	4,132	2,300	1,832	44.3
All other employees.....	982	818	169	17.2
Primary horsepower.....	31,330	26,278	5,052	16.1
Capital.....	\$80,998,754	\$48,892,888	\$32,105,866	39.6
Expenses of operation and development.....	9,652,288	7,198,763	2,453,525	25.4
Services.....	5,838,679	4,403,425	1,435,254	25.2
Salaries.....	540,590	357,878	182,712	33.8
Wages.....	5,348,089	4,045,547	1,302,542	24.4
Supplies, including fuel and rent of power.....	2,796,186	2,203,657	592,529	21.2
Contract work.....	320,197	23,036	297,161	92.8
Rent of offices and other sundry expenses.....	647,226	568,645	78,581	12.1

Comparison of mining industries: 1902-1909.—In order to make a comparison between the census of 1909 and the preceding census of mines and quarries, that of 1902, it is necessary to include for 1909 figures for the production of lime, which were included in the report on mines and quarries for 1902, but classified as a manufacturing industry in 1909. In any case, only the few items specified in Table 7 can be compared for the two years.

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$4,444,259	\$4,480,194	-0.8
Supplies and materials.....	\$2,225,762	\$1,626,163	36.9
Royalties and rent of mines.....	\$27,632	\$28,103	-1.7
Contract work.....	\$22,665	\$43,442	-47.8
Value of products.....	\$8,749,650	\$8,214,671	6.5
Primary horsepower.....	26,363	18,703	41.0

¹ A minus sign (-) denotes decrease.

² Exclusive of amount paid to miners compensated by a share of the product, which is included under "Contract work," in Table 8.

Duplication between manufactures and mining.—In the sandstone industry some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included both in the statistics for mines and quarries and for manufactures. As a result of this fact the combined value of products for the manufacturing and mining industries in Idaho involves a duplication of \$7,500.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 8	Aggregate.	PRODUCING MINES AND QUARRIES.						NONPRODUCING MINES AND QUARRIES.		
		Total.	Gold and silver, deep mines.	Placer gold.	Copper.	Sand-stone.	All other. ¹	Total.	Gold and silver, deep mines.	All other. ²
Number of operators.....	890	174	60	96	4	4	10	716	697	19
Number of mines and quarries.....	2,431	370	154	160	27	4	25	2,061	2,031	30
Capital.....	\$80,998,754	\$48,892,888	\$40,752,983	\$3,468,780	\$3,027,944	\$56,000	\$1,566,581	\$32,105,896	\$31,985,906	\$119,960
Expenses of operation and development.....	\$9,652,288	\$7,198,763	\$6,582,783	\$238,486	\$310,540	\$19,272	\$47,682	\$2,453,525	\$2,424,661	\$28,864
Services—										
Salaried officers of corporations, superintendents, and managers, clerks and other salaried employees.....	\$432,344	\$269,251	\$224,563	\$24,250	\$10,250	\$3,400	\$9,758	\$163,093	\$161,293	\$1,800
Wage earners.....	\$108,246	\$88,627	\$82,017	\$1,030	\$5,400	\$150	.....	\$19,619	\$18,005	\$1,614
Miscellaneous—	\$5,348,089	\$4,045,547	\$3,698,106	\$147,703	\$167,132	\$11,434	\$21,172	\$1,902,542	\$1,286,665	\$15,877
Supplies.....	\$2,383,373	\$1,847,458	\$1,718,126	\$34,345	\$84,431	\$2,050	\$8,506	\$535,915	\$529,700	\$6,215
Fuel and rent of power.....	\$412,813	\$350,199	\$337,598	\$9,274	\$8,320	\$243	\$704	\$75,614	\$75,614	.....
Royalties and rent of mines.....	\$29,687	\$27,032	\$23,152	\$4,383	.....	\$583	.....	\$2,055	\$2,055	.....
Taxes.....	\$164,935	\$158,145	\$143,237	\$4,882	.....	.....	.....	\$6,790	\$6,782	\$8
Contract work.....	\$320,197	\$23,036	\$12,683	\$371	\$5,100	\$952	.....	\$297,161	\$295,661	\$1,500
Rent of offices and other sundry expenses.....	\$452,604	\$382,868	\$343,301	\$13,218	\$17,233	\$400	\$8,716	\$69,736	\$67,886	\$1,850
Value of products.....	\$8,649,342	\$8,649,342	\$7,926,602	\$220,743	\$416,086	\$30,004	\$55,907	.....	.....	.....
Persons engaged in industry.....	6,959	3,940	3,251	450	142	25	72	3,019	2,944	75
Proprietors and officials.....	1,146	284	116	136	5	5	22	862	837	25
Proprietors and firm members.....	871	169	34	116	1	3	15	702	678	24
Number performing manual labor.....	297	115	15	93	.....	2	5	182	170	12
Salaried officers of corporations, superintendents and managers, clerks and other salaried employees.....	73	24	18	4	.....	.....	1	49	49	.....
Wage earners, Dec. 15, 1909, or nearest representative day (all 16 years of age and over).....	202	61	64	16	3	.....	6	111	110	1
Above ground.....	99	94	88	1	3	.....	1	35	33	2
Below ground.....	5,714	3,592	3,077	313	134	19	49	2,122	2,074	48
Engineers, firemen, mechanics, etc.....	600	479	45	20	1	.....	4	121	121	.....
Above ground.....	489	391	341	31	14	.....	4	98	98	.....
Below ground.....	111	88	68	14	6	.....	.....	23	23	.....
Miners, miners' helpers, and quarrymen.....	4,132	2,900	1,922	225	97	.....	16	1,832	1,785	46
Above ground.....	423	329	222	64	.....	.....	16	94	82	32
Below ground.....	3,709	1,971	1,858	7	97	.....	.....	1,738	1,724	14
All other employees.....	982	813	746	43	17	.....	2	169	167	2
Above ground.....	585	481	376	8	.....	.....	2	154	152	2
Below ground.....	397	382	370	7	12	.....	.....	15	15	.....
Number of wage earners employed on the 15th day of each month:										
January.....	3,833	3,124	2,926	27	134	13	24	709	700	9
February.....	3,875	3,094	2,911	23	128	12	22	751	767	14
March.....	4,007	3,119	2,911	71	102	12	23	888	873	15
April.....	4,262	3,941	2,942	248	91	13	47	921	909	12
May.....	4,396	3,426	2,980	281	106	13	46	970	947	23
June.....	4,541	3,439	2,987	273	120	20	39	1,102	1,079	23
July.....	4,552	3,439	2,975	258	79	20	33	1,187	1,170	17
August.....	4,589	3,365	3,066	144	96	20	32	1,231	1,213	18
September.....	4,446	3,358	2,826	155	120	19	31	1,295	1,280	15
October.....	4,568	3,151	2,871	145	124	15	37	1,376	1,355	21
November.....	4,525	3,192	2,927	102	146	13	24	1,313	1,291	22
December.....	4,300	3,212	2,936	35	134	13	17	1,165	1,152	13
Land controlled, acres.....	143,466	48,920	17,855	25,978	1,875	135	3,077	94,546	90,815	3,731
Owned.....	137,731	45,674	16,381	24,563	1,875	60	2,795	92,057	88,326	3,731
Held under lease.....	5,735	3,246	1,474	1,415	.....	75	282	2,489	2,489	.....
Mineral land.....	139,245	45,463	15,608	25,248	1,395	135	3,077	93,782	90,211	3,571
Owned.....	133,515	42,222	14,139	23,833	1,395	60	2,795	91,293	87,722	3,571
Held under lease.....	5,730	3,241	1,469	1,415	.....	75	282	2,489	2,489	.....
Timber land.....	1,534	1,149	899	250	.....	.....	.....	385	385	.....
Other land.....	2,687	2,308	1,348	480	480	.....	.....	379	219	160
Primary horsepower.....	31,330	26,278	23,646	1,647	818	116	51	5,052	5,038	14

¹ Includes operators as follows: Antimony, 1; asbestos, 1; bituminous coal, 2; granite, 2; limestone, 1; phosphate rock, 1; pumice, 1; traprock, 1.
² Includes operators as follows: Bituminous coal, 1; limestone, 1; placer gold, 17.

ILLINOIS.

Summary.—Illinois ranked second among the states in the value of the products of mining industries in 1909, Pennsylvania being the only state to report products of greater value. The gross value of the products for the state was \$76,658,974. Deducting from this amount, \$101,980, the value of the lead and zinc ore and natural gas sold by some operators and used as materials or resold by others, leaves \$76,556,994 as the net value of the products. The principal industry was bituminous coal mining, which reported products valued at \$53,030,545. This figure represents 69.3 per cent of the total net value of the products of all mines, quarries, and wells. The value of the products of petroleum and natural gas wells, the industry second in importance, amounted to \$18,883,102.

For the five enterprises shown in the column "All other," in Table 7, the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work resulting in permanent improvements to the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated.

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.	915	82,436	\$76,658,974	\$83,780	100.0	100.0	100.0
Individual.....	211	2,979	1,997,825	9,468	23.1	3.6	2.6
Firm.....	298	2,491	4,563,781	15,315	32.6	3.0	6.0
Corporation.....	391	76,636	68,440,973	175,041	42.7	93.0	89.3
Other.....	15	330	1,656,395	110,426	1.6	0.4	2.2
Bituminous coal.	470	74,445	\$53,030,545	\$112,831	100.0	100.0	100.0
Individual.....	133	2,578	1,481,485	11,139	28.3	3.5	2.8
Firm.....	91	1,925	1,127,484	12,390	19.4	2.6	2.1
Corporation.....	239	69,736	50,264,245	210,311	50.9	93.7	94.8
Other.....	7	206	157,331	22,476	1.5	0.3	0.3
Petroleum and natural gas.	323	4,059	\$18,883,102	\$58,501	100.0	100.0	100.0
Individual.....	38	98	360,692	9,492	11.8	2.4	1.9
Firm.....	159	360	3,326,717	17,602	58.5	8.9	17.6
Corporation.....	88	3,477	13,709,342	155,788	27.2	85.7	72.6
Other.....	8	124	1,499,064	187,383	2.5	3.1	7.9
Limestone.	81	3,276	\$3,977,359	\$49,103	100.0	100.0	100.0
Individual.....	26	172	108,984	4,192	32.1	5.3	2.7
Firm.....	11	130	69,219	6,293	13.6	4.0	1.7
Corporation.....	44	2,974	3,799,156	86,344	54.3	90.8	95.5

Out of a total of 915 operators, 391, or 42.7 per cent, were corporations. These corporations reported 89.3 per cent of the total value of products and employed 93 per cent of all wage earners.

	Incorporated.	Unincorporated.
Number of operators.....	391	524
Number of mines and quarries.....	449	310
Number of wells.....	8,407	2,511
Proprietors and firm members, total.....		1,425
Number performing manual labor.....		401
Salaried employees:		
Officers of corporations.....	373	
Superintendents and managers.....	705	140
Clerks and other salaried employees.....	1,223	87
Wage earners, Dec. 15, 1909, or nearest representative day.....	76,636	5,800
Capital.....	\$107,067,809	\$9,891,898
Expenses of operation and development.....	62,306,606	6,351,425
Salaries:		
Officers of corporations.....	909,641	
Superintendents and managers.....	1,019,899	128,562
Clerks and other salaried employees.....	1,008,506	46,047
Wages.....	43,798,689	2,580,038
Royalties and rent of mines.....	2,625,140	954,332
Taxes.....	256,720	30,740
Supplies and miscellaneous expenses.....	12,646,121	2,611,706
Cost of ore purchased and natural gas purchased and resold.....	101,980	
Value of products.....	68,440,973	8,218,001

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according to the number of wage earners employed per enterprise or operating unit. Of the 82,436 wage earners reported by all enterprises, 29,297, or 35.5 per cent, were employed in the 29 enterprises employing over 500 wage earners each.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.	988	100.0	82,436	100.0
No wage earners.....	11	1.1		
Contract work and part-time employees.....	54	5.5		
1 to 5.....	310	31.4	650	0.8
6 to 20.....	231	23.4	2,591	3.1
21 to 50.....	102	10.3	3,492	4.2
51 to 100.....	73	7.4	5,337	6.5
101 to 500.....	176	17.8	41,069	49.8
501 to 1,000.....	21	2.1	14,190	17.2
Over 1,000.....	8	0.8	15,107	18.3
Bituminous coal.	541	100.0	74,445	100.0
No wage earners.....	2	0.4		
Contract work.....	6	1.1		
1 to 5.....	58	10.7	203	0.3
6 to 20.....	153	28.3	1,674	2.2
21 to 50.....	73	13.5	2,505	3.4
51 to 100.....	55	10.2	4,009	5.4
101 to 500.....	166	30.7	39,087	52.5
501 to 1,000.....	21	3.9	14,190	19.1
Over 1,000.....	7	1.3	12,777	17.2
Petroleum and natural gas.	323	100.0	4,059	100.0
No wage earners.....	5	1.5		
Contract work and part-time employees.....	46	14.2		
1 to 5.....	219	67.8	337	8.3
6 to 20.....	37	11.5	423	10.4
21 to 50.....	7	2.2	263	6.5
51 to 100.....	6	1.9	430	10.6
Over 100.....	3	0.9	2,606	64.2
Limestone.	81	100.0	3,276	100.0
No wage earners.....	2	2.5		
1 to 5.....	18	22.2	58	1.8
6 to 20.....	27	33.3	335	10.2
21 to 50.....	16	19.8	511	15.6
51 to 100.....	11	13.6	810	24.7
Over 100.....	7	8.6	1,662	47.7

Persons employed in mining.—Of the 86,389 persons engaged in producing mines in 1909, 82,436 were wage earners, 2,528 salaried employees, and 1,425 proprietors and firm members. Of the last class, 401 performed manual labor in or about the mines. Coal mining, the leading industry, employed 74,445, or 90.3 per cent of all wage earners.

Prevailing hours of labor.—In Table 4 all producing mines and quarries, except those employing no wage earners and those operated exclusively by contract work and part-time employees, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. Petroleum and natural gas wells are not included in this table, because the lack of regularity in the number of hours worked per day in a large number of enterprises rendered such classification impracticable. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of employees working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise.

For all industries combined, in 95 per cent of the number of enterprises weighted according to the number of wage earners, the prevailing hours per day were eight or under. For bituminous coal mines the corresponding per cent was 99.9, while in the limestone quarries only 1.7 per cent of the enterprises were operated on this basis. In this industry a day of 10 hours prevailed in 87.7 per cent of the enterprises.

Table 4

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries ¹	649	100.0	100.0
8 hours and under.....	535	82.4	95.0
9 hours.....	25	3.9	0.5
10 hours.....	86	13.3	4.2
12 hours.....	3	0.5	0.3
Bituminous coal	533	100.0	100.0
8 hours and under.....	523	98.1	99.9
9 hours.....	4	0.8	0.1
10 hours.....	6	1.1	0.1
Limestone	79	100.0	100.0
8 hours.....	6	7.6	1.7
9 hours.....	10	12.7	5.6
10 hours.....	62	78.5	87.7
12 hours.....	1	1.3	4.9

¹ Exclusive of petroleum and natural gas.

Engines and power.—The aggregate horsepower employed in the producing enterprises, as shown by Table 5, was 225,330, all of which, with the exception

of 3,382 horsepower developed by electric motors operated by purchased current, was developed by engines owned by the enterprises using them.

Table 5

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Bituminous coal.	Petroleum and natural gas.	Limestone.	All other.
Primary power:					
Aggregate horsepower.....	225,330	166,174	40,615	16,342	2,199
Owned.....	221,948	165,925	40,615	13,209	2,199
Steam engines—					
Number.....	2,450	1,987	247	175	38
Horsepower.....	185,471	165,441	4,720	13,147	2,163
Gas or gasoline engines—					
Number.....	1,621	71	1,541	4	5
Horsepower.....	36,477	484	35,895	62	36
Electric motors operated by purchased current—					
Number.....	76	16	.....	60	.....
Horsepower.....	3,382	249	.....	3,133	.....
Electric motors run by current generated by enterprise using:					
Number.....	342	298	.....	34	10
Horsepower.....	14,567	12,165	.....	2,127	275

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement and enterprises operated by governmental institutions; to omit from the 1909 figures, as they appear in other tables in this chapter, the value of the by-products of bituminous coal mines, and to add to the 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

The greatest relative increase in the value of products from 1902 to 1909 was in the value of petroleum and natural gas, which increased in the eight years from \$2,844 to \$18,895,815. Another important increase was in the value of bituminous coal from \$33,945,910 to \$52,999,918.

Table 6

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase.
Wages and salaries.....	\$49,838,660	\$28,539,154	74.6
Supplies and materials.....	\$9,973,037	\$3,315,552	200.8
Royalties and rent of mines.....	\$3,579,990	\$474,475	654.5
Contract work.....	1 \$2,360,424	\$23,016	8,973.0
Value of products.....	\$77,214,343	\$37,377,226	106.6
Primary horsepower.....	225,124	88,500	155.5

¹ Exclusive of the wages of part-time employees for the petroleum and natural gas industry, which are included under "Contract work," in Table 7.

Duplication between manufactures and mining.—In the production of limestone, peat, and sandstone some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact, the combined value of products for the manufacturing and mining industries in Illinois involves a duplication of \$577,428.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	PRODUCING MINES, QUARRIES, AND WELLS.										Nonproducing mines, quarries, and wells.
	Aggregate.	Total.	Bituminous coal.	Petroleum and natural gas.	Lead and zinc.	Limestone.	Sandstone.	Clay (sold as such).	Infusorial earth.	All other. ¹	
Number of operators.....	924	915	470	323	4	81	8	14	10	5	9
Number of mines, quarries, and wells.....	11,689	11,677	631	10,918	3	84	8	16	12	5	12
Capital.....	\$117,469,938	\$116,959,707	\$60,426,629	\$34,366,518	\$183,800	\$3,011,628	\$58,775	\$305,637	\$33,900	\$49,956	\$510,246
Expenses of operation and development.....	\$68,861,985	\$68,718,121	\$51,697,504	\$13,476,053	\$213,137	\$2,882,939	\$20,405	\$95,166	\$53,498	\$279,410	\$143,864
Services--											
Salaried officers of corporations, superintendents, and managers.....	\$2,059,892	\$2,058,102	\$1,324,355	\$337,189	\$7,588	\$153,635	\$5,008	\$5,268	\$4,890	\$17,737	\$1,790
Clerks and other salaried employees.....	\$1,054,553	\$1,054,553	\$759,313	\$90,109	\$1,800	\$60,332		\$1,450	\$120	\$4,441	
Wage earners.....	\$46,410,023	\$46,378,727	\$41,991,246	\$2,626,371	\$56,797	\$1,461,714	\$9,588	\$57,942	\$25,191	\$140,878	\$31,296
Miscellaneous--											
Supplies.....	\$8,495,362	\$8,472,837	\$3,939,118	\$4,073,483	\$13,001	\$411,100	\$1,050	\$9,251	\$3,741	\$20,093	\$22,525
Cost of ore purchased and natural gas purchased and resold.....	\$101,950	\$101,950		\$12,713	\$59,267						
Fuel and rent of power.....	\$1,327,964	\$1,325,880	\$1,005,253	\$38,752	\$20,887	\$221,763	\$303	\$5,923	\$9,140	\$23,859	\$2,024
Royalties and rent of mines.....	\$3,579,553	\$3,579,472	\$744,800	\$2,776,068	\$16,973	\$34,607	\$3,019	\$3,660	\$285		
Taxes.....	\$287,641	\$287,460	\$171,582	\$72,107	\$232	\$21,702	\$89	\$490	\$253	\$953	\$81
Contract work.....	\$2,443,378	\$2,376,956	\$51,480	\$2,302,651				\$6,125			\$66,422
Rent of offices and other sundry expenses.....	\$3,101,699	\$3,082,154	\$1,710,297	\$1,135,610	\$6,592	\$508,886	\$1,348	\$5,007	\$9,878	\$62,458	\$19,545
Value of products.....	\$76,658,974	\$76,658,974	\$53,030,545	\$18,895,815	\$292,453	\$3,977,359	\$30,360	\$108,921	\$59,200	\$264,221	
Persons engaged in industry.....	86,495	86,389	76,761	5,188	137	3,500	40	162	89	304	106
Proprietors and officials.....	2,657	2,643	1,364	7,240	5	146	12	13	18	17	14
Proprietors and firm members.....	1,430	1,425	528	817	5	51	9	6	13	1	11
Number performing manual labor.....	401	401	359	22	1	12	3	4	1	1	
Salaried officers of corporations.....	4,373	4,373	241	44	1	41	2	1	1	8	3
Superintendents and managers.....	845	845	595	143	4	54	1	7	4	4	6
Clerks and other salaried employees.....	1,310	1,310	952	125	2	78		2	1	1	6
Wage earners, Dec. 15, 1909, or nearest representative day.....	82,528	82,436	74,445	4,059	130	3,276	28	147	70	281	92
Above ground.....	15,090	15,011	7,240	4,059	61	3,276	28	108	56	183	183
Below ground.....	67,438	67,425	67,205		69			39	14	98	79
Men 16 years of age and over.....	82,432	82,340	74,368	4,050	130	3,275	28	130	69	281	13
Engineers, firemen, mechanics, etc.....	7,545	7,537	3,699	3,281	29	448	1	13	13	53	92
Above ground.....	6,806	6,795	2,974	3,281	24	448	1	13	13	44	8
Below ground.....	739	739	725		5					9	8
Miners, miners' helpers, quarrymen, and stonecutters.....	56,046	56,019	53,503		62	2,139	25	103	42	145	27
Above ground.....	2,356	2,342			10	2,139	25	81	31	56	14
Below ground.....	53,690	53,677	53,503		52			22	11	89	18
All other employees.....	18,841	18,784	17,166	778	39	688	2	14	14	83	57
Above ground.....	5,922	5,865	4,262	778	27	688	2	14	11	83	57
Below ground.....	12,919	12,919	12,904		12					3	8
Boys under 16 years of age.....	96	96	77					17	1		
Number of wage earners employed on the 15th day of each month:											
January.....	74,994	74,989	69,376	3,680	117	1,415	16	107	50	228	5
February.....	74,299	74,294	68,780	3,634	46	1,458	15	101	51	229	5
March.....	73,722	73,717	67,569	3,625	26	2,080	19	99	48	251	5
April.....	68,489	68,478	61,266	3,702	67	2,973	26	115	52	277	11
May.....	68,128	68,113	60,852	3,749	69	3,084	34	112	51	162	15
June.....	66,570	66,553	58,799	3,847	75	3,372	30	114	51	265	17
July.....	67,503	67,440	59,637	3,879	81	3,359	37	123	49	275	17
August.....	67,213	67,137	59,571	3,821	107	3,249	33	115	52	159	63
September.....	72,105	72,004	64,177	3,692	114	3,590	32	134	55	210	70
October.....	76,124	76,042	68,032	3,834	117	3,624	56	135	59	285	101
November.....	78,086	78,000	70,074	3,853	117	3,486	38	127	70	295	82
December.....	78,342	78,208	71,193	3,957	120	2,560	14	118	65	235	86
Land controlled, acres.....	1,001,886	990,389	585,366	396,135	710	4,206	458	1,551	840	1,123	11,497
Owned.....	443,509	441,332	424,739	10,513		3,481	208	1,188	200	1,003	2,237
Held under lease.....	558,317	549,057	160,627	385,622	710	725	250	303	640	120	9,260
Mineral and oil land.....	968,573	957,076	552,396	396,135	710	4,085	458	1,551	840	901	11,497
Owned.....	414,452	412,215	395,965	10,513		3,360	208	1,188	200	781	2,237
Held under lease.....	554,121	544,861	156,431	385,622	710	725	250	303	640	120	9,260
Timber land.....	3,472	3,472								217	
Other land.....	29,841	29,841	29,715							6	
Primary horsepower.....	226,344	225,330	166,174	40,615	577	16,342	33	457	180	952	1,014

¹ Includes operators as follows: Fluorspar, 4; peat, 1.
² Includes \$18,522,864 which could not be distributed among the several industries. Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.
³ In some cases the same operator conducted two or more enterprises producing different kinds of products, all enterprises being managed through one central administrative office. The total office expenses were accordingly apportioned among the several industries in proportion to the total expenses of each and the estimated amounts of such administrative expenses were added to "Sundry expenses" for each industry. In the totals for all enterprises, however, the expenses appear under the proper headings. The amounts included in "Rent of offices and other sundry expenses" for individual industries and properly distributed in the total for all industries are as follows: Salaried officers of corporations, superintendents, and managers, \$202,242; clerks and other salaried employees, \$118,988; taxes, \$20,052; and contract work, \$16,709.
⁴ The following numbers of persons, which could not be distributed among the several industries, are included under the proper headings in the totals for all enterprises: Aggregate, 208; salaried officers of corporations, 35; superintendents and managers, 29; and clerks and other salaried employees, 144.
⁵ In the bituminous coal industry 73 boys were employed below ground, and in the clay industry, 17.

INDIANA.

Summary.—The gross value of the products of mines, quarries, and wells in Indiana, in 1909, was \$21,934,201. Deducting from this amount, \$22,595, the value of the natural gas sold by some establishments and resold by others, leaves \$21,911,606 as the net value of products. The principal industries of the state were bituminous coal mining, limestone quarrying, and the production of petroleum and natural gas. The value of the products of these three industries, after deducting the natural gas purchased, was \$21,836,843, or 99.7 per cent of the total value of products of the state. Of the total for the three industries the bituminous coal mines contributed \$15,018,123, the limestone quarries \$3,616,696, and the petroleum and natural gas wells \$3,202,024. Of the minor industries the production of clay was the most important, the value of the clay sold being \$34,700.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated.

Out of a total of 1,010 producing enterprises in the state in 1909, 352, or 34.9 per cent, were corporations. These corporations reported 91.3 per cent of the total value of products and employed 91 per cent of all wage earners.

marily for consumption by the members. These were all small enterprises frequently operated without hired labor or by employees who gave only a part of their time to the enterprise. The nine wage earners reported for the group represent the number who were employed full time.

	Incorporated.	Unincorporated.
Number of operators.....	352	658
Number of mines and quarries.....	242	238
Number of wells.....	7,704	2,669
Proprietors and firm members, total.....		2,628
Number performing manual labor.....		181
Salaried employees:		
Officers of corporations.....	258	
Superintendents and managers.....	307	66
Clerks and other salaried employees.....	443	31
Wage earners, Dec. 15, 1909, or nearest representative day.....	25,084	2,475
Capital.....	\$56,490,130	\$3,274,817
Expenses of operation and development.....	18,922,928	1,389,824
Salaries—		
Officers of corporations.....	286,152	
Superintendents and managers.....	405,500	44,695
Clerks and other salaried employees.....	350,297	14,877
Wages.....	13,996,089	786,399
Royalties and rent of mines.....	474,761	120,513
Taxes.....	157,127	19,242
Supplies and miscellaneous expenses.....	3,244,837	389,608
Cost of natural gas purchased and resold.....	8,165	14,430
Value of products.....	20,033,794	1,900,407

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according to the number of wage earners employed per enterprise or operating unit.

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.....	1,010	27,559	\$21,934,201	\$21,717	100.0	100.0	100.0
Individual.....	389	1,480	1,004,631	2,583	38.5	5.4	4.6
Firm ¹	209	977	854,621	4,089	20.7	3.5	3.9
Corporation.....	352	25,084	20,033,794	56,914	34.9	91.0	91.3
Other.....	60	9	41,155	686	5.9	(?)	0.2
Bituminous coal.....	223	22,357	15,018,123	67,346	100.0	100.0	100.0
Individual.....	86	685	368,754	4,288	38.6	3.1	2.5
Firm ¹	47	337	247,352	5,263	21.1	1.5	1.6
Corporation.....	90	21,335	14,402,017	160,022	40.4	95.4	95.9
Petroleum and natural gas.....	644	1,345	3,224,619	5,007	100.0	100.0	100.0
Individual.....	246	87	263,875	1,073	38.2	6.5	8.2
Firm.....	126	117	423,291	3,359	19.6	8.7	13.1
Corporation.....	212	1,132	2,496,298	11,775	32.9	84.2	77.4
Other.....	60	9	41,155	686	9.3	0.7	1.3
Limestone.....	126	3,724	3,616,696	28,704	100.0	100.0	100.0
Individual.....	47	655	332,068	7,065	37.3	17.6	9.2
Firm.....	35	517	180,323	5,152	27.8	13.9	5.0
Corporation.....	44	2,552	3,104,305	70,552	34.9	68.5	85.8

¹ Includes 1 estate.

² Less than one-tenth of 1 per cent.

The 60 operators reported as other than individuals, firms, or corporations include 51 cooperative associations engaged in the production of natural gas pri-

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number	Per cent distribution.
All industries.....	1,031	100.0	27,559	100.0
No wage earners.....	315	30.6		
Contract work and part-time employees.....	157	15.2		
1 to 5.....	243	23.6	501	2.1
6 to 20.....	166	16.1	1,782	6.5
21 to 50.....	50	4.8	1,841	5.6
51 to 100.....	39	3.8	2,943	10.7
101 to 500.....	53	5.1	11,763	42.7
501 to 1,000.....	3	0.3	2,044	7.4
Over 1,000.....	5	0.5	6,895	25.0
Bituminous coal.....	244	100.0	22,357	100.0
No wage earners.....	2	0.8		
Contract work.....	4	1.6		
1 to 5.....	65	26.6	254	1.1
6 to 20.....	73	29.9	648	2.9
21 to 50.....	16	6.6	538	2.4
51 to 100.....	27	11.1	2,002	9.0
101 to 500.....	50	20.5	10,680	47.8
Over 500.....	7	2.9	8,235	36.8
Petroleum and natural gas.....	644	100.0	1,345	100.0
No wage earners.....	309	48.0		
Contract work and part-time employees.....	153	23.8		
1 to 5.....	158	24.5	277	20.6
6 to 20.....	20	3.1	216	16.1
Over 20.....	4	0.6	852	63.3
Limestone.....	126	100.0	3,724	100.0
No wage earners.....	8	2.4		
1 to 5.....	14	11.1	43	1.2
6 to 20.....	64	50.8	830	22.3
21 to 50.....	31	24.6	924	24.8
51 to 100.....	11	8.7	844	22.7
Over 100.....	3	2.4	1,083	29.1

Out of a total of 1,031 enterprises, 5 employed over 1,000 wage earners each. The total number of wage earners employed in these 5 enterprises was 6,895, which represents one-fourth of the wage earners employed in all enterprises. In the petroleum and natural gas industry 309 enterprises were operated by the proprietors without the aid of hired labor and 153 were operated by contract work or by wage earners devoting but a small part of their time to the enterprise. The 4 largest enterprises in this industry employed 852 wage earners, or an average of 213 per enterprise.

Persons employed in mining.—Bituminous coal mining, the leading industry in 1909 when measured by the value of the product, also ranks first when the number of persons employed is considered. Out of a total of 31,292 persons employed in producing mines, 23,109, or 73.8 per cent, were employed in bituminous coal mines. Limestone quarries ranked second, employing 4,078 persons, or 13 per cent of the total number.

Prevailing hours of labor.—In Table 4 all producing mines and quarries, except those employing no wage earners and those operated exclusively by contract work and part-time employees, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. Petroleum and natural gas wells are not included in this table, because the lack of regularity in the number of hours worked per day in a large number of enterprises rendered such classification impracticable. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter percentage does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise.

INDUSTRY AND HOURS PER DAY	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries¹	377	100.0	100.0
8 hours and under.....	253	61.8	85.0
9 hours.....	14	3.7	0.7
10 hours.....	190	34.5	14.3
Bituminous coal	238	100.0	100.0
8 hours and under.....	231	97.1	99.6
9 hours.....	6	2.5	0.2
10 hours.....	1	0.4	0.2
Limestone	123	100.0	100.0
8 hours.....	1	0.8	0.4
9 hours.....	3	2.4	2.4
10 hours.....	119	96.7	97.2

¹ Exclusive of petroleum and natural gas.

A marked difference is noted in the number of hours persons are employed in the two leading industries shown in the table. In the bituminous coal mines in 99.6 per cent of the enterprises weighted according to the number of wage earners, 8 hours and under were the prevailing hours of labor, while in the limestone quarries 97.2 per cent of the enterprises so weighted were operated on a 10-hour basis.

Engines and power.—As shown by Table 5, the aggregate horsepower employed in producing enterprises in Indiana, in 1909, was 95,039, of which 71,964 horsepower was generated by steam engines and 22,447 horsepower by gasoline engines connected with the enterprises, and 628 horsepower by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Bituminous coal.	Petroleum and natural gas.	Limestone.	All other.
Primary power:					
Aggregate horsepower.....	95,039	45,010	28,150	20,314	656
Owned.....	94,411	45,830	28,150	10,700	656
Steam engines—					
Number.....	1,257	577	147	523	10
Horsepower.....	71,964	45,730	5,945	10,030	650
Gas or gasoline engines—					
Number.....	944	19	916	7	2
Horsepower.....	22,447	91	22,214	136	6
Electric motors operated by purchased current—					
Number.....	27	4	.....	23	.....
Horsepower.....	628	80	.....	548	.....
Electric motors run by current generated by enterprise using:					
Number.....	286	187	1	97	1
Horsepower.....	10,028	7,476	20	2,495	35

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement and for enterprises operated by governmental institutions; to omit from the 1909 figures, as they appear in other tables in this chapter, the value of the by-products of coal mines; and to add to the 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

	PRODUCING ENTERPRISES.		
	1900	1902	Per cent of increase. ¹
Wages and salaries.....	\$10,002,350	\$11,810,807	36.1
Supplies and materials.....	\$2,557,423	\$3,380,808	32.6
Royalties and rent of mines.....	\$505,475	\$1,807,048	357.1
Contract work.....	\$205,250	\$2,150,080	949.7
Value of products.....	\$22,324,647	\$26,806,893	19.7
Primary horsepower.....	95,020	120,511	26.4

¹ A minus sign (-) denotes decrease.

² Exclusive of the wages of part-time employees for the petroleum and natural gas industry, which are included under "Contract work," in Table 7.

From the table it will be noted that there was a considerable decrease in mining activities in the state during the past eight years. This was due to the

decreased production of petroleum and natural gas. In 1902 the value of the petroleum and natural gas reported was \$13,607,966, while in 1909 the product reported was valued at only \$3,224,619, a decrease of \$10,383,347, or 76.3 per cent.

Duplication between manufactures and mining.—In the limestone, peat, and whetstone industries some of

the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact, the combined value of products for the manufacturing and mining industries in Indiana involves a duplication of \$2,004,656.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	PRODUCING MINES, QUARRIES, AND WELLS.								
	Aggregate.	Total.	Bituminous coal.	Petroleum and natural gas.	Limestone.	Clay (sold as such).	Oilstones, scythes, stones, and whetstones.	All other. ¹	Non-producing mines, quarries, and wells.
Number of operators.....	1,014	1,010	223	644	126	6	6	5	4
Number of mines, quarries, and wells.....	10,858	10,853	322	10,373	140	7	6	5	5
Capital.....	\$59,834,796	\$59,764,947	\$35,937,461	\$16,836,419	\$6,258,290	\$133,200	\$1,500	\$59,275	\$89,849
Expenses of operation and development.....	\$20,353,826	\$20,312,752	\$14,906,831	\$2,483,585	\$2,866,744	\$25,487	\$8,492	\$21,613	\$41,074
Services—									
Salaried officers of corporations, superintendents, and managers.....	\$736,347	\$736,347	\$381,914	\$173,911	\$175,406	\$1,456		\$3,600	
Clerks and other salaried employees.....	\$365,174	\$365,174	\$222,197	\$60,206	\$82,271	\$150		\$350	
Wage earners.....	\$14,792,686	\$14,782,488	\$12,273,544	\$817,753	\$1,657,981	\$16,600	\$6,797	\$9,807	\$10,198
Miscellaneous—									
Supplies.....	\$1,845,706	\$1,823,904	\$984,353	\$395,697	\$437,119	\$3,330	\$820	\$2,585	\$21,802
Cost of natural gas purchased and resold.....	\$22,595	\$22,595		\$22,595					
Fuel and rent of power.....	\$552,563	\$551,821	\$214,621	\$75,881	\$256,123	\$2,150	\$465	\$2,581	\$742
Royalties and rent of mines.....	\$596,741	\$595,274	240,494	\$319,833	\$34,527	\$420			\$1,467
Taxes.....	\$176,404	\$176,369	\$83,230	\$73,362	\$18,932	\$237	\$165	\$443	\$35
Contract work.....	\$302,392	\$295,982	\$10,674	\$276,022	\$9,286				\$6,410
Rent of offices and other sundry expenses.....	\$963,218	\$962,798	\$495,804	\$268,325	\$195,039	\$1,138	\$245	\$2,247	\$420
Value of products.....	\$21,934,201	\$21,934,201	\$15,018,123	\$3,224,619	\$3,616,696	\$34,700	\$12,170	\$27,893	
Persons engaged in industry.....	31,325	31,292	23,109	3,950	4,078	44	40	71	33
Proprietors and officials.....	3,260	3,259	458	2,518	264	5	6	8	1
Proprietors and firm members.....	2,629	2,628	202	2,277	136	3	0	4	1
Number performing manual labor.....	181	181	110	24	45	1	1		
Salaried officers of corporations.....	258	258	99	135	22			2	
Superintendents and managers.....	373	373	157	166	106	2		2	
Clerks and other salaried employees.....	474	474	294	57	90	1		2	
Wage earners, Dec. 15, 1909, or nearest representative day.....	27,591	27,559	22,357	1,345	3,724	38	34	61	32
Above ground.....	7,294	7,278	2,102	1,345	3,724	12	34	61	16
Below ground.....	20,297	20,281	20,255			26			16
Men 16 years of age and over.....	27,529	27,497	22,304	1,345	3,715	38	34	61	32
Engineers, firemen, mechanics, etc.....	2,730	2,723	1,017	1,034	662	6	6	4	7
Above ground.....	2,646	2,639	933	1,034	662	6		4	7
Below ground.....	84	84							
Miners, miner's helpers, quarrymen, and stonecutters.....	19,430	19,414	17,129		2,198	29	11	47	16
Above ground.....	2,269	2,259			2,198	3	11	47	
Below ground.....	17,171	17,155	17,129			26			16
All other employees.....	5,369	5,300	4,158	311	855	3	23	10	9
Above ground.....	2,380	2,371	1,169	311	855	3	23	10	9
Below ground.....	2,989	2,929	2,989						
Boys under 16 years of age ²	62	62	53			9			
Number of wage earners employed on the 15th day of each month:									
January.....	22,612	22,611	19,309	1,419	1,818	33	15	17	1
February.....	22,642	22,641	19,117	1,452	2,007	32	15	18	1
March.....	23,274	23,273	18,813	1,396	2,985	33	15	21	1
April.....	22,369	22,363	17,394	1,384	3,509	33	15	18	6
May.....	22,777	22,772	17,615	1,403	3,780	34	17	23	5
June.....	22,035	22,007	16,670	1,357	3,898	33	21	58	28
July.....	23,527	23,506	18,144	1,303	3,948	33	22	56	21
August.....	24,419	24,418	18,635	1,327	4,340	33	26	58	1
September.....	25,909	25,880	20,033	1,357	4,402	33	28	27	29
October.....	26,272	26,238	20,626	1,334	4,194	34	28	22	34
November.....	26,279	26,245	21,267	1,245	3,664	34	28	7	34
December.....	25,310	25,278	21,318	1,325	2,567	34	28		32
Land controlled, acres.....	524,502	522,176	155,576	353,205	6,324	6,596	194	271	2,326
Owned.....	168,805	167,777	117,619	37,432	5,754	6,532	194	246	1,028
Held under lease.....	355,697	354,399	37,957	315,773	580	64		25	1,298
Mineral and oil land.....	505,032	502,706	140,244	353,205	4,362	4,662	42	101	2,326
Owned.....	150,983	149,955	103,910	37,432	3,807	4,598	42	166	1,028
Held under lease.....	354,049	352,751	36,334	315,773	555	64		25	1,298
Timber land.....	4,946	4,946	3,436		1,500				
Other land.....	14,524	14,524	11,966		1,962	434	162	80	
Primary horsepower.....	95,304	95,039	45,910	28,159	20,314	275	89	292	265

¹ Includes operators as follows: Peat, 3; sandstone, 2.
² Includes \$538,302 which could not be distributed among the various industries. Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.
³ In the bituminous coal industry 53 boys were employed below ground.

IOWA.

Summary.—The total value of the products of the producing mining industries in Iowa in 1909 amounted to \$13,877,781, and the total number of persons employed was 19,904. Of these totals the coal mining industry reported \$12,682,106, or 91.4 per cent of the value of the products, and employed 18,332, or 92.1 per cent of the employees. Gypsum mining and limestone quarrying, the industries next in importance, reported products valued, respectively, at \$669,731 and \$499,665.

In the bituminous coal industry as a whole the expenses of operation and development exceeded the value of the products, a result which indicates either that certain enterprises were operated at a loss, or that a considerable sum was expended for development work which added to the permanent value of the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 373 operators, 118, or 31.6 per cent, were corporations. These corporations reported 88.6 per cent of the total value of products and employed 85.6 per cent of all wage earners.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of		Value of products.		Per cent distribution.		
	operators.	wage earners.	Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries	373	19,010	\$13,877,781	\$37,206	100.0	100.0	100.0
Individual.....	152	1,258	766,085	5,040	40.8	6.6	5.5
Firm.....	100	1,377	784,113	7,841	26.8	7.2	5.7
Corporation.....	118	16,276	12,294,411	104,190	31.6	85.6	88.6
Other.....	3	99	33,172	11,057	0.8	0.5	0.2
Bituminous coal	258	17,623	12,682,106	49,155	100.0	100.0	100.0
Individual.....	81	1,003	627,238	7,741	31.4	5.7	4.9
Firm.....	79	1,206	639,492	8,095	30.6	6.8	5.0
Corporation.....	98	15,414	11,415,376	116,483	38.0	87.5	90.0

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according to the number of wage earners employed per enterprise or operating unit. Of the 387 enterprises reported,

124 employed less than 5 wage earners each and 2 were operated exclusively by contract work. Nearly one-fourth of all the wage earners in the mining industry were employed in the 6 bituminous coal enterprises employing over 500 wage earners each.

	Incorporated.	Unincorporated.
Number of operators.....	118	265
Number of mines and quarries.....	167	264
Proprietors and firm members, total.....		423
Number performing manual labor.....		285
Salaried employees:		
Officers of corporations.....	85	
Superintendents and managers.....	137	23
Clerks and other salaried employees.....	207	19
Wage earners, Dec. 15, 1909, or nearest representative day.....	16,276	2,734
Capital.....	\$7,303,613	\$1,177,870
Expenses of operation and development.....	12,465,530	1,229,184
Salaries—		
Officers of corporations.....	132,943	
Superintendents and managers.....	165,767	22,241
Clerks and other salaried employees.....	208,492	11,532
Wages.....	9,884,071	989,375
Royalties and rent of mines.....	298,307	51,133
Taxes.....	38,886	4,688
Supplies and miscellaneous expenses.....	1,737,064	153,215
Value of products.....	12,294,411	1,583,370

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries	387	100.0	19,010	100.0
No wage earners.....	24	6.2		
Contract work.....	2	0.5		
1 to 5.....	100	25.8	284	1.5
6 to 20.....	131	33.9	1,428	7.5
21 to 50.....	47	12.1	1,482	7.8
51 to 100.....	30	7.8	2,126	11.2
101 to 500.....	47	12.1	9,381	49.3
Over 500.....	6	1.6	4,309	22.7
Bituminous coal	272	100.0	17,623	100.0
No wage earners.....	3	1.1		
1 to 5.....	52	19.1	170	1.0
6 to 20.....	101	37.1	1,088	6.2
21 to 50.....	38	14.0	1,211	6.9
51 to 100.....	27	9.9	1,017	10.9
101 to 500.....	45	16.5	8,928	50.7
Over 500.....	6	2.2	4,309	24.5

Prevailing hours of labor.—In Table 4 all producing mines and quarries, except those employing no wage earners and those operated exclusively by contract work, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. The table shows the percentage of the total

number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise. In the bituminous coal mining enterprises, which employed 92.7 per cent of the wage earners in all enterprises, the 8-hour day prevailed in practically all mines.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries.....	1 358	100.0	100.0
8 hours and under.....	269	75.1	92.5
9 hours.....	18	5.0	0.6
10 hours.....	71	19.8	6.9
Bituminous coal.....	268	100.0	100.0
8 hours.....	258	96.3	99.6
9 hours.....	7	2.6	0.3
10 hours.....	3	1.1	0.1

¹ Exclusive of 3 bituminous coal mines for which number of hours was not reported.

Engines and power.—As shown by Table 5 the total primary horsepower employed in producing enterprises was 23,453, of which 23,160 horsepower was developed by engines and water wheels owned by the enterprise using them and 293 by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Bituminous coal.	Gypsum.	Limestone.	All other.
Primary power:					
Aggregate horsepower.....	23,453	19,118	1,365	2,906	64
Owned.....	23,160	19,075	1,365	2,656	64
Steam engines—					
Number.....	447	354	6	85	2
Horsepower.....	22,715	18,746	1,365	2,540	64
Gas or gasoline engines—					
Number.....	83	76	.....	7	.....
Horsepower.....	375	329	.....	46	.....
Water wheels—					
Number.....	1	.....	.....	1	.....
Horsepower.....	70	.....	.....	70	.....

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Bituminous coal.	Gypsum.	Limestone.	All other.
Primary power—Continued.					
Electric motors operated by purchased current—					
Number.....	10	2	.....	8	.....
Horsepower.....	293	43	.....	250	.....
Electric motors run by current generated by enterprise using:					
Number.....	38	32	6	.....	.....
Horsepower.....	1,420	1,375	45	.....	.....

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902, it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for enterprises operated by governmental institutions; to omit from the 1909 figures, as they appear in other tables in this chapter, the value of by-products of coal mines; and to add to the 1909 statistics figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

The principal increase in the value of products was in the bituminous coal industry, which reported products in 1902 and 1909 valued, respectively, at \$8,660,287 and \$12,682,106. This represents an increase of \$4,021,819, or 46.4 per cent.

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$11,461,923	\$7,279,272	57.5
Supplies and materials.....	\$1,561,553	\$961,414	62.4
Royalties and rent of mines.....	\$349,470	\$220,698	58.3
Contract work.....	*\$40,791	\$48,106	-15.2
Value of products.....	\$13,979,453	\$9,659,320	44.7
Primary horsepower.....	23,528	14,673	60.3

¹ A minus sign (—) denotes decrease.
² Exclusive of amount paid to miners compensated by a share of the product, which is included under "Contract work" in Table 7.

Duplication between manufactures and mining.—In the gypsum industry some of the mining operators subjected the mineral product obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for manufacturing and mining industries in Iowa involves a duplication of \$669,734.

MINES AND QUARRIES.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	PRODUCING MINES AND QUARRIES.								Non-producing mines and quarries. ²
	Aggregate.	Total.	Bituminous coal.	Gypsum.	Limestone.	Sandstone.	Lead and zinc.	All other. ¹	
Number of operators.....	355	373	258	5	89	11	5	5	15
Number of mines and quarries.....	446	431	311	6	92	12	5	5	15
Capital ³	\$8,760,791	\$8,481,483	\$6,806,418	\$766,512	\$761,203	\$14,350	\$16,200	\$116,800	\$279,308
Expenses of operation and development.....	\$13,750,697	\$13,694,714	\$12,816,076	\$487,631	\$372,337	\$1,631	\$5,003	\$12,036	\$55,983
Services:									
Salaried officers of corporations, superintendents, and managers.....	\$323,543	\$320,951	\$280,146	\$22,220	\$18,510			\$75	\$2,892
Clerks and other salaried employees.....	\$222,124	\$220,024	\$188,023	\$25,598	\$3,403				\$2,100
Wage earners.....	\$10,898,186	\$10,870,446	\$10,388,672	\$222,483	\$252,563	\$1,109	\$2,840	\$7,779	\$27,740
Miscellaneous:									
Supplies.....	\$1,313,846	\$1,307,919	\$1,205,222	\$62,097	\$39,589	\$116	\$253	\$642	\$5,927
Fuel and rent of power.....	\$225,912	\$221,740	\$125,214	\$75,078	\$20,967		\$50	\$431	\$4,172
Royalties and rent of mines.....	\$349,840	\$349,440	\$322,673	\$16,000	\$8,604	\$38	\$1,810	\$315	\$400
Taxes.....	\$43,855	\$43,574	\$38,484	\$2,044	\$2,679	\$73		\$294	\$281
Contract work.....	\$42,470	\$40,836	\$38,266	\$45	\$45		\$50	\$2,475	\$1,634
Rent of offices and other sundry expenses.....	\$330,621	\$319,784	\$234,376	\$59,111	\$25,977	\$295		\$25	\$10,837
Value of products.....	\$13,877,781	\$13,877,781	\$12,682,106	\$689,731	\$499,685	\$2,958	\$6,779	\$16,542	
Persons engaged in industry.....	20,021	19,904	18,332	599	894	31	14	34	117
Proprietors and officials.....	700	668	514	10	125	11	5	3	32
Proprietors and firm members.....	451	423	298		107	11	5	2	28
Number performing manual labor.....	298	285	225		46	9	5		13
Salaried officers of corporations.....	85	85	79	2	4				
Superintendents and managers.....	194	160	137	8	14			1	4
Clerks and other salaried employees.....	229	226	195	23	8				3
Wage earners, Dec. 15, 1909, or nearest representative day.....	19,092	19,010	17,623	566	761	20	9	31	82
Above ground.....	3,169	3,103	1,783	505	761	20	3	31	66
Below ground.....	15,923	15,907	15,840	61			6		16
Men 16 years of age and over.....	18,967	18,885	17,499	566	760	20	9	31	82
Engineers, firemen, mechanics, etc.....	824	804	752	2	46			4	20
Above ground.....	672	652	600	2	46			4	20
Below ground.....	152	152	152						
Miners, miners' helpers, and quarrymen.....	13,795	13,764	13,073	62	589	19	9	12	31
Above ground.....	646	624	1	1	589	19	3	12	22
Below ground.....	13,149	13,140	13,073	61			6		9
All other employees.....	4,348	4,317	3,674	502	125	1		15	31
Above ground.....	1,845	1,821	1,178	502	125	1		15	24
Below ground.....	2,503	2,496	2,496						7
Boys under 16 years of age.....	126	126	124		1				
Number of wage earners employed on the 15th day of each month:									
January.....	17,334	17,272	16,552	536	177		7		62
February.....	17,325	17,249	16,518	545	167	10	7		76
March.....	17,018	16,923	16,035	560	313	10	7	5	90
April.....	15,594	15,490	14,379	678	507	10	6	10	44
May.....	15,088	15,040	13,787	590	612	16	6	29	48
June.....	14,755	14,703	13,881	601	631	3	8	29	52
July.....	15,040	14,993	13,709	537	710	1	8	28	53
August.....	15,775	15,721	14,410	562	729	1	6	13	54
September.....	16,729	16,659	15,336	597	706	1	6	13	70
October.....	17,452	17,432	16,132	615	661	3	6	15	50
November.....	18,110	18,035	16,861	591	561		7	15	75
December.....	18,310	18,236	17,235	566	410		9	16	74
Land controlled, acres.....	84,695	81,458	77,798	430	2,184	213	253	582	3,237
Owned.....	31,453	29,594	26,771	230	1,810	201		532	1,889
Held under lease.....	53,212	51,864	51,025	200	374	12	253		1,348
Mineral land.....	76,383	73,240	70,192	430	1,655	138	253	572	3,143
Owned.....	24,156	22,361	20,152	230	1,281	126		572	1,795
Held under lease.....	52,227	50,879	50,040	200	374	12	253		1,348
Timber land.....	780	780	472		298				
Other land.....	7,532	7,438	7,132		231	65		10	94
Primary horsepower.....	24,228	23,453	19,118	1,365	2,906			64	775

¹ Includes operators as follows: Clay, 4; peat, 1.

² Includes operators as follows: Bituminous coal, 3; iron, 1; lead and zinc, 10; limestone, 1.

³ Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

KANSAS.

Summary.—The total gross value of the products of the mining industry in Kansas in 1909 amounted to \$18,722,634. Deducting from this amount, \$392,862, the value of the natural gas purchased and resold and the lead and zinc ore sold by some operators and used as materials by others, leaves \$18,329,772 as the net value of the products. Of this amount, the two leading industries, bituminous coal mining and the production of petroleum and natural gas, contributed \$16,247,849, or 88.6 per cent. These two industries reported products valued, respectively, at \$9,835,614 and \$6,412,235. Lead and zinc mining, with products valued at \$936,223, and limestone quarrying, with products valued at \$807,463, were the industries next in importance.

In the lead and zinc industry as a whole the expenses of operation and development exceeded the value of the products, a result which indicates either that certain enterprises were operated at a loss, or that a considerable sum was expended for development work which added to the permanent value of the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated.

per cent of the total value of products and employed 80.5 per cent of all wage earners.

Table 2

	Incorporated.	Unincorporated.
Number of operators.....	212	431
Number of mines and quarries.....	146	436
Number of wells.....	2,762	700
Proprietors and firm members, total.....		1,074
Number performing manual labor.....		575
Salaried employees:		
Officers of corporations.....	87	
Superintendents and managers.....	174	48
Clerks and other salaried employees.....	344	33
Wage earners, Dec. 15, 1909, or nearest representative day.....	13,227	3,214
Capital.....	\$30,553,134	\$1,944,195
Expenses of operation and development.....	13,763,522	2,068,265
Salaries—		
Officers of corporations.....	138,384	
Superintendents and managers.....	222,064	40,888
Clerks and other salaried employees.....	268,379	18,717
Wages.....	8,333,265	1,303,085
Royalties and rent of mines.....	1,471,003	194,836
Taxes.....	138,143	9,427
Supplies and miscellaneous expenses.....	2,922,591	378,143
Cost of ore purchased and natural gas purchased and resold.....	269,093	123,169
Value of products.....	16,121,583	2,601,051

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according to the number of wage earners employed per enterprise or operating unit. For all industries combined, 65.5 per cent of all the wage earners were employed in the 42 enterprises employing over 100 wage earners each.

Table 1

PRODUCING ENTERPRISES: 1909

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of		Value of products.		Per cent distribution.		
	operators.	wage earners.	Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries ..	643	16,441	\$18,722,634	\$29,118	100.0	100.0	100.0
Individual.....	174	1,701	1,303,336	7,835	27.1	10.3	7.3
Firm.....	249	1,334	1,150,847	4,622	38.7	8.1	6.1
Corporation.....	212	13,227	16,121,583	76,045	33.0	80.5	86.1
Other.....	8	179	86,868	10,859	1.2	1.1	0.5
Bituminous coal ..	118	12,791	9,835,614	83,353	100.0	100.0	100.0
Individual.....	47	924	593,764	12,633	39.8	7.2	6.0
Firm.....	36	697	360,610	10,017	30.5	5.4	3.7
Corporation.....	31	10,998	8,807,945	284,127	26.3	86.0	89.6
Other.....	4	172	73,295	18,324	3.4	1.3	0.7
Petroleum and natural gas ..	217	1,302	6,681,780	30,792	100.0	100.0	100.0
Individual.....	34	19	115,745	3,404	15.7	1.5	1.7
Firm.....	41	25	213,766	5,214	18.9	1.9	3.2
Corporation.....	139	1,256	6,340,496	45,615	64.1	96.5	94.9
Other.....	3	2	11,773	3,924	1.4	0.2	0.2
Lead and zinc ..	189	848	1,059,540	5,606	100.0	100.0	100.0
Individual.....	16	117	234,707	14,669	8.5	13.8	22.2
Firm.....	149	348	411,876	2,764	78.8	41.0	38.9
Corporation.....	24	383	412,957	17,206	12.7	45.2	39.0

Out of a total of 643 operators, 212, or 33 per cent, were corporations. These corporations reported 86.1

Table 3

PRODUCING ENTERPRISES: 1909

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	689	100.0	16,441	100.0
No wage earners.....	74	10.7		
Contract work and part-time employees.....	113	16.4		
1 to 5.....	259	37.6	576	3.5
6 to 20.....	110	16.0	1,231	7.5
21 to 50.....	67	9.7	2,197	13.4
51 to 100.....	24	3.5	1,673	10.2
101 to 500.....	37	5.4	6,772	41.2
Over 500.....	5	0.7	3,992	24.3
Bituminous coal.....	164	100.0	12,791	100.0
No wage earners.....	2	1.2		
Contract work.....	7	4.3		
1 to 5.....	23	14.0	67	0.5
6 to 20.....	33	20.1	377	2.9
21 to 50.....	42	25.6	1,360	10.6
51 to 100.....	18	11.0	1,232	9.6
101 to 500.....	35	21.3	6,542	51.1
Over 500.....	4	2.4	3,213	25.1
Petroleum and natural gas.....	217	100.0	1,302	100.0
No wage earners.....	13	6.0		
Contract work and part-time employees.....	85	39.2		
1 to 5.....	105	48.4	166	12.7
6 to 20.....	8	3.7	107	8.2
Over 20.....	6	2.8	1,029	79.0
Lead and zinc.....	189	100.0	848	100.0
No wage earners.....	48	25.4		
Contract work.....	19	10.1		
1 to 5.....	75	39.7	204	24.1
6 to 20.....	39	20.6	381	44.9
Over 20.....	8	4.2	263	31.0

In petroleum and natural gas production, 98 enterprises were operated either without any hired labor at all or by contract work or by employees giving but a part of their time to the enterprise. In this industry only 6 enterprises employed over 20 wage earners.

Persons employed in mining.—The bituminous coal-mining industry, which produced 53.7 per cent of the net value of all mining products in 1909, employed 73.5 per cent of the persons engaged in all industries, while the petroleum and natural gas industry, which produced 35 per cent of the product, employed less than 10 per cent of the total persons engaged in mining. Of the total of 18,201 persons employed in all producing enterprises December 15, 1909, or the nearest representative day, 16,441 were wage earners, 686 were salaried employees, and 1,074 were proprietors and firm members, of whom 575 performed manual labor in or about the mines.

Prevailing hours of labor.—In Table 4 the producing mines and quarries, except those employing no wage earners and those operated exclusively by contract work and part-time employees, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. Petroleum and natural gas wells are not included in this table, because the lack of regularity in the number of hours worked per day in a large number of enterprises rendered such classification impracticable.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries	1 374	100.0	100.0
8 hours and under.....	184	49.2	86.8
9 hours.....	98	26.2	4.1
10 hours.....	91	24.3	8.8
11 hours.....	1	0.3	0.3
Bituminous coal	154	100.0	100.0
8 hours and under.....	135	87.7	98.1
9 hours.....	17	11.0	1.7
10 hours.....	2	1.3	0.1
Lead and zinc	114	100.0	100.0
8 hours.....	22	19.3	37.9
9 hours.....	69	60.5	39.0
10 hours.....	22	19.3	18.3
11 hours.....	1	0.9	4.9

¹ Exclusive of petroleum and natural gas, of 1 bituminous coal mine, and 8 lead and zinc mines, for which number of hours was not reported.

The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the

employees worked a greater or less number of hours than those generally prevailing in the enterprise.

For all industries combined and for bituminous coal mines, eight and under was the prevailing number of hours worked per day, while in the lead and zinc industry 62.2 per cent of the wage earners worked nine hours or over per day.

Engines and power.—As shown by Table 5, the total primary horsepower employed in producing enterprises was 66,943, of which 66,255 horsepower was developed by engines and water wheels owned by the enterprises using them and 688 by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Bituminous coal.	Petroleum and natural gas.	Lead and zinc.	All other.
Primary power:					
Aggregate horsepower.....	66,943	19,707	36,846	6,251	4,139
Owned.....	66,255	19,664	36,441	6,011	4,139
Steam engines—					
Number.....	662	330	41	224	67
Horsepower.....	34,044	19,604	6,344	4,716	3,380
Gas or gasoline engines—					
Number.....	305	12	264	17	12
Horsepower.....	31,917	56	30,097	1,265	469
Water wheels—					
Number.....	4	1			3
Horsepower.....	294	4			290
Electric motors operated by purchased current—					
Number.....	13	4	7	2	
Horsepower.....	688	43	405	240	
Electric motors run by current generated by enterprise using:					
Number.....	48	15	31	1	1
Horsepower.....	1,607	960	617	25	5

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement and enterprises operated by governmental institutions; and to add to 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6. The principal increase in the value of products occurred in the petroleum and natural gas industry. In 1902 products valued at \$1,116,895 were reported by this industry, while in 1909 the oil and gas produced had a value of \$6,681,780.

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase.
Wages and salaries.....	\$10,351,532	\$5,915,006	75.0
Supplies and materials.....	\$1,917,384	\$1,218,192	67.4
Royalties and rent of mines.....	\$1,665,839	\$382,181	335.9
Contract work.....	\$309,881	\$207,708	78.0
Value of products.....	\$18,386,812	\$9,626,060	93.0
Primary horsepower.....	67,403	18,222	269.9

¹ Exclusive of amount paid to miners compensated by a share of the product and also of the wages of part-time employees for the petroleum and natural gas industry which are included under "Contract work," in Table 7.

Duplication between manufactures and mining.—In the operation of gypsum mines and limestone quarries some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have

been included in the statistics both for manufactures and for mining. As a result of this fact, the combined value of products for the manufacturing and mining industries of Kansas involves a duplication of \$373,777.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	Aggregate.	PRODUCING MINES, QUARRIES, AND WELLS.							Non-producing mines and quarries. ¹
		Total.	Bituminous coal.	Petroleum and natural gas.	Lead and zinc.	Limestone.	Sandstone.	Gypsum.	
Number of operators.....	646	643	118	217	189	162	11	6	3
Number of mines, quarries, and wells.....	3,987	3,984	202	3,402	222	138	13	7	3
Capital ²	\$41,821,529	\$41,797,329	\$3,011,387	\$37,072,298	\$466,955	\$492,453	\$10,450	\$743,786	\$24,200
Expenses of operation and development.....	\$15,868,219	\$15,831,787	\$9,778,297	\$4,018,459	\$1,067,538	\$669,267	\$11,027	\$287,199	\$36,432
Services—									
Salaried officers of corporations, superintendents, and managers.....	\$401,336	\$401,336	\$154,291	\$180,479	\$29,003	\$24,355		\$13,295	
Clerks and other salaried employees.....	\$287,646	\$287,096	\$132,232	\$123,325	\$7,296	\$8,900		\$15,343	\$550
Wage earners.....	\$9,650,415	\$9,636,350	\$8,106,670	\$516,082	\$400,464	\$464,932	\$9,054	\$139,148	\$14,065
Miscellaneous—									
Supplies.....	\$1,659,478	\$1,645,163	\$508,546	\$845,783	\$167,249	\$81,131	\$553	\$41,601	\$14,315
Cost of ore purchased and natural gas purchased and resold.....	\$392,862	\$392,862		\$269,545	\$123,317				
Fuel and rent of power.....	\$268,343	\$267,964	\$100,975	\$7,398	\$96,098	\$23,212	\$116	\$40,193	\$379
Royalties and rent of mines.....	\$1,665,839	\$1,665,839	\$266,545	\$1,215,270	\$167,413	\$16,407			
Taxes.....	\$148,165	\$147,570	\$18,394	\$122,230	\$1,193	\$2,736		\$2,635	\$585
Contract work.....	\$307,803	\$305,947	\$49,793	\$293,070	\$43,670	\$8,343		\$405	\$1,856
Rent of offices and other sundry expenses.....	\$996,342	\$991,600	\$440,851	\$445,317	\$31,835	\$39,251	\$310	\$34,096	\$4,682
Value of products.....	\$18,722,634	\$18,722,634	\$9,835,614	\$6,681,780	\$1,059,540	\$807,463	\$19,559	\$318,678	
Persons engaged in industry.....	18,259	18,201	13,374	1,743	1,385	1,441	46	212	58
Proprietors and officials.....	1,384	1,383	401	390	520	137	15	10	1
Proprietors and firm members.....	1,075	1,074	283	12	484	114	15		1
Number performing manual labor.....	576	575	152	12	350	57	4		1
Salaried officers of corporations.....	87	87	39	37	6			3	
Superintendents and managers.....	222	222	79	85	30	21		7	
Clerks and other salaried employees.....	378	377	182	141	17	20		17	1
Wage earners, Dec. 15, 1909, or nearest representative day.....	16,497	16,441	12,791	1,302	848	1,284	31	185	56
Above ground.....	4,358	4,343	1,123	1,302	427	1,284	31	176	15
Below ground.....	12,139	12,098	11,668		421			9	41
Men 16 years of age and over.....	16,477	16,421	12,736	1,302	847	1,270	31	185	56
Engineers, firemen, mechanics, etc.....	1,109	1,167	512	397	168	86	2	2	2
Above ground.....	1,044	1,042	387	397	168	86	2	2	2
Below ground.....	125	125							
Miners, miners' helpers, quarrymen, and stonecutters.....	11,240	11,221	9,972		329	877	25	18	19
Above ground.....	913	913			2	877	25	9	
Below ground.....	10,327	10,308	9,972		327			9	19
All other employees.....	4,068	4,033	2,302	905	350	307	4	105	35
Above ground.....	2,385	2,372	735	905	256	307	4	105	13
Below ground.....	1,683	1,661	1,567		94				22
Boys under 16 years of age ³	20	20	b		1	14			
Number of wage earners employed on the 15th day of each month:									
January.....	14,510	14,510	12,354	932	552	504	4	104	
February.....	14,508	14,508	12,362	843	572	559	5	167	
March.....	14,298	14,298	11,971	839	530	746	8	204	
April.....	12,886	12,886	10,255	904	550	912	19	246	
May.....	12,639	12,639	9,906	954	533	1,009	16	221	
June.....	14,133	14,120	11,032	1,159	514	1,145	18	252	13
July.....	14,093	14,093	10,970	1,158	587	1,138	23	217	
August.....	14,115	14,100	11,158	967	568	1,160	23	224	15
September.....	14,682	14,663	11,673	966	639	1,132	22	231	19
October.....	15,322	15,294	12,078	1,130	659	1,184	10	233	28
November.....	15,545	15,506	12,445	1,162	628	1,045	15	211	39
December.....	15,558	15,502	12,586	1,283	578	859	11	185	56
Land controlled, acres.....	599,249	598,868	83,869	502,206	1,258	9,894	915	726	381
Owned.....	79,292	78,917	56,205	14,365	350	6,481	790	726	375
Held under lease.....	519,957	519,951	27,664	487,841	908	3,413	125		6
Mineral and oil land.....	591,366	590,985	80,459	502,206	1,247	6,133	260	680	381
Owned.....	72,123	71,748	53,340	14,365	340	2,813	210	680	375
Held under lease.....	519,243	519,237	27,119	487,841	907	3,320	50		6
Timber land.....	135	135				120	15		
Other land.....	7,748	7,748	3,410		11	3,641	640	46	
Primary horsepower.....	67,168	66,943	19,707	36,846	6,251	2,576	73	1,490	225

¹ Includes operators as follows: Bituminous coal, 2; lead and zinc, 1.

² Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

³ In the bituminous coal industry 4 boys were employed below ground.

KENTUCKY.

Summary.—The total value of the products of all mines, quarries, and wells in Kentucky in 1909 amounted to \$12,100,075. The principal industries were bituminous coal mining, the production of petroleum and natural gas, and limestone quarrying. The combined value of the products of these three industries was \$11,747,637, or 97.1 per cent of the products of all mines, quarries, and wells. Of the total for the three industries, the bituminous coal mines reported products valued at \$10,003,481, of which \$9,921,441 represented the value of coal sold as such, \$80,633 the value of coke made at the mines, and \$1,407 the value of other products. Petroleum and natural gas wells and limestone quarries reported products valued, respectively, at \$892,281 and \$851,875.

In the operation of bituminous coal mines, fluorspar mines, and the mines and quarries included in column "All other" of Table 7, the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work which added to the value of the mining property.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated.

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.....	437	22,033	\$12,100,075	\$27,689	100.0	100.0	100.0
Individual.....	120	1,465	662,890	5,524	27.5	6.6	5.5
Firm.....	77	1,274	816,590	10,605	17.6	5.8	6.7
Corporation.....	240	19,294	10,620,625	44,233	54.9	87.6	87.8
Bituminous coal.....	240	19,655	10,003,481	41,881	100.0	100.0	100.0
Individual.....	59	942	444,090	7,527	24.6	4.8	4.4
Firm.....	22	952	546,267	24,830	9.2	4.8	5.5
Corporation.....	159	17,761	9,013,124	56,686	66.3	90.4	90.1
Petroleum and natural gas.....	85	206	\$892,281	10,497	100.0	100.0	100.0
Individual.....	8	1	8,833	1,104	9.4	0.5	1.0
Firm.....	37	35	118,221	3,195	43.5	17.0	13.2
Corporation.....	40	170	765,227	10,131	47.1	82.5	85.8
Limestone.....	83	1,646	\$851,875	10,284	100.0	100.0	100.0
Individual.....	47	474	194,640	4,141	56.6	28.8	22.8
Firm.....	14	229	131,916	9,423	16.9	13.9	15.5
Corporation.....	22	943	525,319	23,878	28.5	57.3	61.7

¹ Includes 1 quasi cooperative association and 1 estate.

Out of a total of 437 operators, 240, or 54.9 per cent were corporations. These corporations reported 87.8 per cent of the total value of products and employed 87.6 per cent of all wage earners. As compared with

bituminous coal mining, petroleum and natural gas wells and limestone quarrying report a smaller proportion of the business under the corporate form of organization.

	Incorporated.	Unincorporated.
Number of operators.....	240	197
Number of mines and quarries.....	271	171
Number of wells.....	780	329
Proprietors and firm members, total.....		338
Number performing manual labor.....		75
Salaried employees:		
Officers of corporations.....	221	32
Superintendents and managers.....	279	30
Clerks and other salaried employees.....	460	
Wage earners, Dec. 15, 1909, or nearest representative day.....	19,294	2,739
Capital.....	\$25,117,674	\$1,668,966
Expenses of operation and development.....	10,539,710	1,182,012
Salaries—		
Officers of corporations.....	300,138	23,840
Superintendents and managers.....	343,761	14,593
Clerks and other salaried employees.....	282,816	14,593
Wages.....	7,009,773	817,741
Royalties and rent of mines.....	360,740	61,830
Taxes.....	87,923	8,199
Supplies and miscellaneous expenses.....	2,154,550	255,809
Value of products.....	10,620,625	1,479,450

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according to the number of wage earners employed per enterprise or operating unit.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	460	100.0	22,033	100.0
No wage earners.....	7	1.5		
Contract work and part-time employees.....	45	9.8		
1 to 5.....	84	18.3	249	1.1
6 to 20.....	111	24.1	1,279	5.8
21 to 50.....	91	19.8	3,134	14.2
51 to 100.....	59	12.8	4,432	20.1
Over 100.....	63	13.7	12,939	58.7
Bituminous coal.....	283	100.0	19,655	100.0
Contract work.....	2	0.8		
1 to 5.....	27	10.3	113	0.6
6 to 20.....	59	22.4	690	3.5
21 to 50.....	60	22.8	2,102	10.7
51 to 100.....	54	20.5	4,068	20.7
Over 100.....	61	23.2	12,682	64.5
Petroleum and natural gas.....	85	100.0	206	100.0
No wage earners.....	4	4.7		
Contract work and part-time employees.....	42	49.4		
1 to 5.....	29	34.1	49	23.8
6 to 20.....	7	8.2	53	25.7
Over 20.....	3	3.5	104	50.5
Limestone.....	83	100.0	1,646	100.0
No wage earners.....	1	1.2		
1 to 5.....	23	27.7	71	4.3
6 to 20.....	36	43.4	442	26.9
21 to 50.....	17	20.5	582	35.4
Over 50.....	6	7.2	551	33.5

Only 63 enterprises, 61 of which were engaged in the production of bituminous coal, employed more than 100 wage earners each. These enterprises, how-

ever, employed 58.7 per cent of the wage earners employed in all producing enterprises. In the petroleum and natural gas industry the average number of employees per enterprise was less than 3. Only 3 of the 85 enterprises in this industry employed over 20 wage earners, and 46 were operated with no wage earners or by contract work or part-time employees.

Prevailing hours of labor.—In Table 4 all producing mines and quarries, except those employing no wage earners and those operated exclusively by contract work and part-time employees, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. Petroleum and natural gas wells are not included in this table because the lack of regularity in the number of hours worked per day in a large number of enterprises rendered such classification impracticable. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise.

The table shows a considerable difference in the number of hours wage earners were employed in the two leading industries. In enterprises weighted according to the number of wage earners in the bituminous coal mines 41.8 per cent were operated on a 10-hour-per-day basis and 33.8 per cent on an 8-hour basis, while in the limestone quarries 87.2 per cent were operated on a 10-hour and none on an 8-hour basis, all working 9 hours or over.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries.....	1 368	100.0	100.0
8 hours and under.....	87	23.6	30.5
9 hours.....	86	23.4	22.8
10 hours.....	193	52.4	46.4
11 hours.....	1	0.3	0.1
12 hours.....	1	0.3	0.1
Bituminous coal.....	281	100.0	100.0
8 hours and under.....	86	33.0	33.8
9 hours.....	67	25.7	24.4
10 hours.....	108	41.4	41.8
Limestone.....	81	100.0	100.0
9 hours.....	18	22.2	11.2
10 hours.....	62	76.5	87.2
11 hours.....	1	1.2	1.7

¹ Exclusive of petroleum and natural gas and 1 limestone enterprise for which number of hours was not reported.

Engines and power.—As shown by Table 5, the aggregate horsepower employed in producing enterprises was 53,203, of which 52,058 horsepower was developed by engines owned by the enterprises using them and 1,145 by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Bituminous coal.	Petroleum and natural gas.	Limestone.	All other.
Primary power:					
Aggregate horsepower.....	53,203	44,314	4,351	2,999	1,539
Owned.....	52,058	43,279	4,351	2,889	1,539
Steam engines—					
Number.....	754	563	59	84	48
Horsepower.....	48,551	43,230	1,049	2,733	1,539
Gas or gasoline engines—					
Number.....	174	10	153	11	.....
Horsepower.....	3,507	49	3,302	156	.....
Electric motors operated by purchased current—					
Number.....	37	34	.....	3	.....
Horsepower.....	1,145	1,035	.....	110	.....
Electric motors run by current generated by enterprise using:					
Number.....	355	354	.....	.....	1
Horsepower.....	11,756	11,736	.....	.....	20

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement and enterprises operated by governmental institutions; to omit from the 1909 figures, as they appear in other tables in this chapter, statistics for the manufacture of coke at bituminous coal mines; and to add to 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$8,800,326	\$5,802,221	51.7
Supplies and materials.....	\$1,537,544	\$1,110,291	38.5
Royalties and rent of mines.....	\$422,702	\$156,562	170.0
Contract work.....	\$165,913	\$219,627	-24.5
Value of products.....	\$12,100,005	\$8,304,706	45.7
Primary horsepower.....	53,480	18,682	186.3

¹ A minus sign (—) denotes decrease.
² Exclusive of the wages of part-time employees for the petroleum and natural gas industry, which are included under "Contract work," in Table 7.

Duplication between manufactures and mining.—In the operation of limestone and sandstone quarries and bituminous coal mines some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in Kentucky involves a duplication of \$282,069.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	Aggregate.	PRODUCING MINES, QUARRIES, AND WELLS.								Nonproducing mines, quarries, and wells. ³
		Total.	Bituminous coal.	Petroleum and natural gas.	Limestone.	Sandstone.	Clay (sold as such).	Fluor-spar.	All other. ¹	
Number of operators.....	441	437	240	85	83	6	10	5	8	4
Number of mines, quarries, and wells.....	1,553	1,551	310	1,109	99	7	10	6	10	2
Capital.....	\$27,544,519	\$26,786,640	\$19,464,333	\$5,146,459	\$759,516	\$157,062	\$312,817	\$162,645	\$783,808	\$757,879
Expenses of operation and development.....	\$11,745,588	\$11,721,722	\$10,171,949	\$577,908	\$638,387	\$65,514	\$37,171	\$49,915	\$180,878	\$23,866
Services—										
Salaried officers of corporations, superintendents, and managers.....	\$673,539	\$667,739	\$523,880	\$35,154	\$70,762	\$8,360	\$3,360	\$7,440	\$18,783	\$6,120
Clerks and other salaried employees.....	\$301,159	\$297,409	\$266,042	\$17,319	\$9,275	\$950	\$720	\$583	\$2,020	\$3,750
Wage earners.....	\$7,834,831	\$7,827,514	\$7,153,362	\$68,917	\$376,792	\$30,798	\$22,336	\$20,452	\$98,442	\$7,337
Miscellaneous—										
Supplies.....	\$1,325,283	\$1,322,406	\$1,024,067	\$172,695	\$70,554	\$7,581	\$4,339	\$13,738	\$29,402	\$2,880
Fuel and rent of power.....	\$219,139	\$218,489	\$173,453	\$6,070	\$21,933	\$5,225	\$733	\$3,742	\$7,333	\$850
Royalties and rent of mines.....	\$422,706	\$422,579	\$325,239	\$68,917	\$17,224	\$1,140	\$250	\$1,857	\$7,952	\$127
Taxes.....	\$96,354	\$96,122	\$67,946	\$22,488	\$3,062	\$657	\$488	\$146	\$1,335	\$232
Contract work.....	\$188,480	\$184,903	\$86,060	\$96,514	\$800		\$180	\$949		\$1,577
Rent of offices and other sundry expenses.....	\$685,754	\$684,561	\$550,700	\$33,510	\$68,155	\$10,803	\$4,765	\$1,008	\$15,011	\$1,193
Value of products.....	\$12,100,075	\$12,100,075	\$10,003,481	\$892,281	\$851,875	\$90,834	\$46,328	\$38,695	\$176,581	
Persons engaged in industry.....	23,455	23,393	20,632	388	1,795	117	106	86	271	62
Proprietors and officials.....	579	579	157	157	130	11	10	9	16	9
Proprietors and firm members.....	342	338	118	123	80	2	7	4	4	4
Number performing manual labor.....	75	75	39	10	20	2	3	1	4	4
Salaried officers of corporations.....	224	221	173	15	23	4	4	2	4	5
Superintendents and managers.....	313	311	246	19	27	5	3	3	8	2
Clerks and other salaried employees.....	496	490	440	23	19	2	1	1	4	6
Wage earners, Dec. 15, 1909, or nearest representative day.....	22,080	22,033	19,655	206	1,646	104	95	76	251	47
Above ground.....	5,091	5,044	2,732	206	1,646	104	70	42	244	47
Below ground.....	16,989	16,989	16,923				25	34	7	
Men 16 years of age and over.....	22,004	21,957	19,591	206	1,635	103	95	76	251	47
Engineers, firemen, mechanics, etc.....	1,307	1,295	997	136	108	16	4	15	19	12
Above ground.....	1,163	1,151	857	136	108	16	4	11	19	12
Below ground.....	144	144	140					4		
Miners, miners' helpers, quarrymen, and stonecutters.....	16,229	16,202	14,614		1,209	78	86	35	180	27
Above ground.....	1,553	1,526			1,209	78	61	5	173	27
Below ground.....	14,676	14,676	14,614				25	30	7	
All other employees.....	4,468	4,460	3,980	70	318	9	9	28	52	8
Above ground.....	2,348	2,340	1,860	70	318	9	5	26	52	8
Below ground.....	2,120	2,120	2,120							
Boys under 16 years of age ⁴	76	76	64		11	1				
Number of wage earners employed on the 15th day of each month:										
January.....	18,021	18,021	16,992	225	487	67	70	73	107	
February.....	17,956	17,954	16,884	218	452	80	70	74	176	2
March.....	17,577	17,574	16,165	204	781	96	74	74	180	3
April.....	17,093	17,074	16,189	203	1,186	108	67	77	244	19
May.....	16,711	16,694	14,662	196	1,344	109	76	77	230	17
June.....	16,619	16,592	14,609	212	1,300	110	77	77	202	27
July.....	17,351	17,327	15,191	219	1,399	109	67	82	203	24
August.....	17,974	17,953	15,651	270	1,472	112	84	43	325	21
September.....	19,013	18,995	16,743	254	1,499	113	80	43	259	18
October.....	20,147	20,116	17,874	266	1,521	113	82	41	209	31
November.....	20,573	20,544	18,568	253	1,202	101	89	26	215	29
December.....	20,756	20,717	19,127	206	1,012	96	86	25	165	39
Land controlled, acres.....	711,803	710,638	399,846	289,236	2,312	860	1,685	2,046	14,701	1,187
Owned.....	295,241	294,864	280,053	2,034	2,058	709	1,810	1,876	6,824	377
Held under lease.....	416,562	415,772	119,793	287,202	254	151	325	170	7,877	790
Mineral and oil land.....	671,924	670,807	364,669	289,236	1,882	781	1,573	965	11,701	1,117
Owned.....	260,492	260,165	247,066	2,034	1,628	630	1,248	795	6,824	327
Held under lease.....	411,432	410,642	117,603	287,202	254	151	325	170	4,877	790
Timber land.....	19,578	19,548	16,538		10					
Other land.....	20,301	20,281	18,639		420	79	62	1,081	3,000	30
Primary horsepower.....	53,243	53,203	44,314	4,351	2,999	587	30	377	545	40

¹ Includes operators as follows: Asphaltum and bituminous rock, 2; barytes, 2; iron, 2; lead and zinc, 1; marble, 1.

² Includes operators as follows: Bituminous coal, 1; lithographic stone, 1; petroleum and natural gas, 2.

³ Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

⁴ In the bituminous coal industry 49 boys were employed below ground.

LOUISIANA.

Summary.—Of the 33 producing operators in Louisiana in 1909, 31 were engaged in the production of petroleum and natural gas and 1 each in the production of sulphur and limestone. In order to avoid publishing data from which could be ascertained the operations of an individual enterprise it is necessary to confine the statistics to all industries combined. For the same reason it is necessary to omit entirely the reports from two enterprises engaged in development work only.

The total gross value of the products of all industries in 1909 was \$6,547,050. Deducting from this amount, \$7,200, the value of the natural gas sold by

some operators and resold by others, leaves \$6,539,850 as the net value of the products. The total expenses of operation and development, exclusive of the cost of the natural gas purchased, amounted to \$6,634,355, which was \$94,505 in excess of the value of products. This was due to the fact that the value of the product of the sulphur industry included only the value of the sulphur which was marketed during the year, while the expenses given include the cost of mining both that which was sold and that which was added to the stock on hand.

Table 1 presents detailed statistics for the three industries combined.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 1	All industries. ¹	All industries.
Number of operators.....	33	Number of wage earners employed on the 15th day of each month: January..... 1,016 February..... 973 March..... 860 April..... 944 May..... 971 June..... 951 July..... 908 August..... 887 September..... 868 October..... 936 November..... 875 December..... 918
Number of mines, quarries, and wells.....	248	
Capital ²	\$13,207,232	
Expenses of operation and development.....	\$6,641,555	
Services—		
Salaried officers of corporations, superintendents, and managers.....	\$148,386	
Clerks and other salaried employees.....	\$178,645	
Wage earners.....	\$872,627	
Miscellaneous—		
Supplies.....	\$859,456	
Cost of natural gas purchased and resold.....	\$7,200	
Fuel and rent of power.....	\$726,971	
Royalties and rent of mines.....	\$496,198	
Taxes.....	\$67,501	
Contract work.....	\$62,440	
Rent of offices and other sundry expenses.....	\$3,222,131	
Value of products.....	\$6,547,050	
Persons engaged in industry.....	1,163	Land controlled, acres..... 102,251 Owned..... 23,271 Held under lease..... 78,980 Mineral and oil land..... 98,169 Owned..... 19,189 Held under lease..... 78,980 Other land..... 4,082 Primary horsepower..... 8,445 Steam engines— Number..... 249 Horsepower..... 8,250 Gas or gasoline engines— Number..... 10 Horsepower..... 195
Proprietors and officials.....	131	
Proprietors and firm members, total.....	72	
Number performing manual labor.....	1	
Salaried officers of corporations.....	26	
Superintendents and managers.....	33	
Clerks and other salaried employees.....	79	
Wage earners, Dec. 15, 1909, or nearest representative day ³ (all above ground).....	953	
Engineers, firemen, mechanics, etc.....	494	
Quarrymen.....	71	
All other employees ⁴	388	

¹ Includes operators as follows: Petroleum and natural gas, 31; limestone, 1; sulphur, 1.
² Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.
³ Includes 1 boy under 16 years of age.

Character of organization.—Table 2 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 3 gives further details for incorporated enterprises distinguished from those which are unincorporated. Of the 33 operators, 27 were corporations. These corporations reported 99.2 per cent of the total value of products and employed 99.4 per cent of all wage earners.

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.....	33	953	\$6,547,050	\$198,395	100.0	100.0	100.0
Individual.....	3	6	24,094	8,031	9.1	0.6	0.4
Firm.....	3	6	31,357	10,452	9.1	0.6	0.5
Corporation.....	27	947	6,491,599	240,430	81.8	99.4	99.2

MINES AND QUARRIES.

	Incorporated.	Unincorporated.
Number of operators.....	27	6
Number of mines and quarries.....	2	.....
Number of wells.....	237	9
Proprietors and firm members, total.....		72
Number performing manual labor.....		1
Salaried employees:		
Officers of corporations.....	26	.....
Superintendents and managers.....	29	4
Clerks and other salaried employees.....	79	.....
Wage earners, Dec. 15, 1909, or nearest representative day.....	947	6
Capital.....	\$12,966,249	\$240,983
Expenses of operation and development.....	6,520,648	120,907
Salaries—		
Officers of corporations.....	65,945	.....
Superintendents and managers.....	76,396	6,045
Clerks and other salaried employees.....	177,925	720
Wages.....	868,188	4,439
Royalties and rent of mines.....	492,353	3,845
Taxes.....	65,782	1,719
Supplies and miscellaneous expenses.....	4,766,859	104,139
Cost of natural gas purchased and resold.....	7,200	.....
Value of products.....	6,491,599	55,451

Comparison of mining industries: 1902-1909.—Table 4 presents for 1909 and 1902 such items as are comparable for the two years. Substantially all the increase in mining was due to the development of the sulphur deposits.

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$1,199,658	\$41,077	2,757.9
Supplies and materials.....	\$1,586,427	\$7,354	21,472.3
Royalties and rent of mines.....	\$496,198	\$23,207	2,038.1
Contract work.....	² \$60,310	\$105,858	-43.0
Value of products.....	³ \$6,539,850	\$279,327	2,241.3
Primary horsepower.....	8,445	4,440	90.2

¹ A minus sign (-) denotes decrease.

² Exclusive of \$2,130, the wages of part-time employees for the petroleum and natural gas industry.

³ Exclusive of \$7,200, the value of natural gas sold by some operators and resold by others.

MAINE.

Summary.—The number of producing mines and quarries in Maine in 1909 was 102, of which 89 were granite quarries. The total value of the products of all mining enterprises was \$2,056,063. Of this amount the granite quarries contributed \$1,761,801, or 85.7 per cent, the greater part of the remainder being contributed by the slate quarries. Besides giving details for all producing enterprises combined, Table 6 gives similar information with regard to the granite, slate, and feldspar quarries separately, but in most of the other tables separate statistics are given for granite quarries only.

Character of ownership.—As shown in Table 1, out of 97 operators of producing mining enterprises in the state of Maine, 26 were corporations. These corporations, however, reported 69.7 per cent of the total value of the products of the state, and employed 70.6 per cent of all wage earners.

Table 1

INDUSTRY AND CHARACTER OF OWNERSHIP.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.....	97	2,471	\$2,056,063	\$21,197	100.0	100.0	100.0
Individual.....	48	334	296,635	6,180	49.5	13.5	14.4
Firm.....	23	393	325,517	14,153	23.7	15.9	15.8
Corporation.....	26	1,744	1,433,911	55,150	26.8	70.6	69.7
Granite.....	85	2,132	1,761,801	20,727	100.0	100.0	100.0
Individual.....	43	315	290,839	6,764	50.6	14.8	18.5
Firm.....	23	393	325,517	14,153	27.1	18.4	18.5
Corporation.....	19	1,424	1,145,445	60,287	22.4	66.8	65.0

Size of enterprises.—In Table 2 the mining enterprises of the state are classified according to the number of wage earners employed. Of the 97 producing enterprises reported in 1909 only 22 employed more than 20 wage earners each. These enterprises, however, reported 80 per cent of the total number of wage earners employed in all producing mining enterprises in the state. More than half of this total number of wage earners were in the seven enterprises which employed from 101 to 500 wage earners each.

Table 2

INDUSTRY AND WAGE EARNERS PER ENTERPRISES.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	97	100.0	2,471	100.0
No wage earners.....	2	2.1	.....	.....
1 to 5.....	40	41.2	97	3.9
6 to 20.....	33	34.0	397	16.1
21 to 50.....	10	10.3	368	14.9
51 to 100.....	5	5.2	353	14.3
101 to 500.....	7	7.2	1,256	50.8
Granite.....	85	100.0	2,132	100.0
No wage earners.....	2	2.4	.....	.....
1 to 5.....	36	42.4	88	4.1
6 to 20.....	31	36.5	377	17.7
21 to 50.....	5	5.9	183	8.6
51 to 100.....	5	5.9	353	16.6
101 to 500.....	6	7.1	1,131	53.0

Prevailing hours of labor.—In Table 3 all producing enterprises, except those which employed no wage earners, have been classified according to the prevailing hours of labor per day in each enterprise. The table shows the percentage of the total number of enterprises falling into each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be distinctly borne in mind that this latter distribution does not show the proportion of the total number of wage earners working the specified number of hours per day, since in many cases some of the employees work a greater or less number of hours than those generally prevailing in the enterprise. Enterprises in which the prevailing hours were eight and under, constituted 58.9 per cent of all enterprises in 1909 and employed 73.8 per cent of the wage earners.

Table 3

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries.....	95	100.0	100.0
8 hours and under.....	56	58.9	73.8
9 hours.....	26	27.4	18.5
10 hours.....	12	12.6	7.3
11 hours.....	1	1.1	0.4
Granite.....	83	100.0	100.0
8 hours.....	55	66.3	85.4
9 hours.....	22	26.5	13.6
10 hours.....	6	7.2	1.1

Engines and power.—The aggregate horsepower employed in producing enterprises, as shown in Table 4, was 8,141, of which 7,671 horsepower was developed by engines and water wheels owned by the enterprise using them, and 470 by electric motors operated by purchased current.

Table 4

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909			
	All industries.	Granite.	Slate.	All other.
Primary power:				
Aggregate horsepower.....	8,141	7,158	743	240
Owned.....	7,671	7,078	413	180
Steam engines:				
Number.....	156	139	15	2
Horsepower.....	7,441	6,911	410	120
Gas or gasoline engines:				
Number.....	13	10	1	2
Horsepower.....	130	117	3	10
Water wheels:				
Number.....	2	1	.....	1
Horsepower.....	100	50	.....	50
Electric motors operated by purchased current:				
Number.....	8	2	5	1
Horsepower.....	470	80	330	60
Electric motors run by current generated by enterprise using:				
Number.....	14	13	1	.....
Horsepower.....	221	186	35	.....

Comparison of mining industries: 1902-1909.—In order to make a comparison between the census of 1909 and the preceding census of mines and quarries, that of 1902, it is necessary to include for 1909 figures for the production of lime, which was included in the report on mines and quarries for 1902, but classified as a manufacturing industry in 1909. In any case, only the few items specified in Table 5 can be compared for the two years.

	PRODUCING ENTERPRISES.		
	1909	1902	Percent of increase. ¹
Wages and salaries.....	\$1,636,617	\$2,478,603	-31.5
Supplies and materials.....	\$1,032,965	\$476,964	116.5
Royalties and rent of mines.....	\$22,279	\$12,714	75.2
Contract work.....	\$14,448	.....	.....
Value of products.....	\$3,270,766	\$3,656,134	-10.5
Primary horsepower.....	8,346	6,939	20.3

¹ A minus sign (-) denotes decrease.

Development work.—In addition to the 97 operators of producing enterprises in 1909 there were 3 operators who reported the expenditure of \$13,474 on properties which did not reach the productive stage during the year.

Duplication between manufactures and mining.—In a number of industries some of the mining operators subjected the mineral product obtained to certain manufacturing processes on the premises before marketing. Such enterprises have been included in the statistics both for manufactures and for mining. As a result the combined value of products for the manufacturing and mining industries of Maine involves a duplication of \$1,787,056.

Of the amount reported as duplication the greater portion represented duplication in the value of products of granite quarries, at many of which the stone was prepared for final use before marketing.

DETAILED STATISTICS FOR PRODUCING MINES AND QUARRIES: 1909.

	PRODUCING MINES AND QUARRIES: 1909					PRODUCING MINES AND QUARRIES: 1909					
	Total.	Granite.	Slate.	Feldspar.	All other. ¹	Total.	Granite.	Slate.	Feldspar.	All other. ¹	
Number of operators.....	97	85	5	3	4	Persons engaged in industry—					
Number of mines and quarries.....	102	89	0	3	4	Continued.					
Capital.....	\$3,825,931	\$2,660,777	\$1,068,623	\$84,631	\$11,900	Wage earners, Dec. 15, 1900—					
Expenses of operation and development.....	\$1,876,341	\$1,597,683	\$227,701	\$47,330	\$3,627	Continued.					
Services:						Engineers, firemen, mechanics, etc. (above ground).....					
Salaried officers of corporations, superintendents, and managers.....	\$87,779	\$65,234	\$16,845	\$5,700	.....	308	243	121	2	2	
Clerks and other salaried employees.....	\$31,847	\$29,130	\$1,917	\$800	.....	1,755	1,550	150	41	8	
Wage earners.....	\$1,332,242	\$1,167,136	\$145,155	\$17,472	\$2,479	1,732	1,550	127	41	8	
Miscellaneous:						23	.....	23	.....	.....
Supplies.....	\$219,579	\$181,547	\$26,540	\$10,537	\$955	All other wage earners (above ground).....					
Fuel and rent of power.....	\$94,683	\$60,133	\$19,860	\$4,654	\$30	348	333	8	.....	7	
Royalties and rent of mines.....	\$16,302	\$13,202	\$3,000	\$100	.....	Number of wage earners employed on the 15th day of each month:					
Taxes.....	\$16,241	\$13,203	\$2,805	\$76	\$07	January.....	1,327	900	285	38	8
Contract work.....	\$6,728	\$220	\$1,718	\$4,781	.....	February.....	1,163	838	278	30	11
Rent of offices and other sundry expenses.....	\$30,940	\$67,809	\$0,861	\$3,210	\$60	March.....	1,490	1,169	281	38	11
Value of products.....	\$2,056,063	\$1,761,801	\$223,809	\$65,197	\$5,250	April.....	1,883	1,562	293	47	11
Persons engaged in industry.....	2,686	2,319	295	51	21	May.....	2,314	1,954	294	55	11
Proprietors and officials.....	108	148	10	0	4	June.....	2,540	2,203	280	40	7
Proprietors and firm members.....	98	93	.....	1	4	July.....	2,000	2,304	305	47	4
Number performing manual labor.....	60	57	.....	1	2	August.....	2,600	2,230	303	48	7
Salaried officers of corporations.....	16	8	5	3	.....	September.....	2,725	2,362	309	50	4
Superintendents and managers.....	54	47	5	2	.....	October.....	2,529	2,160	301	53	6
Clerks and other salaried employees.....	47	39	0	2	.....	November.....	2,427	2,108	279	41	1
Wage earners, Dec. 15, 1909, or nearest representative day.....	2,471	2,132	279	43	17	December.....	2,053	1,713	289	41	10
Above ground.....	2,488	2,132	255	43	17	Land controlled, acres.....					
Below ground.....	23	.....	23	.....	.....	11,655	8,811	7,550	840	54	
						Owned.....	9,034	2,700	6,050	140	48
						Held under lease.....	1,721	1,015	600	100	6
						Mineral land.....	5,347	2,027	2,175	200	45
						Owned.....	3,800	2,185	1,575	100	30
						Held under lease.....	1,448	742	600	100	6
						Timber land.....	5,695	675	5,000	20	.....
						Other land.....	613	209	375	20	9
Primary horsepower.....	8,141	7,158	743	210	30	Primary horsepower.....					

¹ Includes operators as follows: Bluestone, 2; peat, 1; and mica, 1.

² All employees are men 16 years of age and over.

MARYLAND.

Summary.—The value of the products of all mines and quarries in Maryland, in 1909, was \$5,782,045. Of this amount \$4,483,137, or 77.5 per cent, represented the value of the products of bituminous coal mines, and \$1,075,726, or 18.6 per cent, represented the value of the products of all stone quarries.

For the five enterprises shown in column "All other" of Table 7 the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work resulting in permanent improvements to the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries....	126	7,745	\$5,782,045	\$45,889	100.0	100.0	100.0
Individual.....	42	523	319,586	7,609	33.3	0.8	5.5
Firm.....	24	320	203,400	11,059	10.0	4.1	4.0
Corporation.....	60	0,902	5,107,053	36,618	47.0	89.1	89.9
Bituminous coal.	40	5,798	4,483,137	112,078	100.0	100.0	100.0
Individual.....	10	147	78,390	7,839	25.0	2.5	1.7
Firm.....	6	59	35,028	5,838	15.0	1.0	0.8
Corporation.....	24	5,592	4,369,719	182,072	60.0	96.4	97.5

¹ Includes 1 enterprise operated by an administrator.

	Incorporated.	Unincorporated.
Number of operators.....	60	66
Number of mines and quarries.....	95	78
Proprietors and firm members, total.....		101
Number performing manual labor.....		48
Salaried employees:		
Officers of corporations.....	52	
Superintendents and managers.....	112	14
Clerks and other salaried employees.....	164	13
Wage earners, Dec. 15, 1909, or nearest representative day.....	0,902	843
Capital.....	\$24,731,549	\$438,129
Expenses of operation and development.....	4,615,773	300,384
Salaries—		
Officers of corporations.....	64,580	
Superintendents and managers.....	114,482	17,547
Clerks and other salaried employees.....	124,048	7,190
Wages.....	3,085,072	254,610
Royalties and rent of mines.....	111,132	22,654
Taxes.....	86,497	2,002
Supplies and miscellaneous expenses.....	1,020,362	86,321
Value of products.....	5,197,053	584,992

Out of a total of 126 operators, 60, or 47.6 per cent, were corporations. These corporations reported 89.9 per cent of the total value of products and employed 89.1 per cent of all wage earners.

Size of enterprises.—Table 3 classifies the producing mining enterprises of the state according to the number of wage earners employed per enterprise or operating unit. Of the 7,745 wage earners employed in all enterprises, 5,358, or 69.2 per cent, were employed in the 15 enterprises employing over 100 wage earners each.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	126	100.0	7,745	100.0
No wage earners.....	5	3.9		
Contract work.....	3	2.3		
1 to 5.....	30	23.8	101	1.3
6 to 20.....	35	28.5	442	5.7
21 to 50.....	24	18.6	852	10.9
51 to 100.....	14	10.9	1,002	12.9
Over 100.....	15	11.6	5,358	69.2
Bituminous coal.....	43	100.0	5,798	100.0
1 to 5.....	12	27.9	39	0.7
6 to 20.....	3	7.0	23	0.4
21 to 50.....	9	20.9	336	5.8
51 to 100.....	7	16.3	501	8.6
Over 100.....	12	27.9	4,899	84.5

Prevailing hours of labor.—In Table 4 all producing enterprises, except those employing no wage earners and those operated exclusively by contract work, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise. For all industries combined, and for enterprises engaged in the production of bituminous coal, the most important industry, a day of 10 hours prevailed.

INDUSTRY AND HOURS PER DAY.	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries.....	121	100.0	100.0
8 hours and under.....	12	9.9	1.8
9 hours.....	22	18.2	13.9
10 hours.....	87	71.9	84.3
Bituminous coal.....	43	100.0	100.0
8 hours and under.....	6	14.0	0.4
9 hours.....	6	14.0	12.7
10 hours.....	31	72.1	86.9

Engines and power.—As shown by Table 5, the aggregate horsepower employed in the producing mining enterprises of the state was 18,118, of which 17,615 was developed by engines and water wheels owned by the enterprises using them, and 503 horsepower by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Bituminous coal.	Granite.	Trap-rock.	All other.
Primary power:					
Aggregate horsepower..	18,118	9,845	3,233	1,442	3,598
Owned.....	17,615	9,830	3,233	1,367	3,185
Steam engines—					
Number.....	352	194	75	23	60
Horsepower.....	17,262	9,795	3,225	1,367	2,875
Gas or gasoline engines—					
Number.....	3	2	1		
Horsepower.....	43	35	8		
Water wheels—					
Number.....	5				5
Horsepower.....	310				310
Electric motors operated by purchased current—					
Number.....	27	3		3	21
Horsepower.....	503	15		75	413
Electric motors run by current generated by enterprise using:					
Number.....	40	40			
Horsepower.....	1,273	1,273			

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics

for the production of cement and enterprises operated by governmental institutions; to omit from the 1909 figures, as they appear in other tables in this chapter, the value of the by-products of bituminous coal mines; and to add to the 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

	PRODUCING ENTERPRISES.		
	1900	1902	Per cent of increase. ¹
Wages and salaries.....	\$3,810,501	\$4,006,200	—18.7
Supplies and materials.....	\$714,571	\$807,706	—11.5
Royalties and rent of mines.....	\$130,772	\$141,570	—3.4
Contract work.....	\$11,148	\$8,400	31.2
Value of products.....	\$0,103,122	\$7,102,113	—13.0
Primary horsepower.....	10,000	12,400	53.7

¹ A minus sign (—) denotes decrease.

Duplication between manufactures and mining.—In the production of granite, quartz, slate, and talc and soapstone some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact, the combined value of products for the manufacturing and mining industries in Maryland involves a duplication of \$495,069.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7

PRODUCING MINES AND QUARRIES.

	Total.	Bituminous coal.	Iron.	Granite.	Traprock.	Limestone.	Slate.	Sandstone.	Quartz.	Clay (sold as such).	Feldspar.	All other. ¹
Number of operators.....	120	40	12	16	14	10	6	4	5	11	3	5
Number of mines and quarries.....	173	70	13	23	15	14	6	4	5	12	5	6
Capital ²	\$25,169,678	\$22,871,136	\$62,658	\$456,918	\$604,125	\$254,361	\$538,500	\$42,923	\$94,707	\$78,450	\$2,400	\$133,500
Expenses of operation and development....	\$5,006,157	\$3,941,359	\$41,106	\$483,124	\$214,380	\$50,109	\$110,536	\$16,055	\$29,042	\$23,971	\$13,217	\$83,248
Services:												
Salaried officers of corporations, superintendents, and managers.....	\$196,609	\$111,261	\$2,520	\$38,640	\$13,196	\$2,421	\$10,340	\$1,025	\$4,526	\$2,520		\$10,160
Clerks and other salaried employees.....	\$131,838	\$110,855	\$810	\$12,209	\$2,426	\$780	\$1,010	\$1,000	\$12,178	\$397		\$2,748
Wage earners.....	\$3,339,682	\$2,713,294	\$24,989	\$202,120	\$114,532	\$37,472	\$78,545	\$11,909	\$12,178	\$12,478	\$5,810	\$36,355
Miscellaneous:												
Supplies.....	\$478,555	\$372,508	\$3,893	\$33,353	\$43,886	\$5,099	\$5,703	\$1,360	\$737	\$4,937	\$271	\$6,808
Fuel and rent of power.....	\$104,156	\$35,719	\$4,610	\$23,671	\$12,479	\$2,654	\$1,343	\$323	\$5,680	\$397		\$7,140
Royalties and rent of mines.....	\$133,780	\$95,757	\$1,343	\$15,509	\$7,269	\$1,035	\$1,796	\$287	\$600	\$535	\$2,201	\$7,364
Taxes.....	\$88,559	\$79,726	\$582	\$2,619	\$955	\$374	\$1,343	\$43	\$2,355	\$496		\$1,924
Contract work.....	\$8,303	\$1,633	\$395						\$2,355		\$3,900	
Rent of offices and other sundry expenses.....	\$524,669	\$420,586	\$1,964	\$65,003	\$19,637	\$1,054	\$686	\$108	\$1,469	\$2,608	\$805	\$10,749
Value of products.....	\$5,782,045	\$4,483,137	\$44,341	\$556,476	\$230,384	\$143,258	\$129,538	\$16,070	\$61,078	\$31,664	\$27,161	\$58,938
Persons engaged in industry.....	8,201	6,089	146	781	531	159	236	44	45	78	24	88
Proprietors and officials.....	279	130	20	41	27	14	13	4	8	13	1	8
Proprietors and firm members.....	101	28	18	15	11	12		2	3	10	1	1
Number performing manual labor.....	48	13	13	4	6	4				6	1	1
Salaried officers of corporations.....	52	20		12	5		7		2	1		5
Superintendents and managers.....	126	82	2	14	11	2	6	2	3	2		2
Clerks and other salaried employees.....	177	141	1	20	6		1	2	2			4
Wage earners, Dec. 15, 1909, or nearest representative day.....	7,745	5,798	125	720	498	145	222	38	35	65	23	76
Above ground.....	2,841	972	125	720	498	145	161	38	35	57	23	67
Below ground.....	4,904	4,826					61			8		9
Men 16 years of age and over.....	7,556	5,634	114	712	497	144	220	38	35	63	23	76
Engineers, firemen, mechanics, etc. Above ground.....	407	252	6	66	28	4	29	4	3	3	2	10
Below ground.....	365	212	6	66	28	4	27	4	3	3	2	10
Miners, miners' helpers, quarrymen, and stonecutters.....	5,242	3,833	65	553	454	43	151	26	7	33	21	56
Above ground.....	1,338		65	553	454	43	97	26	7	25	21	47
Below ground.....	3,904	3,833					54			8		9
All other employees.....	1,907	1,549	43	93	15	97	40	8	25	27		10
Above ground.....	1,092	739	43	93	15	97	35	8	25	27		10
Below ground.....	815	810					5					
Boys under 16 years of age ³	189	164	11	8	1	1	2			2		
Number of wage earners employed on the 15th of each month:												
January.....	7,003	5,825	110	549	91	62	216	25	28	24	18	55
February.....	6,981	5,763	106	579	106	50	217	18	28	51	18	55
March.....	7,020	5,716	111	546	104	58	219	22	35	61	23	65
April.....	7,040	5,570	110	606	240	75	223	17	35	71	23	70
May.....	7,061	5,528	117	631	275	93	227	17	32	53	18	70
June.....	7,184	5,533	119	733	284	93	224	27	32	51	18	70
July.....	7,212	5,383	114	765	412	107	224	37	32	47	18	73
August.....	7,127	5,257	120	791	423	122	223	30	32	38	18	73
September.....	7,362	5,409	121	777	502	123	220	36	32	51	18	73
October.....	7,421	5,445	125	783	513	127	223	32	32	53	23	65
November.....	7,434	5,505	125	741	490	161	195	45	35	54	23	60
December.....	7,432	5,772	128	707	293	132	195	35	35	52	23	60
Land controlled, acres.....	109,419	92,814	10,580	885	1,159	884	378	343	555	456	637	728
Owned.....	102,189	88,129	10,490	626	296	871	364	124	530	447		312
Held under lease.....	7,230	4,685	90	259	863	13	14	219	25	9		416
Mineral land.....	73,564	68,220	180	476	1,125	884	378	343	235	450		630
Owned.....	66,595	63,596	90	357	282	871	364	124	210	447		254
Held under lease.....	6,969	4,624	90	119	843	13	14	219	25	9		376
Timber land.....	18,519	8,345	10,000	40					120			14
Other land.....	17,336	16,249	400	369	34				200			84
Primary horsepower.....	18,118	9,845	391	3,233	1,442	287	942	175	545	203	10	1,045

¹ Includes operators distributed as follows: Copper, 1; marble, 2; mineral pigments, 1; talc and soapstone, 1.

² Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

³ In the bituminous coal industry 143 boys were employed below ground.

MASSACHUSETTS.

Summary.—The production of granite was the leading industry in Massachusetts in 1909. The value of the output of these quarries was \$2,185,986, which represented 63 per cent of the total value of the products of all mines and quarries. Traprock, sandstone, and marble quarries reported products with a combined value of \$1,113,472, which, added to the value of the granite, give an aggregate value of \$3,299,458 for the products of the stone quarries in the state in 1909.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of operators.		Value of products.		Per cent distribution.		
	Number of operators.	Number of wage earners.	Total.	Per operator.	Oper-	Wage	Value of products.
					ators.	earn-	
All industries.....	139	3,508	\$3,467,882	\$24,949	100.0	100.0	100.0
Individual.....	69	869	773,595	11,234	49.6	24.8	22.5
Firm.....	22	318	369,038	16,774	15.8	9.1	10.6
Corporation.....	48	2,321	2,320,255	48,339	34.5	66.2	66.9
Granite.....	82	2,278	2,185,986	26,658	100.0	100.0	100.0
Individual.....	47	598	545,635	11,609	57.3	26.3	25.0
Firm.....	15	229	254,251	16,950	18.3	10.1	11.6
Corporation.....	20	1,451	1,386,100	69,305	24.4	63.7	63.4
Traprock.....	23	581	590,913	25,692	100.0	100.0	100.0
Individual ¹	11	133	115,843	10,531	47.8	22.9	19.6
Corporation.....	12	448	475,070	39,589	52.2	77.1	80.4

¹ Includes 1 firm.

	Incorporated.	Unincorporated.
Number of operators.....	48	91
Number of mines and quarries.....	53	94
Proprietors and firm members, total.....		121
Number performing manual labor.....		43
Salaried employees:		
Officers of corporations.....	28	
Superintendents and managers.....	48	25
Clerks and other salaried employees.....	54	21
Wage earners, Dec. 15, 1909, or nearest representative day.....	2,321	1,187
Capital.....	\$3,953,557	\$1,100,536
Expenses of operation and development.....	2,075,902	911,273
Salaries:		
Officers of corporations.....	70,670	
Superintendents and managers.....	61,791	21,222
Clerks and other salaried employees.....	45,256	14,419
Wages.....	1,365,018	601,979
Royalties and rent of mines.....	38,107	17,802
Taxes.....	29,722	10,465
Supplies and miscellaneous expenses.....	465,338	245,880
Value of products.....	2,320,255	1,147,633

Out of a total of 139 operators, 48 were corporations. These corporations reported 66.9 per cent of the total value of products and employed 66.2 per cent of all wage earners.

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according to the number of wage earners employed per enterprise or operating unit. In the granite quarries 32.1 per cent of all wage earners were employed in three enterprises employing over 100 wage earners each.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	139	100.0	3,508	100.0
No wage earners.....	1	0.7		
Contract work.....	1	0.7		
1 to 5.....	33	23.7	110	3.1
6 to 20.....	58	41.7	688	19.6
21 to 50.....	20	18.7	766	21.8
51 to 100.....	16	11.5	1,061	30.2
Over 100.....	4	2.9	883	25.2
Granite.....	82	100.0	2,278	100.0
No wage earners.....	1	1.2		
1 to 5.....	10	23.2	63	2.8
6 to 20.....	36	43.0	419	18.4
21 to 50.....	14	17.1	421	18.5
51 to 100.....	9	11.0	643	28.2
Over 100.....	3	3.7	732	32.1
Traprock.....	23	100.0	581	100.0
Contract work.....	1	4.3		
1 to 20.....	13	56.5	148	25.5
21 to 50.....	6	26.1	107	28.7
Over 50.....	3	13.0	266	45.8

Prevailing hours of labor.—In Table 4 all producing mines and quarries, except one employing no wage earners and one operated exclusively by contract work, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit.

INDUSTRY AND HOURS PER DAY.	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries.....	139	100.0	100.0
8 hours.....	53	38.1	46.4
9 hours.....	63	45.3	34.1
10 hours.....	22	15.8	18.5
12 hours.....	1	0.7	1.0
Granite.....	81	100.0	100.0
8 hours.....	48	59.3	70.1
9 hours.....	32	39.5	29.6
10 hours.....	1	1.2	0.3
Traprock.....	22	100.0	100.0
8 hours.....	1	4.5	2.8
9 hours.....	12	54.5	31.3
10 hours.....	9	40.9	65.9

The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representa-

tive day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in many cases, some of the employees worked a greater or less number of hours than those generally prevailing in the enterprise.

In 46.4 per cent of the enterprises, weighted according to the number of wage earners, a day of 8 hours prevailed.

Engines and power.—As shown by Table 5, the aggregate horsepower employed in all producing enterprises was 15,031, of which 14,578 was developed by engines and water wheels owned by the enterprises using them and 453 by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909					
	Total.	Granite.	Trap-rock.	Sandstone.	Marble.	All other.
Primary power:						
Aggregate horsepower.	15,031	9,172	2,296	962	1,339	1,262
Owned.....	14,578	9,067	2,033	877	1,339	1,262
Steam engines—						
Number.....	315	223	26	26	25	15
Horsepower.....	13,310	8,887	2,033	829	916	645
Gas or gasoline engines—						
Number.....	14	7	.....	1	1	5
Horsepower.....	700	180	.....	20	198	302
Water wheels—						
Number.....	6	.....	.....	1	3	2
Horsepower.....	568	.....	.....	28	225	315
Electric motors operated by purchased current—						
Number.....	13	5	6	2	.....	.....
Horsepower.....	453	105	263	85	.....	.....
Electric motors run by current generated by enterprise using:						
Number.....	28	15	2	.....	7	4
Horsepower.....	676	425	6	.....	197	48

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for enterprises operated by governmental institutions and to add to the 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$2,516,534	\$2,739,230	-8.1
Supplies and materials.....	\$854,090	\$727,665	17.4
Royalties and rent of mines.....	\$58,589	\$44,325	32.2
Contract work.....	\$18,037	\$1,853	905.8
Value of products.....	\$4,332,218	\$4,499,401	-3.7
Primary horsepower.....	15,620	11,170	39.8

¹ A minus sign (-) denotes decrease.

Duplication between manufactures and mining.—In a number of industries some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in Massachusetts involves a duplication of \$2,151,708. Of this amount \$1,743,400 represents the value of granite duplicated, \$252,557 the value of marble, and \$106,831 and \$48,920, respectively, the value of sandstone and talc and soapstone.

MINES AND QUARRIES.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7

	PRODUCING MINES AND QUARRIES.							
	Total.	Granite.	Traprock.	Sandstone.	Marble.	Talc and soapstone.	Clay. (sold as such).	All other. ¹
Number of operators.....	139	82	23	13	8	3	3	7
Number of mines and quarries.....	147	86	24	15	8	4	3	7
Capital.....	\$5,054,693	\$3,149,136	\$286,780	\$341,209	\$499,635	\$182,388	\$6,150	\$419,498
Expenses of operation and development.....	\$2,987,175	\$1,973,630	\$466,390	\$207,924	\$222,816	\$29,736	\$1,063	\$85,616
Services—								
Salaried officers of corporations, superintendents, and managers.....	\$153,683	\$81,888	\$21,155	\$5,860	\$8,650	\$5,005		\$3,365
Clerks and other salaried employees.....	\$59,675	\$38,521	\$7,504	\$2,418	\$3,123	\$659		\$1,950
Wage earners.....	\$1,966,997	\$1,402,344	\$246,131	\$130,946	\$119,147	\$9,996	\$546	\$57,887
Miscellaneous—								
Supplies.....	\$373,698	\$197,135	\$48,959	\$40,424	\$39,287	\$4,085	\$200	\$13,608
Fuel and rent of power.....	\$153,258	\$86,770	\$31,779	\$10,853	\$14,499	\$3,342	\$25	\$5,090
Royalties and rent of mines.....	\$55,409	\$17,552	\$31,126	\$4,040	\$2,691			
Taxes.....	\$40,187	\$29,920	\$3,598	\$2,563	\$1,984	\$1,080	\$89	\$709
Contract work.....	\$16,272	\$3,704	\$10,068			\$2,500		
Rent of offices and other sundry expenses.....	\$177,996	\$115,796	\$66,070	\$10,820	\$13,435	\$3,009	\$203	\$2,107
Value of products.....	\$3,467,888	\$2,185,986	\$590,913	\$270,002	\$252,557	\$48,920	\$1,708	\$117,802
Persons engaged in industry.....	4,805	2,456	634	247	287	42	11	119
Proprietors and officials.....	222	135	36	16	16	4	3	6
Proprietors and firm members.....	121	83	12	11	9		3	3
Number performing manual labor.....	43	37	1	1			1	3
Salaried officers of corporations.....	28	13	7		1	1		
Superintendents and managers.....	73	39	17	5	6	3		3
Clerks and other salaried employees.....	475	43	17	3	4	2		3
Wage earners, Dec. 15, 1909, or nearest representative day.....	3,508	2,278	581	228	267	36	8	110
Above ground.....	3,428	2,278	581	228	267	16	8	50
Below ground.....	80					20		60
Men 16 years of age and over.....	3,493	2,267	577	228	267	36	8	110
Engineers, firemen, mechanics, etc.....	461	314	69	21	42	7		8
Above ground.....	459	314	69	21	42	5		8
Below ground.....	2					2		
Miners, miners' helpers, quarrymen, and stone-cutters.....	2,285	1,450	455	171	103	20	1	85
Above ground.....	2,207	1,450	455	171	103	2	1	25
Below ground.....	78					18		60
All other employees (all above ground).....	747	503	53	36	122	9	7	17
Boys under 16 years of age (all above ground).....	15	11	4					
Number of wage earners employed on the 15th day of each month:								
January.....	2,297	1,684	159	117	176	30		131
February.....	2,323	1,752	112	124	169	28		133
March.....	2,670	2,087	117	148	172	30		116
April.....	3,282	2,342	381	197	208	29		125
May.....	3,657	2,550	538	204	212	31		122
June.....	3,583	2,333	618	216	236	32	1	147
July.....	3,799	2,489	664	233	241	31	1	140
August.....	3,793	2,496	695	203	241	32	7	119
September.....	3,850	2,569	650	249	250	29	7	97
October.....	3,741	2,468	652	244	250	28		98
November.....	3,430	2,233	591	230	249	28		99
December.....	3,065	1,986	534	147	258	31		109
Land controlled, acres.....	8,077	3,879	479	600	677	774	17	1,651
Owned.....	7,205	3,514	328	579	582	534	17	1,651
Held under lease.....	872	365	151	21	95	240		
Mineral land.....	5,716	2,914	478	600	677	395	17	1,100
Owned.....	4,879	2,549	327	579	552	155	17	1,100
Held under lease.....	837	365	151	21	60	240		
Timber land.....	1,017	536			300	85		96
Other land.....	1,344	429	1		165	294		455
Primary horsepower.....	15,031	9,172	2,296	962	1,339	630	15	617

¹ Includes operators as follows: Bluestone, 1; corundum and emery, 1; feldspar, 1; fuller's earth, 1; iron, 1; pyrite, 1; quartz, 1.

² Includes \$109,297 which could not be distributed among the several industries.

³ In some cases the same operator conducted two or more enterprises producing different kinds of products, all enterprises being managed through one central administrative office. The total office expenses were accordingly apportioned among the several industries in proportion to the total expenses of each and the estimated amounts of such administrative expenses were added to "Sundry expenses" for each industry. In the totals for all enterprises, however, the expenses appear under the proper headings. The amounts included in "Rent of offices and other sundry expenses" for individual industries and properly distributed in the total for all industries are as follows: Salaried officers of corporations, superintendents, and managers, \$27,700; clerks and other salaried employees, \$5,500; and taxes, \$244.

⁴ The following numbers of persons, which could not be distributed among the several industries, are included under the proper headings in the totals for all enterprises: Aggregate, 9; salaried officers of corporations, 6; and clerks and other salaried employees, 3.

MICHIGAN.

Summary.—The total value of the products of the mining enterprises in 1909 amounted to \$67,714,479, which gives Michigan a rank of fourth among the states in the value of products reported. The principal industries were the mining of iron ore, copper ore, bituminous coal, and gypsum, and the quarrying of limestone. The value of the products of these five industries was \$67,524,285, or 99.7 per cent of the total for all products. Of the total for the five industries, the iron ore mines contributed \$32,168,133; the copper ore mines, \$30,165,443; the coal mines, \$3,175,102; gypsum mines, \$1,220,321; and the limestone quarries, \$795,286. Of the minor industries the production of grindstones was the most important.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 83 operators, 68 were corporations. These corporations reported 99.7 per cent of the total value of products and employed 99.3 per cent of all wage earners. In the copper industry all enterprises were conducted by corporations.

or operating unit. Of the total number of wage earners reported, 51 per cent were employed in the 10 enterprises employing over 1,000 wage earners each.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of operators.		Value of products.		Per cent distribution.		
	Number of operators.	Number of wage earners.	Total.	Per operator.	Per cent distribution.		Value of products.
					Operators.	Wage earners.	
All industries ..	83	40,397	\$67,714,479	\$815,837	100.0	100.0	100.0
Individual	11	151	127,218	11,565	13.3	0.4	0.2
Firm	4	113	69,013	17,253	4.8	0.3	0.1
Corporation	68	40,133	67,518,248	992,915	81.9	99.3	99.7
Bituminous coal	15	3,572	3,175,102	211,873	100.0	100.0	100.0
Individual ¹	4	105	71,391	17,848	26.7	2.9	2.2
Corporation	11	3,467	3,103,711	282,155	73.3	97.1	97.8

¹ Includes 1 firm and 1 cooperative association.

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according to the number of wage earners employed per enterprise

	Incorporated.	Unincorporated.
Number of operators	68	15
Number of mines and quarries	154	19
Number of wells	21	
Proprietors and firm members, total		118
Number performing manual labor		75
Salaried employees:		
Officers of corporations	144	
Superintendents and managers	412	6
Clerks and other salaried employees	1,044	12
Wage earners, Dec. 15, 1909, or nearest representative day	40,333	264
Capital	\$119,161,613	\$170,374
Expenses of operation and development	51,650,175	169,663
Salaries—		
Officers of corporations	481,389	
Superintendents and managers	766,728	7,442
Clerks and other salaried employees	912,652	5,311
Wages	27,550,028	110,880
Royalties and rent of mines	4,046,640	1,966
Taxes	1,947,983	773
Supplies and miscellaneous expenses	15,944,755	43,291
Value of products	67,518,248	196,231

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries	124	100.0	40,397	100.0
No wage earners	1	0.8		
Contract work	2	1.6		
1 to 5	3	2.4	11	(¹)
6 to 20	17	13.7	178	0.4
21 to 50	17	13.7	603	1.5
51 to 100	20	16.1	1,456	3.6
101 to 500	45	36.3	10,615	26.3
501 to 1,000	9	7.3	6,929	17.2
Over 1,000	10	8.1	20,600	51.0
Iron	44	100.0	16,125	100.0
6 to 50	5	11.4	150	0.9
51 to 100	7	15.9	526	3.3
101 to 500	25	56.8	6,081	37.7
Over 500	7	15.9	9,368	58.1
Copper	28	100.0	19,022	100.0
21 to 100	5	19.2	329	1.7
101 to 500	11	42.3	2,593	13.6
501 to 1,000	3	11.5	2,094	11.0
Over 1,000	7	28.9	14,006	73.6
Bituminous coal	17	100.0	3,572	100.0
6 to 20	3	17.6	25	0.7
21 to 100	7	41.2	371	10.4
Over 100	7	41.2	3,176	88.9

¹ Less than one-tenth of 1 per cent.

Persons employed in mining.—While iron-ore mining was the leading industry in 1909, when measured by the value of products, copper ore mining ranks first when the number of persons employed is considered. Out of a total of 42,133 persons employed in the producing enterprises, 19,575, or 46.5 per cent, were employed in the copper industry, and 16,908 in the iron industry.

Prevailing hours of labor.—In Table 4 all producing mines and quarries, except those employing no wage earners and those operated exclusively by contract work, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. Petroleum and natural gas wells are not included in this table, because the lack of regularity in the number of hours worked per day in a large number of enterprises rendered such classification impracticable. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those prevailing in the enterprise.

The table shows a marked difference in the number of hours persons are employed in the three leading industries. In the iron ore mines, in 96.6 per cent of the enterprises weighted according to the number of wage earners, 10 hours were the prevailing hours of labor, while in copper mining 59.4 per cent and in bituminous coal mining 98.7 per cent of the enterprises were run on an 8-hour basis.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries	121	100.0	100.0
8 hours and under.....	31	25.6	38.0
9 hours.....	11	9.1	14.0
10 hours.....	78	64.5	47.9
12 hours.....	1	0.8	0.1
Iron	48	100.0	100.0
8 hours and under.....	3	6.5	3.4
10 hours.....	43	93.5	96.6
Copper	25	100.0	100.0
8 hours and under.....	12	48.0	59.4
9 hours.....	8	32.0	29.3
10 hours.....	5	20.0	11.3
Bituminous coal	17	100.0	100.0
8 hours and under.....	16	94.1	98.7
9 hours.....	1	5.9	1.3

¹ Exclusive of petroleum and natural gas, and of 1 copper mine for which number of hours was not reported.

Engines and power.—As shown by Table 5, the aggregate horsepower employed in producing enterprises was 273,861, of which 271,644 was developed by engines and water wheels owned by the enterprises using them, and 2,217 horsepower by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Iron.	Copper.	Bituminous coal.	All other.
Primary power:					
Aggregate horsepower.....	273,861	108,427	149,749	7,912	7,773
Owned.....	271,644	108,262	148,565	7,912	6,905
Steam engines—					
Number.....	1,632	1,205	261	94	72
Horsepower.....	255,146	96,017	144,515	7,900	6,714
Gas or gasoline engines—					
Number.....	12	4	1	2	5
Horsepower.....	178	35	50	12	81
Water wheels—					
Number.....	126	24	11	.....	1
Horsepower.....	16,320	12,210	4,000	.....	110
Electric motors operated by purchased current—					
Number.....	69	13	30	.....	26
Horsepower.....	2,217	165	1,184	.....	868
Electric motors run by current generated by enterprise using:					
Number.....	281	149	72	47	13
Horsepower.....	16,780	7,341	6,908	2,162	369

¹ Includes 1 water motor of 4,000 horsepower.

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement; to omit from the 1909 figures, as they appear in other tables in this chapter, statistics for the operation of copper smelters; and to add to the 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase.
Wages and salaries.....	\$29,344,947	\$21,277,047	37.9
Supplies and materials.....	\$11,898,749	\$8,637,172	37.8
Royalties and rent of mines.....	\$4,048,981	\$2,311,479	75.2
Contract work.....	\$472,605	\$77,047	513.4
Value of products.....	\$64,956,299	\$48,022,902	35.3
Primary horsepower.....	271,891	184,278	47.5

Duplication between manufactures and mining.—In a number of industries some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in Michigan involves a duplication of \$23,400,628, of which \$22,045,406 represents the value of copper duplicated.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	Aggregate.	PRODUCING MINES, QUARRIES, AND WELLS.							Nonproducing mines and quarries. ²
		Total.	Iron.	Copper.	Bituminous coal.	Gypsum.	Limestone.	All other. ¹	
Number of operators.....	97	83	24	7	15	8	20	9	14
Number of mines, quarries, and wells.....	208	194	83	21	28	8	24	30	14
Capital.....	\$130,794,621	\$110,331,987	\$57,158,347	\$49,731,392	\$9,865,156	\$1,215,603	\$2,799,282	\$176,486	\$11,462,634
Expenses of operation and development.....	\$52,775,492	\$51,819,838	\$22,459,011	\$24,459,471	\$2,985,802	\$1,042,636	\$685,326	\$187,592	\$955,654
Services—									
Salaried officers of corporations, superintendents and managers.....	\$1,314,421	\$1,255,559	\$912,929	\$442,720	\$87,445	\$49,126	\$29,287	\$10,220	\$58,862
Clerks and other salaried employees.....	\$953,599	\$917,963	\$411,910	\$325,549	\$37,695	\$25,211	\$16,680	\$1,098	\$35,639
Wage earners.....	\$28,147,326	\$27,660,908	\$10,668,069	\$14,047,665	\$2,267,272	\$266,861	\$332,559	\$78,179	\$486,418
Miscellaneous—									
Supplies.....	\$9,972,231	\$9,800,415	\$3,452,519	\$5,575,206	\$295,251	\$261,301	\$142,441	\$73,667	\$171,816
Fuel and rent of power.....	\$4,271,108	\$4,193,347	\$1,457,400	\$2,544,253	\$30,256	\$70,909	\$78,906	\$11,554	\$77,761
Royalties and rent of mines.....	\$4,050,106	\$4,048,606	\$3,827,852	\$147,372	\$61,555	.....	\$5,141	\$3,686	\$1,500
Taxes.....	\$2,000,314	\$1,948,750	\$949,945	\$451,821	\$14,439	\$9,745	\$10,879	\$1,468	\$51,558
Contract work.....	\$511,673	\$470,205	\$439,148	\$23,582	\$2,203	.....	\$5,022	.....	\$41,468
Rent of offices and other sundry expenses.....	\$1,554,714	\$1,524,079	\$612,179	\$402,053	\$189,676	\$308,474	\$58,112	\$7,090	\$30,635
Value of products.....	\$67,714,479	\$67,714,479	\$32,168,133	\$30,165,443	\$3,175,192	\$1,220,321	\$795,286	\$180,194	.....
Persons engaged in industry.....	42,970	42,133	16,908	19,775	3,782	733	934	178	837
Proprietors and officials.....	719	680	308	156	154	16	33	9	39
Proprietors and firm members.....	118	118	.....	.....	104	.....	11	3	.....
Number performing manual labor.....	75	75	.....	.....	70	.....	4	1	.....
Salaried officers of corporations.....	167	144	.....	.....	15	.....	6	2	23
Superintendents and managers.....	434	418	39	79	15	5	13	4	16
Clerks and other salaried employees.....	1,113	1,056	475	397	56	82	23	4	57
Wage earners, Dec. 15, 1909, or nearest representative day.....	41,138	40,307	16,125	19,022	3,572	635	878	165	741
Above ground.....	14,427	14,063	4,665	7,499	218	628	878	165	364
Below ground.....	26,711	26,334	11,460	11,613	3,254	7	.....	.....	377
Men 16 years of age and over.....	41,060	40,319	16,104	18,970	3,572	635	873	163	741
Engineers, firemen, mechanics, etc.....	5,080	4,918	1,705	2,831	200	20	135	18	162
Above ground.....	4,865	4,703	1,544	2,801	186	19	135	18	162
Below ground.....	215	215	161	30	23	1	.....	.....	.....
Miners, miners' helpers, quarrymen, and stonecutters.....	21,338	21,121	7,853	9,700	2,796	132	516	124	217
Above ground.....	853	853	87	.....	.....	126	516	124	.....
Below ground.....	20,485	20,268	7,766	9,700	2,796	6	.....	.....	217
All other employees.....	14,642	14,280	6,546	6,439	567	483	222	23	362
Above ground.....	8,644	8,442	3,020	4,556	132	483	222	23	202
Below ground.....	5,998	5,838	3,526	1,883	435	.....	.....	.....	160
Boys under 16 years of age ³	78	78	21	52	.....	.....	5	.....	.....
Number of wage earners employed on the 15th day of each month:									
January.....	39,006	38,419	14,351	19,166	3,793	734	850	76	587
February.....	38,995	38,409	14,456	19,075	3,644	688	485	61	586
March.....	39,487	38,870	14,557	19,307	3,611	689	567	139	617
April.....	38,980	38,352	14,128	19,220	3,305	793	663	243	623
May.....	39,395	38,721	14,476	19,274	3,112	745	868	246	674
June.....	39,571	38,778	14,656	19,027	3,213	759	870	244	793
July.....	40,185	39,422	15,020	19,342	3,254	721	834	251	763
August.....	40,415	39,617	15,145	19,271	3,320	715	925	241	798
September.....	40,664	39,886	15,494	19,206	3,382	676	898	230	778
October.....	40,935	40,155	15,803	19,150	3,388	751	863	202	780
November.....	40,384	39,606	15,734	18,728	3,414	727	843	160	778
December.....	40,526	39,791	16,052	18,732	3,496	625	739	147	735
Land controlled, acres.....	469,907	452,602	247,656	180,153	25,661	690	6,062	12,380	17,305
Owned.....	413,528	396,323	223,419	159,833	6,222	572	5,240	1,037	17,205
Held under lease.....	56,379	56,279	24,237	320	19,439	118	822	11,343	100
Mineral and oil land.....	137,716	122,468	17,295	67,369	23,135	397	2,342	12,020	15,248
Owned.....	93,393	78,245	4,464	67,369	3,696	279	1,520	917	15,148
Held under lease.....	44,323	44,223	12,741	.....	19,439	118	822	11,103	100
Timber land.....	216,520	215,349	162,248	52,327	4	.....	770	.....	1,171
Other land.....	116,671	114,785	68,203	40,457	2,522	293	-2,950	360	886
Primary horsepower.....	278,684	273,861	108,427	149,749	7,912	3,228	3,155	1,390	4,823

¹ Includes operators as follows: Clay, 1; grindstones, 2; peat, 1; petroleum and natural gas, 1; sandstone, 2; traprock, 2.

² Includes operators as follows: Copper, 12; iron, 2.

³ Includes \$1,385,721 which could not be distributed among the several industries. Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

⁴ In some cases the same operator conducted two or more enterprises producing different kinds of products, all enterprises being managed through one central administrative office. The total office expenses were accordingly apportioned among the several industries in proportion to the total expenses of each and the estimated amounts of such administrative expenses were added to "Sundry expenses" for each industry. In the totals for all enterprises, however, the expenses appear under the proper headings. The amounts included in "Rent of offices and other sundry expenses" for individual industries and properly distributed in the total for all industries are as follows: Salaried officers of corporations, superintendents, and managers, \$32,832; clerks and other salaried employees, \$9,217; and taxes, \$11,458.

⁵ The following numbers of persons, which could not be distributed among the several industries, are included under the proper headings in the totals for all enterprises: Aggregate, 23; salaried officers of corporations, 4; and clerks and other salaried employees, 19.

⁶ In the iron mining industry 13 boys were employed below ground.

MINNESOTA.

Summary.—With a total value of products amounting to \$58,664,852, Minnesota ranked sixth among the states in importance in mining in 1909. The mining of iron ore was the principal industry, with a value of products amounting to \$57,076,135. This figure represents 97.3 per cent of the total value of products reported for the mines and quarries of the state and 53.4 per cent of the total value of products for the industry in the United States (\$106,947,082). The two industries next in importance were granite and limestone quarrying, for which products valued at \$672,904 and \$641,344, respectively, were reported. The only other producing mining industries in the state were sandstone and traprock quarrying. In the combined statistics for these industries, which can not be shown separately without revealing individual operations of the one traprock producer, the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work resulting in permanent improvements to the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 153 operators in all industries combined, 39 were corporations. These corporations reported 98.7 per cent of the total value of products and employed 95.3 per cent of all wage earners. In the production of iron ore all enterprises reported were conducted by corporations.

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.....	153	18,114	\$58,664,852	\$383,430	100.0	100.0	100.0
Individual.....	77	363	249,153	3,236	50.3	2.0	0.4
Firm.....	37	481	515,666	13,937	24.2	2.7	0.9
Corporation.....	39	17,270	57,900,033	1,484,616	25.5	95.3	98.7

¹ Includes 1 estate.

Size of enterprises.—Table 3 classifies the producing enterprises according to the number of wage earners employed per enterprise or operating unit. For all industries, exclusive of those operated by contract work,

the average number of wage earners per enterprise was 102, while for the enterprises engaged in the production of iron ore the average number employed was 360.

	Incorporated.	Unincorporated.
Number of operators.....	39	114
Number of mines and quarries.....	122	128
Proprietors and firm members, total.....		169
Number performing manual labor.....		99
Salaried employees:		
Officers of corporations.....	62	
Superintendents and managers.....	308	8
Clerks and other salaried employees.....	928	7
Wage earners, Dec. 15, 1909, or nearest representative day.....	17,270	344
Capital.....	\$176,404,123	\$546,246
Expenses of operation and development.....	38,057,149	517,031
Salaries:		
Officers of corporations.....	200,740	9,040
Superintendents and managers.....	484,497	5,400
Clerks and other salaried employees.....	869,063	389,585
Wages.....	11,517,464	14,072
Royalties and rent of mines.....	10,717,887	3,193
Taxes.....	2,820,933	95,735
Supplies and miscellaneous expenses.....	11,446,535	
Value of products.....	57,900,033	764,819

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	179	100.0	18,114	100.0
No wage earners.....	12	6.7		
Contract work.....	1	0.6		
1 to 5.....	58	32.4	133	0.7
6 to 20.....	41	22.9	408	2.3
21 to 50.....	18	10.1	613	3.4
51 to 100.....	17	9.5	1,173	6.5
Over 100.....	32	17.9	15,787	87.2
Iron.....	46	100.0	18,218	100.0
Contract work.....	1	2.2		
6 to 50.....	4	8.7	80	0.5
51 to 100.....	11	23.9	779	4.8
Over 100.....	30	65.2	15,359	94.7

Prevailing hours of labor.—In Table 4 all producing mines and quarries, except those employing no wage earners and one operated exclusively by contract work, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the

specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise. For all industries combined, 94.5 per cent of the enterprises weighted according to the number of wage earners were operated on a 10-hour per day basis.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries.....	167	100.0	100.0
8 hours and under.....	38	22.8	4.6
9 hours.....	13	7.8	0.9
10 hours.....	116	69.5	94.5
Iron.....	46	100.0	100.0
8 hours.....	2	4.3	1.9
10 hours.....	44	95.7	98.1

Engines and power.—As shown by Table 5, the aggregate horsepower employed by the producing enterprises was 151,834.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Iron.	Granite.	Limestone.	All other.
Primary power:					
Aggregate horsepower.....	151,834	145,068	1,937	1,990	2,839
Owned.....	150,296	145,068	1,719	1,700	1,809
Steam engines—					
Number.....	1,535	1,412	51	48	24
Horsepower.....	150,128	145,010	1,621	1,693	1,804
Gas or gasoline engines—					
Number.....	15	5	7	2	1
Horsepower.....	168	58	98	7	5
Electric motors operated by purchased current—					
Number.....	19	.....	7	8	4
Horsepower.....	1,538	.....	218	290	1,030
Electric motors run by current generated by enterprise using:					
Number.....	132	121	3	.....	8
Horsepower.....	4,733	4,338	90	.....	305

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement and enterprises operated by governmental institutions, and to add to the 1909 statistics figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

In 1902, as in 1909, iron mining was the leading mining industry of the state and the percentages of increase shown in the table represent approximately the growth of this industry. The increase in the value of products of this industry during the period covered by the table amounted to \$33,086,908, or 137.9 per cent.

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase.
Wages and salaries.....	\$13,592,568	\$6,887,017	97.4
Supplies and materials.....	\$8,904,544	\$2,839,332	213.6
Royalties and rent of mines.....	\$10,732,309	\$3,678,964	191.7
Contract work.....	\$2,157,108	\$339,244	535.9
Value of products.....	\$58,975,781	\$25,620,677	130.2
Primary horsepower.....	152,153	28,492	434.0

Duplication between manufactures and mining.—In the operation of granite, limestone, and sandstone quarries, some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in Minnesota involves a duplication of \$852,077. Of this amount, \$494,622 represents the value of the granite, \$184,399 the value of the limestone, and \$173,056 the value of the sandstone.

MINES AND QUARRIES.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	Aggregate.	PRODUCING MINES AND QUARRIES.					Nonproducing mines and quarries. ²
		Total.	Iron.	Granite.	Limestone.	All other. ¹	
Number of operators.....	163	153	20	35	90	8	10
Number of mines and quarries.....	260	250	101	46	95	8	10
Capital.....	\$ 170,252,951	\$ 176,950,369	\$174,863,024	\$673,650	\$683,306	\$730,389	\$2,302,582
Expenses of operation and development.....	\$30,209,773	\$38,574,180	\$37,295,373	\$467,853	\$524,855	\$286,099	\$635,593
Services—							
Salaried officers of corporations, superintendents, and managers.....	\$ 705,515	\$ 604,277	\$ 490,187	\$16,275	\$36,900	\$31,915	\$11,238
Clerks and other salaried employees.....	\$ 887,185	\$ 874,463	\$ 602,087	\$2,950	\$12,620	\$6,500	\$12,722
Wage earners.....	\$12,160,563	\$11,907,049	\$11,068,652	\$327,024	\$339,563	\$171,810	\$253,514
Miscellaneous—							
Supplies.....	\$6,893,500	\$6,736,806	\$6,597,440	\$66,155	\$57,266	\$15,945	\$156,694
Fuel and rent of power.....	\$2,091,706	\$2,024,606	\$1,951,421	\$30,343	\$17,325	\$25,517	\$67,100
Royalties and rent of mines.....	\$10,765,709	\$10,731,059	\$10,686,407	\$2,854	\$36,320	\$6,378	\$33,750
Taxes.....	\$2,851,143	\$2,824,161	\$2,653,794	\$2,006	\$6,922	\$4,067	\$26,982
Contract work.....	\$2,192,008	\$2,157,108	\$2,157,075	\$33			\$34,000
Rent of offices and other sundry expenses.....	\$ 662,444	\$ 623,751	\$1,058,310	\$20,213	\$17,939	\$23,067	\$38,693
Value of products.....	\$58,664,852	\$58,664,852	\$57,076,135	\$872,904	\$641,344	\$274,469	.....
Persons engaged in industry.....	20,162	19,596	17,238	627	1,019	512	568
Proprietors and officials.....	562	547	317	75	120	22	15
Proprietors and firm members.....	171	169		61	102	6	2
Number performing manual labor.....	99	99		32	67		
Salaried officers of corporations.....	65	62	31	6	6	6	3
Superintendents and managers.....	326	316	286	8	12	10	10
Clerks and other salaried employees.....	6,955	6,935	703	7	14	24	20
Wage earners, Dec. 15, 1909, or nearest representative day.....	18,645	18,114	16,218	545	885	466	531
A. Above ground.....	11,559	11,176	9,280	545	885	466	383
B. Below ground.....	7,086	6,938	6,938				148
Men 16 years of age and over.....	18,641	18,110	16,214	545	885	466	531
Engineers, firemen, mechanics, etc.....	2,930	2,797	2,660	49	43	45	142
A. Above ground.....	2,884	2,747	2,610	49	43	45	137
B. Below ground.....	55	50	50				5
Miners, miners' helpers, quarrymen, and stone-cutters.....	7,308	7,120	5,625	415	666	414	188
A. Above ground.....	1,846	1,784	289	415	666	414	62
B. Below ground.....	5,462	5,336	5,336				126
All other employees.....	8,394	8,193	7,929	81	176	7	201
A. Above ground.....	6,825	6,641	6,377	81	176	7	184
B. Below ground.....	1,569	1,552	1,552				17
Boys under 16 years of age (all above ground).....	4	4	4				
Number of wage earners employed on the 15th day of each month:							
January.....	13,739	13,556	12,679	484	237	156	183
February.....	14,192	13,987	13,046	496	288	157	205
March.....	14,500	14,280	13,065	571	406	238	220
April.....	14,958	14,733	13,109	625	664	335	225
May.....	17,241	17,020	15,199	653	698	470	221
June.....	17,778	17,532	15,529	681	820	502	246
July.....	18,219	17,956	15,947	661	849	499	263
August.....	18,334	18,034	16,084	629	834	487	300
September.....	18,567	18,221	16,324	570	867	460	346
October.....	18,952	18,595	16,740	571	833	451	357
November.....	18,601	18,211	16,465	550	808	388	390
December.....	17,444	16,905	15,550	452	565	338	539
Land controlled, acres.....	339,541	337,792	332,233	3,344	1,687	528	1,749
Owned.....	206,647	206,237	201,386	3,021	1,408	472	360
Held under lease.....	132,894	131,555	130,847	323	279	56	1,389
Mineral land.....	20,062	18,433	14,336	2,477	1,133	487	1,629
Owned.....	6,314	5,954	2,510	2,154	858	432	360
Held under lease.....	13,748	12,479	11,826	323	275	55	1,269
Timber land.....	86,611	86,611	86,302	300	0		
Other land.....	232,868	232,748	231,595	567	545	41	120
Primary horsepower.....	153,593	151,834	145,068	1,937	1,990	2,839	1,759

¹ Includes operators as follows: Sandstone, 7; traprock, 1.

² Includes operators as follows: Copper, 1; iron, 9.

³ Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

⁴ In some cases the same operator conducted two or more enterprises producing different kinds of products, all enterprises being managed through one central administrative office. The total office expenses were accordingly apportioned among the several industries in proportion to the total expenses of each and the estimated amount of such administrative expenses were added to "Sundry expenses" for each industry. In the totals for all enterprises, however, the expenses appear under the proper headings. The amounts included in "Rent of offices and other sundry expenses" for individual industries, and properly distributed in the total for all industries, are as follows: Salaried officers of corporations, superintendents, and managers, \$119,000; clerks and other salaried employees, \$250,306; and taxes, \$158,472.

⁵ The following numbers of persons, which could not be distributed among the several industries, are included under the proper headings in the totals for all enterprises: Aggregate, 200; salaried officers of corporations, 13; and clerks and other salaried employees, 187.

MISSOURI.

Summary.—In the lead and zinc industry the statistics include all operations connected with mining the crude ore and the treatment to which the ore is subjected at the mine before marketing, including the operation of hand jigs, mills, and smelters. Custom mills, whether connected with mines or not, have also been included.

The total number of operators of mining enterprises reported was 1,050, of which 1,021 reported production and 29 reported development work only.

The gross value of the products was \$31,667,525. Deducting from this amount \$1,471,553, the value of lead and zinc ore and concentrate marketed by some operators and used as material by others, leaves \$30,195,972 as the net value of the products. The principal industry was the production of lead and zinc, which reported a gross value of products of \$22,565,528, of which \$47,529 represented the value of the crude ore sold as such, \$18,015,313 the value of the output of concentrating mills, \$4,444,500 the value of the output of smelters connected with mines, \$49,157 the tolls received by the custom mills, and \$9,029 the value of other products. The only other industries in Missouri with products valued at over a million dollars in 1909 were bituminous coal mining and limestone quarrying. These two industries contributed products valued, respectively, at \$5,881,034 and \$2,027,902.

In the petroleum and natural gas industry and for the industries included in column "All other" of Table 7 the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work resulting in permanent improvements to the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 1,021 operators, 344, or 33.7 per cent, were corporations. These corporations reported 83.7 per cent of the total value of products and employed 79.9 per cent of all wage earners.

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.	1,021	29,676	\$31,667,525	\$31,016	100.0	100.0	100.0
Individual.....	254	2,336	1,575,482	6,203	24.9	7.9	5.0
Firm.....	418	3,524	3,508,342	8,393	40.9	11.9	11.1
Corporation.....	344	23,721	26,512,369	77,071	32.7	79.9	83.7
Other.....	5	55	71,332	14,266	0.5	0.3	0.2
Lead and zinc.	617	16,319	22,565,528	36,573	100.0	100.0	100.0
Individual.....	56	557	503,463	8,990	9.1	3.4	2.2
Firm.....	335	2,216	2,741,167	8,153	54.3	13.6	12.1
Corporation.....	226	13,546	19,320,898	85,491	36.6	83.0	85.6
Bituminous coal.	173	9,526	5,881,034	33,994	100.0	100.0	100.0
Individual.....	73	938	463,874	6,354	42.2	9.8	7.9
Firm.....	42	710	415,248	9,887	24.3	7.5	7.1
Corporation.....	55	7,793	4,931,820	89,669	31.8	81.8	83.9
Other.....	3	55	70,092	23,364	1.7	0.9	1.2
Limestone.	144	2,437	2,027,902	14,083	100.0	100.0	100.0
Individual.....	82	585	365,615	4,459	56.9	24.0	18.0
Firm.....	23	319	200,983	8,738	16.0	13.1	9.9
Corporation.....	39	1,533	1,461,304	37,469	27.1	62.9	72.1

	Incorporated.	Unincorporated.
Number of operators.....	344	677
Number of mines and quarries.....	464	760
Number of wells.....	11	28
Proprietors and firm members, total.....		1,783
Number performing manual labor.....		1,068
Salaried employees:		
Officers of corporations.....	174	
Superintendents and managers.....	392	101
Clerks and other salaried employees.....	309	27
Wage earners, Dec. 15, 1909, or nearest representative day.....	23,721	5,955
Capital.....	\$57,427,848	\$3,121,233
Expenses of operation and development.....	23,456,142	4,058,959
Salaries—		
Officers of corporations.....	432,245	
Superintendents and managers.....	488,791	72,154
Clerks and other salaried employees.....	266,051	15,679
Wages.....	12,242,480	2,151,090
Royalties and rent of mines.....	1,251,883	702,209
Taxes.....	148,128	9,958
Supplies and miscellaneous expenses.....	7,202,639	1,060,241
Cost of ore and concentrate purchased.....	1,423,925	47,628
Value of products.....	26,512,369	5,155,156

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according to the number of wage earners employed per enterprise or operating unit. Out of 29,676 wage earners reported by all enterprises, 13,903, or nearly one-half, were employed in the 35 enterprises employing over 100 wage earners each. In the bituminous coal mining industry over three-fifths of the wage earners were employed by the 23 enterprises reporting over 100 wage earners each.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	1,039	100.0	29,676	100.0
No wage earners.....	97	9.3		
Contract work and part-time employees.....	23	2.2		
1 to 5.....	273	26.3	799	2.6
6 to 20.....	335	32.2	3,905	13.2
21 to 50.....	214	20.6	6,791	22.9
51 to 100.....	62	6.0	4,308	14.5
101 to 500.....	27	2.6	6,065	20.4
Over 500.....	8	0.8	7,838	26.4
Lead and zinc.....	617	100.0	16,319	100.0
No wage earners.....	76	12.3		
Contract work.....	8	1.3		
1 to 5.....	180	29.2	495	3.0
6 to 20.....	182	29.5	2,192	13.4
21 to 50.....	128	20.7	4,116	25.2
51 to 100.....	33	5.3	2,287	14.0
101 to 500.....	4	0.6	714	4.4
Over 500.....	6	1.0	6,515	39.9
Bituminous coal.....	190	100.0	9,526	100.0
No wage earners.....	1	0.5		
Contract work.....	5	2.6		
1 to 5.....	20	10.5	81	0.9
6 to 20.....	85	44.7	971	10.2
21 to 50.....	42	22.1	1,279	13.4
51 to 100.....	14	7.4	1,011	10.6
Over 100.....	23	12.1	6,184	64.9
Limestone.....	144	100.0	2,427	100.0
No wage earners.....	10	6.9		
1 to 5.....	47	32.6	116	4.8
6 to 20.....	44	30.6	435	17.8
21 to 50.....	30	20.8	959	39.4
Over 50.....	13	9.0	927	38.0

Prevailing hours of labor.—In Table 4 the producing mines and quarries, except those employing no wage earners and those operated exclusively by contract work and part-time employees, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. Petroleum and natural gas wells are not included in this table, because the lack of regularity in the number of hours worked per day in a large number of enterprises rendered such classification impracticable. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise.

In the lead and zinc mines and the coal mines, in which 87.1 per cent of all wage earners were employed, over 90 per cent of the enterprises weighted according

to the number of wage earners were operated on an 8-hour basis. In the limestone quarries, which employed less than 10 per cent of the wage earners, a day of 10 hours generally prevailed.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries.....	1,917	100.0	100.0
8 hours and under.....	633	69.0	84.7
9 hours.....	77	8.4	4.9
10 hours.....	198	21.6	10.3
12 hours.....	9	1.0	0.1
Lead and zinc.....	531	100.0	100.0
8 hours and under.....	459	86.4	94.2
9 hours.....	29	5.5	4.1
10 hours.....	35	6.6	1.6
12 hours.....	8	1.5	0.1
Bituminous coal.....	184	100.0	100.0
8 hours.....	164	89.1	97.8
9 hours.....	17	9.2	1.8
10 hours.....	2	1.1	0.2
12 hours.....	1	0.5	0.1
Limestone.....	134	100.0	100.0
8 hours.....	4	3.0	0.5
9 hours.....	19	14.2	11.2
10 hours.....	111	82.8	88.3

¹ Exclusive of petroleum and natural gas, and 5 lead and zinc mines for which number of hours was not reported.

Engines and power.—As shown by Table 5, the aggregate horsepower employed in all producing enterprises was 109,672, of which 106,349 was developed by engines and water wheels owned by the enterprises using them and 3,323 horsepower by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Lead and zinc.	Bituminous coal.	Limestone.	All other.
Primary power:					
Aggregate horsepower.....	109,672	86,189	11,898	6,691	4,894
Owned.....	106,349	83,396	11,763	6,491	4,699
Steam engines—					
Number.....	2,049	1,607	238	145	59
Horsepower.....	95,132	72,902	11,619	6,005	4,606
Gas or gasoline engines—					
Number.....	187	136	30	14	7
Horsepower.....	11,103	10,425	144	486	53
Water wheels—					
Number.....	5	3			2
Horsepower.....	109	69			40
Electric motors operated by purchased current—					
Number.....	69	48	6	9	6
Horsepower.....	3,323	2,793	135	200	195
Electric motors run by current generated by enterprise using:					
Number.....	356	247	78	20	11
Horsepower.....	11,019	8,424	2,042	243	310

Duplication between manufactures and mining.—In a number of industries some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in Missouri involves a duplication of \$5,106,404.

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement; to omit from the 1909 figures, as they appear in other tables in this chapter, the value of the by-products of bituminous coal mines and statistics for the operations of lead and zinc

smelters; and to add to the 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

Table 6

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$15,667,995	\$9,939,027	56.9
Supplies and materials.....	\$7,071,069	\$2,856,858	147.5
Royalties and rent of mines.....	\$1,955,492	\$1,398,827	39.8
Contract work.....	* \$135,384	\$172,514	—21.5
Value of products.....	\$30,378,747	\$20,279,481	49.8
Primary horsepower.....	109,971	46,384	137.1

¹ A minus sign (—) denotes decrease.

² Exclusive of amount paid to miners compensated by a share of the product and also of the wages of part-time employees for the petroleum and natural gas industry which are included under "Contract work," in Table 7.

MINES AND QUARRIES.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7

	PRODUCING MINES, QUARRIES, AND WELLS.												Nonproducing mines and quarries. ³
	Aggregate.	Total.	Lead and zinc.	Bituminous coal.	Limestone.	Granite.	Sandstone.	Clay (sold as such).	Iron.	Barytes.	Petroleum and natural gas.	All other. ¹	
Number of operators.....	1,050	1,021	617	173	144	7	14	17	16	16	12	5	29
Number of mines, quarries, and wells.....	1,294	1,263	722	220	168	7	15	23	33	27	39	9	31
Capital.....	\$61,843,479	\$60,549,081	\$46,559,300	\$5,410,497	\$1,975,209	\$693,837	\$53,215	\$324,552	\$3,167,225	\$168,705	\$65,250	\$2,131,390	\$1,294,898
Expenses of operation and development.....	\$27,744,999	\$27,515,101	\$19,125,925	\$5,715,727	\$1,653,170	\$124,800	\$25,516	\$164,523	\$150,836	\$56,118	\$14,786	\$483,700	\$229,898
Services—													
Salaried officers of corporations, superintendents, and managers.....	\$999,550	\$993,190	\$679,947	\$148,745	\$116,222	\$13,280	\$144	\$8,427	\$6,325	.....	\$600	\$19,500	\$6,360
Clerks and other salaried employees.....	\$282,030	\$281,730	\$152,750	\$60,485	\$55,567	\$2,631	\$360	\$3,148	\$3,020	\$400	\$120	\$2,340	\$300
Wage earners.....	\$14,436,037	\$14,393,570	\$8,108,698	\$4,695,972	\$955,465	\$83,500	\$15,805	\$109,157	\$99,059	\$45,957	.....	\$25,457	\$42,467
Miscellaneous—													
Supplies.....	\$6,227,315	\$6,201,895	\$5,518,034	\$321,380	\$260,215	\$8,317	\$3,772	\$8,805	\$15,984	\$838	\$5,843	\$58,107	\$25,420
Fuel and rent of power.....	\$2,230,417	\$2,220,657	\$1,880,216	\$75,688	\$119,237	\$6,266	\$1,292	\$9,705	\$9,207	\$60	\$130	\$118,836	\$9,760
Royalties and rent of mines.....	\$1,954,423	\$1,954,092	\$1,737,874	\$160,182	\$25,345	\$4,000	\$1,302	\$7,081	\$12,033	\$3,157	\$456	\$2,662	\$681
Taxes.....	\$159,321	\$158,056	\$129,138	\$6,911	\$10,900	\$1,237	\$226	\$2,874	\$310	\$1,261	\$52	\$4,677	\$1,235
Contract work.....	\$297,880	\$162,084	\$114,723	\$23,903	\$7,034	.....	\$1,609	\$3,300	\$1,099	\$3,576	\$6,840	.....	\$135,296
Rent of offices and other sundry expenses.....	\$1,158,226	\$1,149,707	\$604,036	\$222,461	\$73,155	\$5,549	\$1,006	\$18,026	\$1,790	\$669	\$745	\$22,121	\$8,429
Value of products.....	\$31,667,525	\$31,667,525	\$22,565,528	\$5,881,034	\$2,027,902	\$155,717	\$29,272	\$251,594	\$203,849	\$76,661	\$11,455	\$464,513	.....
Persons engaged in industry..	32,728	32,462	18,191	9,991	2,731	204	81	293	358	148	14	451	264
Proprietors and officials.....	2,531	2,450	1,695	381	241	14	17	27	25	19	13	18	81
Proprietors and firm members.....	1,554	1,783	1,317	244	135	4	16	16	16	19	12	4	71
Number performing manual labor.....	1,078	1,063	753	208	65	.....	12	3	9	11	2	.....	15
Salaried officers of corporations.....	174	174	79	32	47	4	.....	5	2	.....	.....	5	.....
Superintendents and managers.....	503	493	299	105	59	6	1	6	7	.....	1	9	10
Clerks and other salaried employees.....	338	336	177	84	53	4	1	5	6	1	1	4	2
Wage earners, Dec. 15, 1909, or nearest representative day—													
Above ground.....	20,857	20,676	18,319	9,526	2,437	186	63	261	327	128	.....	429	181
Below ground.....	10,649	10,528	5,967	991	2,437	186	63	212	284	41	.....	347	121
Men 16 years of age and over.....	19,208	19,148	10,352	8,535	.....	.....	.....	49	43	87	.....	82	60
Engineers, firemen, mechanics, etc.....	29,789	29,608	16,262	9,507	2,435	184	63	246	324	128	.....	429	181
Above ground.....	3,551	3,514	2,898	356	165	21	7	7	15	.....	.....	45	37
Below ground.....	3,401	3,366	2,760	347	165	21	7	6	15	.....	.....	45	35
Miners, miners' helpers, quarrymen, and stone-cutters.....	150	148	138	9	.....	.....	.....	1	.....	.....	.....	.....	2
Above ground.....	18,892	18,781	9,278	7,015	1,669	149	47	125	281	110	.....	107	111
Below ground.....	2,393	2,340	107	.....	1,669	149	47	82	238	23	.....	25	53
All other employees.....	16,499	16,441	9,171	7,015	.....	.....	.....	43	43	87	.....	82	58
Above ground.....	7,346	7,313	4,116	2,136	601	14	9	114	28	18	.....	277	33
Below ground.....	4,811	4,778	3,078	644	601	14	9	109	28	18	.....	277	33
Boys under 16 years of age.....	2,535	2,535	1,038	1,492	.....	.....	.....	5	.....	.....	.....	.....	.....
Number of wage earners employed on the 15th day of each month:													
January.....	22,560	22,514	11,674	8,689	1,186	67	17	170	207	79	.....	425	46
February.....	22,585	22,530	12,012	8,392	1,104	86	33	179	220	78	.....	426	55
March.....	22,732	22,671	12,060	7,910	1,586	123	57	164	245	99	.....	427	61
April.....	21,228	21,170	12,233	5,795	1,991	135	54	182	260	94	.....	426	68
May.....	21,394	21,318	12,450	5,616	2,133	137	46	186	235	89	.....	426	76
June.....	22,763	22,682	13,095	6,231	2,140	167	38	197	297	93	.....	424	81
July.....	22,932	22,793	12,998	6,511	2,102	163	38	231	228	94	.....	428	139
August.....	23,405	23,245	12,768	7,057	2,228	173	44	228	208	113	.....	426	160
September.....	24,680	24,577	13,243	7,955	2,156	175	48	219	244	111	.....	426	109
October.....	25,403	25,272	13,318	8,680	2,127	167	52	202	198	101	.....	427	131
November.....	26,017	25,903	13,801	8,917	2,080	145	34	220	173	107	.....	426	114
December.....	26,481	26,367	14,000	9,370	1,893	72	20	229	243	116	.....	424	114
Land controlled, acres.....	370,423	339,677	106,001	119,822	2,281	698	511	1,996	91,600	8,622	6,434	1,714	20,746
Owned.....	292,014	270,618	95,688	74,519	1,598	340	319	1,081	90,257	4,834	524	1,458	21,396
Held under lease.....	78,409	69,059	10,313	45,303	683	356	192	915	1,343	3,788	5,910	256	9,350
Mineral and oil land.....	265,158	235,112	85,489	116,108	1,907	346	373	1,766	12,353	8,622	6,434	1,714	30,046
Owned.....	188,120	166,724	75,296	70,805	1,268	340	181	851	11,167	4,834	524	1,458	21,396
Held under lease.....	77,038	68,388	10,193	45,303	639	6	192	915	1,186	3,788	5,910	256	8,650
Timber land.....	12,294	11,594	10,000	160	7	.....	350	.....	120	.....	.....	.....	700
Other land.....	92,971	92,971	10,512	3,554	367	.....	138	110	78,297	.....	.....	.....	.....
Primary horsepower.....	111,007	109,672	86,189	11,886	6,691	867	248	329	403	12	220	2,815	1,335

¹ Includes operators as follows: Nickel and cobalt, 1; tripoli, 4.

² Includes operators as follows: Bituminous coal, 1; clay, 1; iron, 3; lead and zinc, 24.

³ Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

⁴ Includes \$1,471,553, cost of purchased ore and concentrate.

⁵ In the bituminous coal industry 19 boys were employed below ground and in the lead and zinc industry, 5.

MONTANA.

Summary.—The gross value of the products of all mines and quarries in Montana in 1909 was \$54,991,961. Deducting from this amount, \$6,559,820, the value of the copper ore marketed by some operators and used as material by others, leaves \$48,432,141 as the net value of the products. Of this amount, the copper industry, including the copper ore sold as such and the copper products of the mills operated in connection with the mines, contributed \$39,400,697, or 81.4 per cent. In the operations of "All other" industries, which includes the production of clay, granite, gypsum, lead and zinc, and precious stones, the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work resulting in permanent improvements to the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated.

Table 1

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries...	373	20,503	\$54,991,961	\$147,432	100.0	100.0	100.0
Individual.....	135	594	761,942	5,644	36.2	2.9	1.4
Firm.....	144	553	626,832	4,353	38.6	2.7	1.1
Corporation.....	94	19,356	53,603,187	570,247	25.2	94.4	97.5
Copper.....	35	13,697	45,980,517	1,813,158	100.0	100.0	100.0
Individual.....	12	84	136,870	11,406	34.3	0.6	0.3
Firm.....	10	14	63,548	6,355	28.6	0.1	0.1
Corporation.....	13	13,599	45,760,099	3,520,008	37.1	99.3	99.6
Gold and silver, deep mines...	192	1,584	3,002,328	15,637	100.0	100.0	100.0
Individual.....	59	235	198,984	3,373	30.7	14.8	6.6
Firm.....	93	253	327,371	3,520	48.4	16.0	10.9
Corporation.....	40	1,096	2,475,973	61,899	20.8	69.2	82.5
Bituminous coal.....	48	4,612	5,117,444	106,613	100.0	100.0	100.0
Individual.....	12	122	194,400	16,200	25.0	2.6	3.8
Firm.....	12	168	144,290	12,024	25.0	3.6	2.8
Corporation.....	24	4,322	4,778,754	199,115	50.0	93.7	93.4

Out of a total of 373 operators, 94, or 25.2 per cent, were corporations. These corporations reported 97.5 per cent of the total value of products and employed 94.4 per cent of all wage earners. In the copper mining industry the 13 incorporated companies reported 99.6 per cent of the total value of products.

Table 2

	Incorporated.	Unincorporated.
Number of operators.....	103	270
Number of mines and quarries.....	195	348
Proprietors and firm members, total.....		504
Number performing manual labor.....		355
Salaried employees:		
Officers of corporations.....	51	
Superintendents and managers.....	195	19
Clerks and other salaried employees.....	510	9
Wage earners, Dec. 15, 1909, or nearest representative day.....	19,356	1,147
Capital.....	\$140,914,107	\$4,221,408
Expenses of operation and development.....	45,259,978	1,269,567
Salaries—		
Officers of corporations.....	124,225	
Superintendents and managers.....	571,550	22,821
Clerks and other salaried employees.....	684,646	9,831
Wages.....	20,561,848	799,558
Royalties and rent of mines.....	1,704,457	118,418
Taxes.....	447,468	5,918
Supplies and miscellaneous expenses.....	14,596,964	313,021
Cost of ore purchased.....	6,559,820	
Value of products.....	53,603,187	1,388,774

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according to the number of wage earners employed per enterprise or operating unit.

Table 3

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	382	100.0	20,503	100.0
No wage earners.....	95	24.9		
Contract work.....	8	2.1		
1 to 5.....	154	40.3	373	1.8
6 to 20.....	60	15.7	682	3.3
21 to 50.....	23	6.0	780	3.8
51 to 100.....	15	3.9	1,045	5.1
101 to 500.....	17	4.5	4,046	19.7
501 to 1,000.....	4	1.0	2,693	13.1
Over 1,000.....	6	1.6	10,884	53.1
Copper.....	41	100.0	13,697	100.0
No wage earners.....	2	4.9		
Contract work.....	1	2.4		
1 to 20.....	20	48.8	113	0.8
21 to 100.....	6	14.6	339	2.5
101 to 500.....	4	9.8	1,441	10.5
501 to 1,000.....	3	7.3	2,067	15.1
Over 1,000.....	5	12.2	9,737	71.1
Gold and silver, deep mines.....	192	100.0	1,584	100.0
No wage earners.....	61	31.8		
Contract work.....	4	2.1		
1 to 5.....	82	42.7	181	11.4
6 to 20.....	28	14.6	298	18.8
21 to 50.....	9	4.7	283	17.9
51 to 100.....	5	2.6	405	25.6
Over 100.....	3	1.6	417	26.3
Bituminous coal.....	51	100.0	4,612	100.0
1 to 5.....	15	29.4	43	0.9
6 to 20.....	15	29.4	171	3.7
21 to 50.....	3	5.9	104	2.3
51 to 100.....	6	11.8	333	7.2
Over 100.....	12	23.5	3,961	85.9

The greatest degree of concentration is noted in the copper industry, where 9,737, or 71.1 per cent, of the 13,697 wage earners employed in this industry were reported by the five enterprises employing over 1,000 wage earners each. In gold and silver mining, 61 enterprises were conducted by the proprietors without the aid of hired labor. The average number employed per enterprise in this industry was only 8, while in the copper industry the average was 342.

Prevailing hours of labor.—In Table 4 all producing enterprises, except those employing no wage earners and those operated exclusively by contract work, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise.

The eight-hour day generally prevailed in all mining industries in the state. For all industries combined 90.6 per cent of the enterprises, employing 99 per cent of the wage earners, reported the eight-hour day. In the copper and coal industries all enterprises and in gold and silver, deep mines, all but three, reported a day of eight hours.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries	1 278	100.0	100.0
8 hours and under	252	90.6	99.0
9 hours	7	2.5	0.2
10 hours	19	6.8	0.8

¹ Exclusive of 1 limestone quarry for which number of hours was not reported.

Engines and power.—As shown by Table 5, the aggregate horsepower employed in all producing enterprises was 174,389, of which 148,242 horsepower, or 85 per cent, was employed in the production of copper.

Table 5

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Copper.	Gold and silver, deep mines.	Bituminous coal.	All other.
Primary power:					
Aggregate horsepower....	174,389	148,242	6,712	16,173	3,262
Owued.....	134,812	111,471	5,840	16,069	1,432
Steam engines—					
Number.....	311	118	63	109	21
Horsepower.....	120,009	98,727	3,906	16,066	1,310
Gas or gasoline engines—					
Number.....	16	3	11	1	1
Horsepower.....	190	44	141	3	2
Water wheels—					
Number.....	129	10	113	.....	6
Horsepower.....	14,613	12,700	1,793	.....	120
Electric motors operated by purchased current—					
Number.....	517	444	27	6	40
Horsepower.....	39,577	36,771	872	104	1,830
Electric motors run by current generated by enterprise using:					
Number.....	126	2	23	86	10
Horsepower.....	4,376	23	1,052	2,801	500

¹ Includes 1 water motor of 20 horsepower.

Comparison of mining industries: 1902–1909.—In order to make comparisons between 1909 and 1902, it is necessary to omit from the 1909 figures, as they appear in other tables in this chapter, statistics for the manufacture of coke at bituminous coal mines and statistics for the operation of copper smelters, and to add to the 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

Table 6

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase.
Wages and salaries.....	\$18,547,901	\$12,724,627	45.8
Supplies and materials.....	\$7,951,621	\$5,007,102	58.8
Royalties and rent of mines.....	\$292,471	\$231,774	26.2
Contract work.....	1,292,902	\$64,636	353.2
Value of products.....	\$36,892,896	\$28,265,085	30.5
Primary horsepower.....	118,518	61,862	91.6

¹ Exclusive of amount paid to miners compensated by a share of the product, which is included under "Contract work," in Table 7.

Duplication between manufactures and mining.—In a number of industries some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in Montana involves a duplication of \$41,989,544.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	Aggregate.	PRODUCING MINES AND QUARRIES.								Nonproducing mines, quarries, and wells. ²
		Total.	Copper.	Gold and silver, deep mines.	Placer gold.	Bituminous coal.	Limestone.	Sandstone.	All other. ¹	
Number of operators.....	638	373	35	192	73	48	8	11	6	265
Number of mines, quarries, and wells.....	1,299	543	86	237	113	65	12	12	13	756
Capital ²	\$105,776,919	\$145,135,510	\$91,195,350	\$30,420,376	\$8,340,877	\$8,546,343	\$349,000	\$80,550	\$6,203,014	\$20,641,409
Expenses of operation and development	\$48,026,349	\$46,520,545	\$38,073,609	\$2,996,123	\$403,284	\$4,584,674	\$114,811	\$73,871	\$274,173	\$1,505,804
Services—										
Salaried officers of corporations, superintendents, and managers.....	\$821,369	\$718,596	\$468,275	\$101,037	\$17,288	\$117,661		\$360	\$13,975	102,773
Clerks and other salaried employees.....	\$701,846	\$694,477	\$542,448	\$37,715	\$7,975	\$97,493	\$1,920	\$1,800	\$5,126	\$7,369
Wage earners.....	\$22,166,735	\$21,361,406	\$15,804,631	\$1,653,826	\$152,145	\$3,479,894	\$88,451	\$53,567	\$128,892	\$805,329
Miscellaneous—										
Supplies.....	\$10,195,775	\$9,837,503	\$8,535,133	\$617,010	\$53,495	\$539,837	\$18,552	\$8,130	\$65,346	\$358,272
Cost of ore purchased.....	\$6,559,820	\$6,559,820	\$6,559,820							
Fuel and rent of power.....	\$3,674,085	\$3,625,050	\$3,199,989	\$209,012	\$65,172	\$125,967	\$1,994	\$3,500	\$22,416	\$46,085
Royalties and rent of mines.....	\$1,823,391	\$1,823,375	\$1,591,782	\$132,249	\$514	\$96,151		\$460	\$1,719	\$516
Taxes.....	\$456,191	\$453,386	\$395,577	\$17,309	\$4,988	\$33,718	\$423	\$514	\$857	\$2,805
Contract work.....	\$503,731	\$394,499	\$264,887	\$109,981	\$18,976	\$415		\$240		\$109,232
Rent of offices and other sundry expenses.....	\$1,123,406	\$1,049,933	\$711,007	\$117,984	\$82,731	\$93,538	\$3,471	\$5,300	\$35,842	\$73,473
Value of products.....	\$54,991,961	\$54,991,961	\$45,960,517	\$3,002,328	\$502,653	\$5,117,444	\$154,064	\$74,593	\$180,362	
Persons engaged in mining industry.....	23,271	21,791	14,251	1,969	367	4,793	136	98	177	1,480
Proprietors and officials.....	1,126	769	164	360	114	93	10	14	14	357
Proprietors and firm members.....	776	504	30	303	102	41	10	13	5	272
Number performing manual labor.....	532	355	15	224	77	28	3	5	3	177
Salaried officers of corporations.....	80	51	15	14	1				7	29
Superintendents and managers.....	270	214	119	43	11	38		1	2	56
Clerks and other salaried employees.....	531	519	390	25	6	88	2	1	7	12
Wage earners, Dec. 15, 1909, or nearest representative day.....	21,614	20,503	13,697	1,584	247	4,612	124	83	156	1,111
Above ground.....	7,269	6,972	4,913	564	240	938	124	83	110	237
Below ground.....	14,345	13,531	8,784	1,020	7	3,674			46	814
Men 16 years of age and over.....	21,608	20,503	13,697	1,584	247	4,612	124	83	156	1,105
Engineers, firemen, mechanics, etc.	2,040	1,890	1,160	192	32	463	13	9	21	150
Above ground.....	1,805	1,666	1,082	168	32	341	13	9	21	139
Below ground.....	235	224	78	24		122				11
Miners, miners' helpers, quarrymen, and stonecutters.....	14,199	13,325	8,780	1,067	140	3,096	98	64	80	874
Above ground.....	702	624	183	112	133		98	64	24	78
Below ground.....	13,497	12,701	8,597	955	7	3,096			46	796
All other employees.....	5,369	5,288	3,757	325	75	1,053	13	10	55	81
Above ground.....	4,766	4,682	3,648	284	75	597	13	10	55	74
Below ground.....	613	606	109	41		456				7
Boys under 16 years of age (all above ground).....	6									6
Number of wage earners employed on the 15th of each month:										
January.....	18,770	18,320	12,911	1,008	72	4,095	78	39	119	450
February.....	18,849	18,292	13,000	1,082	67	3,905	81	46	111	557
March.....	19,222	18,614	13,159	1,139	94	3,940	104	53	125	608
April.....	19,290	18,687	13,214	1,140	133	3,828	88	39	145	703
May.....	19,529	18,819	13,170	1,232	176	3,950	102	39	150	710
June.....	19,243	18,620	12,921	1,279	168	3,842	103	52	155	723
July.....	19,582	18,843	13,236	1,353	180	3,741	121	50	162	739
August.....	19,406	18,688	12,898	1,404	149	3,828	106	51	152	818
September.....	20,006	19,157	13,141	1,457	131	4,088	117	68	155	849
October.....	20,946	20,099	13,768	1,540	118	4,261	166	68	148	877
November.....	21,207	20,349	13,921	1,445	122	4,498	152	66	145	858
December.....	18,793	17,999	11,691	1,287	122	4,694	115	46	144	794
Land controlled, acres.....	157,940	119,642	34,628	14,015	13,480	54,335	1,993	504	877	38,298
Owned.....	138,081	104,494	24,362	10,216	12,844	44,098	1,973	334	667	33,587
Held under lease.....	19,859	15,148	266	3,799	646	10,237	20	170	10	4,711
Mineral and oil land.....	120,899	85,016	4,842	14,015	13,300	49,825	1,993	364	677	35,883
Owned.....	101,040	69,868	4,576	10,216	12,654	39,688	1,973	194	667	31,172
Held under lease.....	19,859	15,148	266	3,799	646	10,237	20	170	10	4,711
Timber land.....	5,680	3,960	2,080			1,880				1,720
Other land.....	31,361	30,666	27,706		190	2,630		140		695
Primary horsepower.....	179,452	174,389	148,242	6,712	2,260	16,173	461	77	464	5,063

¹ Includes operators, as follows: Clay, 1; granite, 2; gypsum, 1; lead and zinc, 1; precious stones, 1.

² Includes operators, as follows: Bituminous coal, 1; gold and silver, deep mines, 250; graphite, 1; limestone, 1; petroleum and natural gas, 1; placer gold, 11.

³ Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

NEBRASKA.

Summary.—Only 18 operators of mining enterprises were reported from Nebraska in 1909. Of these, 16 were engaged in the production of limestone and 2 in the production of pumice. The total value of the products was \$322,517, and the number of wage earners employed on December 15, 1909, or the nearest representative day, was 491. The mineral land connected with the enterprises was reported as 1,038 acres, of which 524 was owned and 514 held under lease.

Table 2 presents detailed statistics for the two industries combined.

Comparison of mining industries: 1902-1909.—Table 1 presents such data for 1909 and 1902 as are comparable for the two years.

Table 1	1909	1902	Percent of increase.
Wages and salaries.....	\$186,592	\$103,936	79.5
Supplies and materials.....	\$57,493	\$11,173	414.6
Royalties and rent of mines.....	\$1,551	\$823	88.4
Contract work.....	¹ \$5,494	.....	.....
Value of products.....	\$322,517	\$148,391	117.3
Primary horsepower.....	815	296	175.3

¹ Exclusive of amount paid to miners compensated by a share of the product, which is included under "Contract work," in Table 1.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 2	All industries. ¹		All industries. ¹
Number of operators.....	18	Persons engaged in industry—Continued.	
Number of mines and quarries.....	20	Wage earners, Dec. 15, 1909, etc.—Continued.	
Capital.....	\$222,428	Miners, miners' helpers, and quarrymen.....	257
		All other employees ²	209
Expenses of operation and development.....	\$260,049	Number of wage earners employed on the 15th day of each month:	
Services—		January.....	178
Salaried officers of corporations, superintendents, and managers.....	\$12,900	February.....	142
Clerks and other salaried employees.....	\$3,745	March.....	235
Wage earners.....	\$169,937	April.....	376
Miscellaneous—		May.....	388
Supplies.....	\$35,474	June.....	410
Fuel and rent of power.....	\$22,019	July.....	439
Royalties and rent of mines.....	\$1,551	August.....	430
Taxes.....	\$414	September.....	481
Contract work.....	\$5,593	October.....	430
Rent of offices and other sundry expenses.....	\$8,416	November.....	355
Value of products.....	\$322,517	December.....	320
Persons engaged in industry.....	527	Mineral land controlled, acres.....	1,038
Proprietors and officials.....	28	Owned.....	524
Proprietors and firm members.....	16	Held under lease.....	514
Number performing manual labor.....	4	Primary horsepower.....	815
Salaried officers of corporations.....	3	Steam engines—	
Superintendents and managers.....	9	Number.....	17
Clerks and other salaried employees.....	8	Horsepower.....	805
Wage earners, Dec. 15, 1909, or nearest representative day (all above ground).....	491	Gas or gasoline engines—	
Engineers, firemen, mechanics, etc.....	25	Number.....	1
		Horsepower.....	10

¹ Includes operators as follows: Limestone, 16; pumice, 2.

² Includes 2 boys under 16 years of age.

NEVADA.

Summary.—The gross value of the products of all mines and quarries in Nevada in 1909 amounted to \$23,271,597. Deducting from this amount, \$1,610,449, the value of the gold and silver ore sold by some operators to others who used it as material, leaves \$21,661,148 as the net value of the products. Of this amount, gold and silver (deep and placer mines) and copper mining contributed \$21,206,517, or 97.9 per cent.

In the production of placer gold the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work which added to the permanent value of the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated.

Table 1

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Value.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.....	266	5,572	\$23,271,597	\$87,487	100.0	100.0	100.0
Individual.....	42	153	161,857	3,854	15.8	2.7	0.7
Firm.....	61	145	240,701	3,940	22.9	2.6	1.0
Corporation.....	163	5,274	22,869,039	140,301	61.3	94.7	98.3
Gold and silver, deep mines.....	218	3,818	17,807,945	81,688	100.0	100.0	100.0
Individual.....	33	115	138,912	4,209	15.1	3.0	0.8
Firm.....	48	102	202,902	4,227	22.0	2.7	1.1
Corporation.....	137	3,601	17,466,181	127,400	62.8	94.8	98.1

Table 2

	Incorporated.	Unincorporated.
Number of operators.....	163	103
Number of mines and quarries.....	264	120
Proprietors and firm members, total.....		213
Number performing manual labor.....		143
Salaried employees:		
Officers of corporations.....	89	
Superintendents and managers.....	178	9
Clerks and other salaried employees.....	201	3
Wage earners, Dec. 15, 1909, or nearest representative day.....	5,274	298
Capital.....	\$119,191,207	\$811,623
Expenses of operation and development.....	14,049,375	866,353
Salaries—		
Officers of corporations.....	192,520	
Superintendents and managers.....	411,761	6,567
Clerks and other salaried employees.....	264,658	550
Wages.....	5,753,163	166,907
Royalties and rent of mines.....	251,683	23,873
Taxes.....	240,809	2,320
Supplies and miscellaneous expenses.....	5,328,566	156,902
Cost of ore purchased.....	1,601,215	9,234
Value of products.....	22,869,039	402,558

Out of a total of 266 operators, 163, or 61.3 per cent were corporations. These corporations reported 98.3 per cent of the total value of the products and em-

ployed 94.7 per cent of all wage earners. In the operation of gold and silver, deep mines, the leading industry, the per cent of the number of wage earners and the value of products reported by corporations did not vary greatly from that for all industries combined. The average value of the product for each corporation in this industry, however, was \$12,811 less than the average for corporations in all industries.

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according to the number of wage earners employed per enterprise or operating unit. Of the 266 enterprises reported, 9 employed over 100 wage earners each. The total number of wage earners employed by these 9 enterprises was 2,726, which represented nearly one-half of the total number employed in all enterprises. In the copper industry the 3 enterprises employing over 100 wage earners reported 98.8 per cent of all the wage earners employed in that industry.

Table 3

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	266	100.0	5,572	100.0
No wage earners.....	23	8.6		
Contract work.....	20	7.5		
1 to 5.....	100	37.6	279	5.0
6 to 20.....	79	29.7	877	15.7
21 to 50.....	22	8.3	753	13.5
51 to 100.....	13	4.9	937	16.8
Over 100.....	9	3.4	2,726	48.9
Gold and silver, deep mines.....	218	100.0	3,818	100.0
No wage earners.....	20	9.2		
Contract work.....	20	9.2		
1 to 5.....	79	36.2	230	6.0
6 to 20.....	61	28.0	675	17.7
21 to 50.....	21	9.6	730	19.1
51 to 100.....	11	5.0	806	21.1
Over 100.....	6	2.8	1,377	36.1
Copper.....	7	100.0	1,366	100.0
1 to 20.....	4	57.1	17	1.2
Over 20.....	3	42.9	1,349	98.8

Prevailing hours of labor.—In Table 4 all producing enterprises, except those employing no wage earners and those operated exclusively by contract work, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. The table shows the percentage of the total number of enterprises falling in each group and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise. For all industries combined a day of eight hours

MINES AND QUARRIES.

prevailed in 89.8 per cent of all enterprises weighted according to number of wage earners. For gold and silver, deep mines, and copper mines the corresponding percentages were 98.7 and 66.1, respectively.

Table 4

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries.....	1 222	100.0	100.0
8 hours.....	215	96.8	89.8
9 hours.....	4	1.8	9.1
10 hours.....	3	1.4	1.1
Gold and silver, deep mines.....	177	100.0	100.0
8 hours.....	172	97.2	98.7
9 hours.....	3	1.7	1.0
10 hours.....	2	1.1	0.3
Copper.....	7	100.0	100.0
8 hours.....	6	85.7	66.1
9 hours.....	1	14.3	33.9

¹ Exclusive of 1 gold and silver, deep mine for which number of hours was not reported.

Engines and power.—The aggregate horsepower employed in producing enterprises, as shown by Table 5, was 26,862, of which 13,761 was developed by engines and water wheels or motors owned by the enterprises using them, and 13,101 horsepower by electric motors operated by purchased current.

Table 5

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Gold and silver, deep mines.	Placer gold.	Copper.	All other.
Primary power:					
Aggregate horsepower.....	26,862	22,154	291	3,357	1,060
Owned.....	13,761	10,178	197	2,947	439
Steam engines—					
Number.....	81	62	1	13	5
Horsepower.....	8,719	5,399	8	2,935	377
Gas or gasoline engines—					
Number.....	176	152	20	1	3
Horsepower.....	4,496	4,233	189	12	62
Water wheels—					
Number.....	17	17			
Horsepower.....	546	546			
Electric motors operated by purchased current—					
Number.....	416	365	11	12	28
Horsepower.....	13,101	11,976	94	410	621
Electric motors run by current generated by enterprise using:					
Number.....	145	58		86	1
Horsepower.....	3,934	1,377		2,549	8

¹ Includes 2 water motors of 11 horsepower.

Development work.—Over \$3,000,000 was expended in the state in 1909 in developing mining properties from which no products were reported. The principal data for all nonproducing enterprises combined and for gold and silver (deep mines), tungsten, and quick-silver mines separately, are given in Table 6.

Table 6

	NONPRODUCING MINES AND QUARRIES: 1909				
	Total.	Gold and silver, deep mines.	Tungsten.	Quick-silver.	All other. ¹
Number of operators.....	282	272	4	3	3
Capital.....	\$36,604,278	\$36,213,776	\$28,602	\$46,900	\$315,000
Amount expended for development work.....	\$3,121,477	\$3,052,886	\$16,010	\$7,233	\$44,448
Number of salaried employees.....	306	302	3		1
Number of wage earners employed Dec. 15, 1909, or nearest representative day.....	1,824	1,755	31	6	32
Primary horsepower.....	5,337	5,337			

¹ Includes operators as follows: Gypsum, 1; limestone, 1; placer gold, 1.

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for enterprises operated by governmental institutions. Such items as are comparable for the two years are presented in Table 7.

Table 7

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase.
Wages and salaries.....	\$6,801,126	\$1,427,063	376.4
Supplies and materials.....	\$4,689,788	\$623,432	651.8
Royalties and rent of mines.....	\$275,556	\$50,003	451.1
Contract work.....	¹ \$36,873	\$7,944	364.2
Value of products.....	\$21,661,148	\$3,514,698	516.3
Primary horsepower.....	26,862	4,785	461.4

¹ Exclusive of amount paid to miners compensated by a share of the product, which is included under "Contract work," in Table 8.

Duplication between manufactures and mining.—In the gypsum industry some of the mining operators subjected the crude product obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in Nevada involves a duplication of \$278,243.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 8	Aggregate.	PRODUCING MINES AND QUARRIES.								Nonproducing mines and quarries. ²
		Total.	Gold and silver, deep mines.	Placer gold.	Copper.	Lead and zinc.	Gypsum.	Precious stones.	All other. ¹	
Number of operators.....	548	266	218	21	7	7	4	4	5	282
Number of mines and quarries.....	1,021	374	321	24	9	7	4	4	5	647
Capital.....	\$156,607,108	\$120,002,830	\$102,986,526	\$207,131	\$15,617,784	\$248,500	\$670,627	\$164,850	\$107,412	\$36,604,278
Expenses of operation and development.	\$17,537,205	\$14,415,728	\$11,604,478	\$81,192	\$2,321,136	\$47,352	\$266,398	\$20,095	\$75,077	\$3,121,477
Services—										
Salaried officers of corporations, superintendents, and managers.....	\$885,098	\$610,848	\$540,718	\$6,424	\$31,356	\$750	\$25,200	\$2,400	\$4,000	\$274,250
Clerks and other salaried employees.....	\$315,288	\$265,208	\$250,028	.....	\$49,354	\$450	\$8,750	.....	\$1,626	\$50,080
Wage earners.....	\$7,335,153	\$5,925,070	\$4,643,903	\$3,964	\$1,055,786	\$28,827	\$100,560	\$12,681	\$29,949	\$1,410,083
Miscellaneous—										
Supplies.....	\$4,174,015	\$3,375,163	\$2,604,920	\$9,517	\$669,575	\$2,674	\$56,766	\$4,090	\$27,621	\$799,452
Cost of ore purchased.....	\$1,610,449	\$1,610,449	\$1,610,449	.....	.....	.....	.....	.....	.....	.....
Fuel and rent of power.....	\$1,411,041	\$1,311,625	\$839,027	\$2,910	\$421,757	\$79	\$41,435	.....	\$6,393	\$129,416
Royalties and rent of mines.....	\$323,235	\$275,656	\$206,907	\$6,003	.....	.....	\$156	.....	\$2,400	\$53,679
Taxes.....	\$257,476	\$243,129	\$12,683	\$340	\$26,789	\$425	\$2,517	.....	.....	\$14,347
Contract work.....	\$317,447	\$196,768	\$181,161	\$100	\$5,529	\$9,978	.....	.....	.....	\$120,679
Rent of offices and other sundry expenses.....	\$871,403	\$601,912	\$499,708	\$1,844	\$60,960	\$4,169	\$31,014	\$1,524	\$2,693	\$269,491
Value of products.....	\$23,271,597	\$23,271,597	\$17,807,945	\$62,652	\$4,946,369	\$68,774	\$278,243	\$22,596	\$85,018	.....
Persons engaged in industry.....	8,785	6,283	4,384	144	1,414	66	169	21	65	2,522
Proprietors and officials.....	1,103	487	411	29	13	11	12	5	6	616
Proprietors and firm members.....	605	213	174	23	1	9	.....	4	2	392
Number performing manual labor.....	221	143	117	18	1	5	.....	.....	.....	78
Salaried officers of corporations.....	150	89	80	2	1	.....	5	.....	1	67
Superintendents and managers.....	342	185	157	4	11	2	7	1	3	157
Clerks and other salaried employees.....	280	204	155	.....	35	2	10	.....	2	82
Wage earners, Dec. 15, 1909, or nearest representative day.....	7,396	5,572	3,818	115	1,366	53	147	16	57	1,824
Above ground.....	3,557	2,912	1,681	50	1,077	10	147	13	34	645
Below ground.....	3,839	2,660	2,137	65	289	43	.....	3	23	1,179
Men 16 years of age and over.....	7,395	5,571	3,817	115	1,366	53	147	16	57	1,824
Engineers, firemen, mechanics, etc.....	1,004	826	583	18	193	8	11	1	12	268
Above ground.....	1,010	761	518	18	193	8	11	1	12	249
Below ground.....	84	65	65	.....	.....	.....	.....	.....	.....	19
Miners, miners' helpers, and quarrymen.....	3,920	2,705	2,147	92	330	44	51	15	26	1,215
Above ground.....	446	373	237	27	41	2	51	12	3	73
Below ground.....	3,474	2,332	1,910	65	289	42	.....	3	23	1,142
All other employees.....	2,381	2,040	1,087	5	843	1	85	.....	19	341
Above ground.....	2,100	1,777	825	5	843	.....	85	.....	19	323
Below ground.....	281	263	262	.....	.....	.....	.....	.....	.....	18
Boys under 16 years of age (above ground).....	1	1	1	.....	.....	.....	.....	.....	.....	.....
Number of wage earners employed on the 15th day of each month:										
January.....	5,633	4,577	3,396	13	976	11	133	12	36	1,056
February.....	5,444	4,554	3,339	12	1,007	15	137	12	32	890
March.....	5,726	4,723	3,459	19	1,067	15	135	9	19	1,003
April.....	5,909	4,885	3,577	17	1,093	15	144	12	27	1,024
May.....	6,158	5,012	3,638	54	1,123	13	157	11	16	1,146
June.....	6,130	4,953	3,560	50	1,149	11	136	11	36	1,177
July.....	5,878	4,646	3,547	68	831	11	141	10	38	1,232
August.....	6,179	4,906	3,702	70	916	12	149	10	47	1,273
September.....	6,850	4,554	3,440	67	854	13	134	11	45	1,286
October.....	6,884	4,457	3,286	71	935	34	127	13	41	1,427
November.....	6,630	4,159	2,905	51	960	46	145	14	38	1,471
December.....	5,657	4,204	2,959	36	1,017	51	145	16	40	1,393
Land controlled, acres.....	93,797	38,431	30,506	1,774	2,422	944	800	115	1,870	55,366
Owned.....	88,117	35,113	27,986	1,176	2,382	944	800	115	1,710	53,004
Held under lease.....	5,680	3,318	2,520	598	40	.....	.....	.....	160	2,362
Mineral land.....	81,798	31,524	23,639	1,774	2,422	904	800	115	1,870	50,274
Owned.....	76,173	28,261	21,174	1,176	2,382	904	800	115	1,710	47,912
Held under lease.....	5,625	3,263	2,465	598	40	.....	.....	.....	160	2,362
Timber land.....	108	8	8	.....	.....	.....	.....	.....	.....	100
Other land.....	11,891	6,899	6,859	.....	.....	40	.....	.....	.....	4,992
Primary horsepower.....	32,199	26,862	22,154	291	3,357	62	886	.....	112	5,337

¹ Includes operators as follows: Granite, 1; graphite, 1; iron, 1; quicksilver, 1; sulphur, 1.
² Includes operators as follows: Gold and silver, deep mines, 272; gypsum, 1; limestone, 1; placer gold, 1; quicksilver, 3; tungsten, 4.

NEW HAMPSHIRE.

Summary.—The total value of the products of all mines and quarries in New Hampshire in 1909 amounted to \$1,308,597. Of this amount granite quarrying, the principal industry, reported products valued at \$1,205,811, which represented 92.1 per cent of the total. The other industries represented, in each of which there was less than three operators, were clay, copper, mica, and scythestones. In the combined totals for these industries the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work resulting in permanent improvements to the mining properties.

Character of organization.—Tables 1 and 2 classify the producing mining operations of the state under form of organization, distinguishing corporations from other forms.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of operators.	Number of wage earners.	Value of products.					Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.	100.0	100.0	100.0
All industries.....	45	1,520	\$1,308,597	\$29,080	100.0	100.0	100.0			
Individual.....	21	421	339,776	16,180	46.7	27.7	26.0			
Firm.....	8	237	215,575	26,947	17.8	15.6	16.5			
Corporation.....	16	862	753,246	47,078	35.6	56.7	57.6			
Granite.....	40	1,305	1,205,811	30,145	100.0	100.0	100.0			
Individual.....	21	421	339,776	16,180	52.5	32.3	28.2			
Firm.....	7	225	213,415	30,488	17.5	17.2	17.7			
Corporation.....	12	659	652,620	54,385	30.0	50.5	54.1			

	Incorporated.	Unincorporated.
Number of operators.....	16	29
Number of mines and quarries.....	19	34
Proprietors and firm members, total.....		42
Number performing manual labor.....		17
Salaried employees:		
Officers of corporations.....	5	
Superintendents and managers.....	15	13
Clerks and other salaried employees.....	9	6
Wage earners, Dec. 15, 1909, or nearest representative day.....	802	658
Capital.....	\$1,199,513	\$346,990
Expenses of operation and development.....	757,200	447,766
Salaries—		
Officers of corporations.....	12,000	
Superintendents and managers.....	18,849	14,770
Clerks and other salaried employees.....	3,964	3,905
Wages.....	578,176	348,176
Royalties and rent of mines.....	600	3,671
Taxes.....	2,891	2,360
Supplies and miscellaneous expenses.....	140,720	74,884
Value of products.....	753,246	555,351

Out of a total of 45 operators, 16 were corporations. These corporations reported 57.6 per cent of the total value of products and employed 56.7 per cent

of all wage earners. In the granite quarrying industry the corresponding percentages were 54.1 and 50.5.

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according to the number of wage earners employed per enterprise or operating unit. Of the 1,520 wage earners employed in all enterprises, 899, or 59.2 per cent, were employed in the 8 enterprises employing over 50 wage earners each.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	45	100.0	1,520	100.0
Contract work.....	1	2.2		
1 to 5.....	10	22.2	25	1.6
6 to 20.....	13	28.9	150	9.9
21 to 50.....	13	28.9	446	29.3
51 to 100.....	4	8.9	296	19.5
Over 100.....	4	8.9	603	39.7
Granite.....	40	100.0	1,305	100.0
Contract work.....	1	2.5		
1 to 5.....	10	25.0	25	1.9
6 to 20.....	11	27.5	129	9.9
21 to 50.....	12	30.0	425	32.6
Over 50.....	6	15.0	726	55.6

Prevailing hours of labor.—In Table 4 all producing mines and quarries, except one enterprise operated exclusively by contract work, have been classified according to the prevailing hours of labor per day in each enterprise.

INDUSTRY AND HOURS PER DAY.	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries.....	44	100.0	100.0
8 hours.....	25	56.8	76.3
9 hours.....	12	27.3	7.8
10 hours.....	7	15.9	15.9
Granite.....	39	100.0	100.0
8 hours.....	25	64.1	88.9
9 hours.....	12	30.8	9.1
10 hours.....	2	5.1	2.0

The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified

number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise. In 76.3 per cent of the enterprises weighted according to number of wage earners a day of eight hours prevailed.

Engines and power.—As shown by Table 5, the aggregate horsepower employed in all producing mining enterprises in the state was 3,771, of which 3,137 horsepower was developed by engines owned by the enterprises using them and 634 by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909		
	Total.	Granite.	All other.
Primary power:			
Aggregate horsepower.....	3,771	3,402	369
Owned.....	3,137	2,768	369
Steam engines—			
Number.....	86	79	7
Horsepower.....	3,037	2,668	369
Gas or gasoline engines—			
Number.....	4	4	
Horsepower.....	100	100	
Electric motors operated by purchased current—			
Number.....	17	17	
Horsepower.....	634	634	

Comparison of mining industries, 1902–1909.—Such data as are comparable between 1909 and 1902 are presented in Table 6.

	PRODUCING ENTERPRISES.		Per cent of increase.
	1909	1902	
Wages and salaries.....	\$979,840	\$875,465	11.9
Supplies and materials.....	\$155,358	\$134,128	15.8
Royalties and rent of mines.....	\$4,271	\$2,372	80.1
Contract work.....	\$9,246		
Value of products.....	\$1,308,597	\$1,176,312	11.2
Primary horsepower.....	3,771	2,617	44.1

Duplication between manufactures and mining.—In the production of granite and scythestones, some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining.

As a result of this fact the combined value of products for the manufacturing and mining industries in New Hampshire involves a duplication of \$1,218,351.

DETAILED STATISTICS FOR MINING INDUSTRIES, 1909.

	PRODUCING MINES AND QUARRIES.		
	Total.	Granite.	All other. ¹
Number of operators.....	45	40	5
Number of mines and quarries.....	53	46	7
Capital.....	\$1,546,593	\$891,030	\$655,473
Expenses of operation and development...	\$1,204,966	\$1,053,085	\$151,881
Services—			
Salaried officers of corporations, superintendents and managers.....	\$45,619	\$41,820	\$3,799
Clerks and other salaried employees.....	\$7,869	\$7,766	\$103
Wage earners.....	\$926,352	\$831,176	\$95,176
Miscellaneous—			
Supplies.....	\$100,931	\$95,548	\$35,383
Fuel and rent of power.....	\$54,427	\$43,454	\$10,973
Royalties and rent of mines.....	\$4,271	\$4,271	
Taxes.....	\$5,251	\$4,526	\$725
Contract work.....	\$9,246	\$9,246	
Rent of offices and other sundry expenses.....	\$51,000	\$45,278	\$5,722
Value of products.....	\$1,308,597	\$1,205,811	\$102,786
Persons engaged in industry.....	1,610	1,385	225
Proprietors and officials.....	75	67	8
Proprietors and firm members, total.....	42	40	2
Number performing manual labor.....	17	17	
Salaried officers of corporations.....	5	5	
Superintendents and managers.....	28	22	6
Clerks and other salaried employees.....	15	13	2
Wage earners, Dec. 15, 1909, or nearest representative day.....	1,520	1,305	215
Above ground.....	1,492	1,305	187
Below ground.....	28		28
Men 16 years of age and over.....	1,518	1,303	215
Engineers, firemen, mechanics, etc.....	161	141	20
Above ground.....	159	141	18
Below ground.....	2		2
Miners, miners' helpers, quarrymen, and stonecutters.....	1,043	964	79
Above ground.....	1,017	964	53
Below ground.....	26		26
All other employees (all above ground).....	314	198	116
Boys under 16 years of age (above ground).....	2	2	
Number of wage earners employed on the 15th day of each month:			
January.....	861	712	149
February.....	962	805	157
March.....	1,108	952	156
April.....	1,525	1,356	169
May.....	1,672	1,462	210
June.....	1,693	1,485	208
July.....	1,659	1,459	200
August.....	1,659	1,423	236
September.....	1,610	1,392	218
October.....	1,584	1,303	191
November.....	1,517	1,325	192
December.....	1,180	957	203
Land controlled, acres.....	7,379	6,487	1,482
Owned.....	7,776	6,294	1,482
Held under lease.....	203	203	
Mineral land.....	7,429	5,947	1,482
Owned.....	7,228	5,746	1,482
Held under lease.....	201	201	
Timber land.....	15	15	
Other land.....	535	535	
Primary horsepower.....	3,771	3,402	369

¹ Includes operators as follows: Clay, 1; copper, 1; mica, 2; scythestones, 1.

NEW JERSEY.

Summary.—The total value of the products of mines and quarries in 1909, as reported by the 131 operators, was \$8,347,501. The most important industries for which separate statistics can be given were iron-ore mining, traprock quarrying, and clay mining. The statistics given for clay mining include only the enterprises engaged in mining and marketing the crude clay. Enterprises which subject any part of the crude clay to manufacturing processes before marketing have been included in the census of manufactures but omitted from the census of mines and quarries.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 131 operators in all industries, 62, or 47.3 per cent, were corporations. These corporations reported 87.4 per cent of the total value of products and employed 78.8 per cent of all wage earners. In the iron-mining industry all enterprises were operated by corporations.

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.....	131	6,801	\$8,347,501	\$63,721	100.0	100.0	100.0
Individual.....	49	1,049	803,189	16,392	37.4	15.4	9.6
Firm.....	20	394	246,725	12,336	15.3	5.8	3.0
Corporation.....	62	5,358	7,297,587	117,703	47.3	78.8	87.4
Iron.....	8	2,095	1,651,091	206,386	100.0	100.0	100.0
Corporation.....	8	2,095	1,651,091	206,386	100.0	100.0	100.0
Traprock.....	55	1,608	1,166,345	21,206	100.0	100.0	100.0
Individual.....	17	381	278,112	16,360	30.9	23.7	23.8
Firm.....	10	229	119,262	11,926	18.2	14.2	10.2
Corporation.....	28	998	768,971	27,463	50.9	62.1	65.9

Size of enterprises.—In Table 3 the producing mining industries of the state are classified according to the number of wage earners employed per enterprise or operating unit. Of the 6,801 wage earners employed in all enterprises, 3,772, or 55.5 per cent, were

employed in the 10 enterprises employing over 100 wage earners each.

	Incorporated.	Unincorporated.
Number of operators.....	62	69
Number of mines and quarries.....	72	79
Proprietors and firm members, total.....		96
Number performing manual labor.....		14
Salaried employees:		
Officers of corporations.....	41	
Superintendents and managers.....	59	21
Clerks and other salaried employees.....	127	21
Wage earners, Dec. 15, 1909, or nearest representative day.....	5,358	1,443
Capital.....	\$7,882,034	\$730,729
Expenses of operation and development.....	3,703,485	804,455
Salaries:		
Officers of corporations.....	59,260	
Superintendents and managers.....	98,859	25,571
Clerks and other salaried employees.....	67,533	11,958
Wages.....	2,268,030	533,036
Royalties and rent of mines.....	84,803	16,133
Taxes.....	41,896	5,458
Supplies and miscellaneous expenses.....	1,083,014	212,299
Value of products.....	7,297,587	1,049,914

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	132	100.0	6,801	100.0
Contract work.....	1	0.8		
1 to 5.....	12	9.1	38	0.6
6 to 20.....	59	44.7	744	10.9
21 to 50.....	37	28.0	1,245	18.3
51 to 100.....	13	9.8	1,002	14.7
Over 100.....	10	7.6	3,772	55.5
Iron.....	9	100.0	2,095	100.0
6 to 100.....	4	44.4	195	9.3
Over 100.....	5	55.6	1,900	90.7
Traprock.....	55	100.0	1,608	100.0
1 to 20.....	30	54.5	391	24.3
21 to 50.....	17	30.9	583	36.3
Over 50.....	8	14.5	634	39.4

Prevailing hours of labor.—In Table 4 all producing mines and quarries, except one enterprise operated exclusively by contract work, and one which failed to report hours of labor, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. The table shows the percentage of the total number of enterprises falling in each group,

and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise. For all industries combined, a day of 10 hours prevailed in 71.5 per cent of all enterprises weighted according to the number of wage earners employed.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries	130	100.0	100.0
8 hours.....	0	4.6	13.6
9 hours.....	20	15.4	5.8
10 hours.....	102	78.5	71.5
11 hours.....	2	1.5	9.1
Iron	9	100.0	100.0
8 hours.....	1	11.1	39.5
9 hours.....	2	22.2	6.4
10 hours.....	4	44.4	24.5
11 hours.....	2	22.2	29.5
Traprock	55	100.0	100.0
8 hours.....	2	3.6	2.1
9 hours.....	6	10.9	7.5
10 hours.....	47	85.5	90.4

¹ Exclusive of 1 granite quarry, for which number of hours was not reported.

Duplication between manufactures and mining.—In the production of granite, sandstone, slate, traprock, and tale and soapstone, some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in New Jersey involves a duplication of \$205,085.

Engines and power.—As shown by Table 5, the aggregate horsepower employed in the producing enterprises was 18,048, of which 17,818 was developed by engines and water wheels owned by the enterprises using them and 230 horsepower by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Iron.	Trap-rock.	Clay (sold as such).	All other.
Primary power:					
Aggregate horsepower.....	18,048	6,585	5,348	1,516	4,599
Owned.....	17,818	6,585	5,218	1,516	4,499
Steam engines—					
Number.....	254	82	78	32	62
Horsepower.....	17,585	6,585	5,141	1,475	4,384
Gas or gasoline engines—					
Number.....	10		3	5	2
Horsepower.....	193		77	41	75
Water wheels—					
Number.....	1				1
Horsepower.....	40				40
Electric motors operated by purchased current—					
Number.....	5		4		1
Horsepower.....	230		130		100
Electric motors run by current generated by enterprise using:					
Number.....	58	10			48
Horsepower.....	2,955	525			2,430

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement, and to add to the 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$3,155,929	\$2,277,652	38.6
Supplies and materials.....	\$1,067,226	\$892,030	19.6
Royalties and rent of mines.....	\$101,523	\$110,163	-7.8
Contract work.....	\$40,799	\$10,770	278.8
Value of products.....	\$3,548,858	\$4,042,047	111.5
Primary horsepower.....	18,390	18,008	41.4

¹ A minus sign (-) denotes decrease.

² Exclusive of amount paid to miners compensated by a share of the product which is included under "Contract work," in Table 7.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	PRODUCING MINES AND QUARRIES.							
	Total.	Iron.	Traprock.	Sandstone.	Limestone.	Granite.	Clay (sold as such).	All other. ¹
Number of operators.....	131	8	55	15	6	6	31	10
Number of mines and quarries.....	151	10	58	16	6	6	45	10
Capital.....	\$8,613,663	\$3,612,024	\$870,955	\$176,285	\$73,489	\$31,479	\$1,435,000	\$2,199,640
Expenses of operation and development.....	\$4,507,940	\$1,321,915	\$1,048,945	\$143,458	\$163,877	\$52,371	\$568,281	\$1,209,093
Services—								
Salaried officers of corporations, superintendents, and managers.....	\$183,690	\$49,798	\$40,612	\$6,236	\$6,688	\$958	\$43,566	\$32,832
Clerks and other salaried employees.....	\$79,491	\$16,251	\$17,834	\$2,304	\$1,782	\$269	\$15,305	\$10,266
Wage earners.....	\$2,801,066	\$840,967	\$591,476	\$93,291	\$115,384	\$39,343	\$345,841	\$774,764
Miscellaneous—								
Supplies.....	\$674,962	\$199,707	\$156,565	\$17,973	\$25,902	\$8,491	\$69,899	\$196,455
Fuel and rent of power.....	\$219,329	\$168,368	\$54,790	\$4,704	\$2,037	\$2,161	\$6,619	\$80,740
Royalties and rent of mines.....	\$101,026	\$7,091	\$36,830	\$1,900	\$6,109	\$120	\$15,751	\$33,225
Taxes.....	\$47,354	\$7,350	\$5,172	\$1,237	\$189	\$34	\$6,100	\$27,047
Contract work.....	\$44,489	—	\$28,550	\$820	—	—	\$14,119	—
Rent of offices and other sundry expenses.....	\$253,533	\$32,883	\$116,206	\$14,993	\$5,786	\$995	\$51,051	\$47,764
Value of products.....	\$8,347,501	\$1,651,091	\$1,166,345	\$187,272	\$180,604	\$60,174	\$750,303	\$4,351,712
Persons engaged in industry.....	17,176	2,148	1,722	240	451	122	988	1,497
Proprietors and officials.....	227	23	82	27	9	7	61	16
Proprietors and firm members.....	96	—	40	21	3	6	22	4
Number performing manual labor.....	14	—	6	2	—	2	4	—
Salaried officers of corporations.....	41	6	13	3	1	—	13	3
Superintendents and managers.....	90	17	29	3	5	1	26	9
Clerks and other salaried employees.....	148	30	32	5	5	1	27	42
Wage earners, Dec. 15, 1909, or nearest representative day.....	6,801	2,095	1,608	208	437	114	900	1,430
Above ground.....	4,440	553	1,608	208	437	114	900	620
Below ground.....	2,361	1,542	—	—	—	—	—	810
Men 16 years of age and over.....	6,795	2,095	1,605	208	437	114	899	1,437
Engineers, firemen, mechanics, etc.....	641	302	123	14	26	10	41	122
Above ground.....	583	249	123	14	26	10	44	117
Below ground.....	58	53	—	—	—	—	—	5
Miners, miners' helpers, quarrymen, and stonecutters.....	3,810	1,134	598	169	219	27	683	980
Above ground.....	1,887	—	598	169	219	27	683	171
Below ground.....	1,923	1,134	—	—	—	—	—	809
All other employees.....	2,344	659	884	25	192	77	172	335
Above ground.....	1,984	304	884	25	192	77	172	330
Below ground.....	360	355	—	—	—	—	—	5
Boys under 16 years of age (all above ground).....	6	—	3	—	—	—	1	2
Number of wage earners employed on the 15th day of each month:								
January.....	5,340	2,017	574	111	331	10	713	1,593
February.....	5,457	2,057	577	113	308	10	725	1,667
March.....	5,667	1,980	767	137	283	4	832	1,664
April.....	6,083	1,794	1,196	173	244	105	893	1,878
May.....	6,404	1,740	1,418	202	267	143	885	1,740
June.....	6,524	1,780	1,491	209	301	133	889	1,721
July.....	6,717	1,840	1,639	212	321	140	933	1,632
August.....	6,795	1,818	1,681	211	302	127	971	1,685
September.....	6,878	2,014	1,771	210	306	112	955	1,510
October.....	7,055	2,130	1,742	206	391	115	930	1,541
November.....	6,646	2,111	1,471	198	416	97	898	1,455
December.....	6,208	2,095	1,199	173	439	10	862	1,430
Land controlled, acres.....	26,809	13,668	1,449	247	662	156	7,855	2,772
Owned.....	14,329	5,169	845	244	109	91	5,809	2,062
Held under lease.....	12,480	8,499	604	3	553	65	2,046	710
Mineral land.....	23,780	12,968	1,334	118	202	156	6,580	2,372
Owned.....	11,740	4,469	780	115	89	91	4,534	1,662
Held under lease.....	12,040	8,499	604	3	113	65	2,046	710
Timber land.....	700	—	—	—	—	—	40	—
Other land.....	2,329	60	65	129	460	—	1,235	400
Primary horsepower.....	18,048	6,585	5,348	694	565	215	1,516	3,125

¹ Includes operators as follows: Bluestone, 2; lead and zinc, 1; marl, 1; mineral pigments, 1; peat, 2; slate, 2; talc and soapstone, 1.

² Includes \$214,782 which could not be distributed among the several industries.

³ In some cases the same operator conducted two or more enterprises producing different kinds of products, all enterprises being managed through one central administrative office. The total office expenses were accordingly apportioned among the several industries in proportion to the total expenses of each and the estimated amounts of such administrative expenses were added to "Sundry expenses" for each industry. In the totals for all enterprises, however, the expenses appear under the proper headings. The amounts included in "Rent of offices and other sundry expenses" for individual industries and properly distributed in the total for all industries are as follows: Salaried officers of corporations, superintendents, and managers, \$3,000; clerks and other salaried employees, \$9,420; and taxes, \$225.

⁴ The following numbers of persons, which could not be distributed among the several industries, are included under the proper headings in the totals for all enterprises: Aggregate, 8; salaried officers of corporations, 2; and clerks and other salaried employees, 6.

NEW MEXICO.

Summary.—The total value of the products of all mines and quarries in New Mexico in 1909 amounted to \$5,587,744. Of this amount, bituminous coal mining, the leading industry, contributed \$3,984,660, or 71.3 per cent. Gold and silver mining (deep mines) and copper mining, the two industries next in importance, reported products valued, respectively, at \$625,626 and \$360,394. In each of these industries the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work, which added to the permanent value of the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of New Mexico under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 98 enterprises, 50 were operated by corporations. These corporations reported 91.6 per cent of the total value of products and employed 88.8 per cent of all wage earners. Incorporated enterprises had a larger share in the production of bituminous coal than in other mining industries.

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.....	98	5,682	\$5,587,744	\$57,018	100.0	100.0	100.0
Individual ¹	25	454	302,481	14,499	25.5	8.0	0.5
Firm.....	23	180	105,060	4,568	23.5	3.2	1.0
Corporation.....	50	5,048	5,120,203	102,464	51.0	88.8	91.6
Bituminous coal..	16	3,490	3,984,660	249,041	100.0	100.0	100.0
Individual ¹	4	28	23,744	5,936	25.0	0.8	0.6
Firm.....	3	40	46,207	15,402	18.8	1.1	1.2
Corporation.....	9	3,422	3,914,709	434,968	56.3	98.1	98.2
Gold and silver, deep mines.....	47	960	625,626	13,311	100.0	100.0	100.0
Individual.....	10	121	196,232	19,623	21.3	12.6	31.4
Firm.....	14	112	62,835	3,774	29.8	11.7	8.4
Corporation.....	23	727	376,559	10,372	48.9	75.7	60.2

¹ Includes 1 estate.

	Incorporated.	Unincorporated.
Number of operators.....	45	53
Number of mines and quarries.....	218	67
Proprietors and firm members, total.....		86
Number performing manual labor.....		39
Salaried employees:		
Officers of corporations.....	27	
Superintendents and managers.....	85	12
Clerks and other salaried employees.....	214	6
Wage earners, Dec. 15, 1909, or nearest representative day.....	5,048	634
Capital.....	\$39,656,223	\$469,446
Expenses of operation and development.....	5,195,484	357,939
Salaries—		
Officers of corporations.....	81,024	
Superintendents and managers.....	142,499	10,664
Clerks and other salaried employees.....	207,162	3,785
Wages.....	3,311,729	217,627
Royalties and rent of mines.....	27,414	51,581
Taxes.....	39,593	817
Supplies and miscellaneous expenses.....	1,386,063	73,465
Value of products.....	5,120,203	467,541

Size of enterprises.—In Table 3 the producing enterprises are classified according to the number of wage earners employed per enterprise or operating unit.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	103	100.0	5,682	100.0
No wage earners.....	2	1.9		
Contract work.....	5	4.9		
1 to 5.....	31	30.1	98	1.7
6 to 20.....	30	29.1	347	6.1
21 to 50.....	15	14.6	504	8.9
51 to 100.....	7	6.8	573	10.1
Over 100.....	13	12.6	4,160	73.2
Bituminous coal.....	21	100.0	3,490	100.0
Contract work.....	1	4.8		
1 to 5.....	5	23.8	17	0.5
6 to 20.....	5	23.8	68	1.9
21 to 100.....	4	19.0	108	5.7
Over 100.....	6	28.6	3,207	61.9
Gold and silver, deep mines.....	47	100.0	960	100.0
Contract work.....	3	6.4		
1 to 5.....	18	38.3	53	5.5
6 to 20.....	13	27.7	141	14.7
21 to 50.....	8	17.0	281	29.3
Over 50.....	5	10.6	485	50.5

Of the 5,682 wage earners in all enterprises, 4,160, or 73.2 per cent, were reported by the 13 enterprises employing over 100 wage earners each. For all industries combined, excluding those operated by contract, the average number of wage earners per enterprise

was 58, while for the enterprises engaged in the production of bituminous coal the average per enterprise was 174.

Prevailing hours of labor.—In Table 4 all producing mines and quarries, except those employing no wage earners and those operated exclusively by contract work, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprise.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries	195	100.0	100.0
8 hours.....	30	31.6	6.6
9 hours.....	32	33.7	27.4
10 hours.....	32	33.7	65.3
12 hours.....	1	1.1	0.7
Bituminous coal	20	100.0	100.0
8 hours.....	3	15.0	1.0
9 hours.....	8	40.0	25.8
10 hours.....	9	45.0	73.2
Gold and silver, deep mines	43	100.0	100.0
8 hours.....	19	44.2	24.7
9 hours.....	18	41.9	60.5
10 hours.....	6	14.0	14.7

¹ Exclusive of 1 gold and silver, deep mine, for which number of hours was not reported.

Duplication between manufactures and mining.—In the production of gypsum and bituminous coal some of the operators subjected the crude products obtained to certain manufacturing processes on the premises

before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in New Mexico involves a duplication of \$1,178,078.

Engines and power.—As shown by Table 5, the aggregate horsepower employed in all producing enterprises was 16,042, of which 14,542 horsepower was developed by engines owned by the enterprises using them and 1,500 by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Bituminous coal.	Gold and silver, deep mines.	Copper.	All other.
Primary power:					
Aggregate horsepower.....	16,042	9,387	3,623	650	2,382
Owned.....	14,542	7,887	3,623	650	2,382
Steam engines—					
Number.....	137	53	42	14	28
Horsepower.....	14,201	7,866	3,428	582	2,325
Gas or gasoline engines—					
Number.....	23	2	14	5	2
Horsepower.....	341	21	195	68	57
Electric motors operated by purchased current—					
Number.....	44	44			
Horsepower.....	1,500	1,500			
Electric motors run by current generated by enterprise using:					
Number.....	245	72	166	3	4
Horsepower.....	5,151	4,068	970	13	100

Comparison of mining industries: 1902–1909.—Such data as are comparable between 1909 and 1902 are presented in Table 6.

	PRODUCING ENTERPRISES.		
	1909 ¹	1902	Per cent of increase. ²
Wages and salaries.....	\$3,974,490	\$1,856,402	114.1
Supplies and materials.....	\$1,008,570	\$497,949	102.5
Royalties and rent of mines.....	\$78,995	\$64,438	22.6
Contract work.....	\$22,487	\$48,381	—53.5
Value of products.....	\$5,587,744	\$2,686,473	108.0
Primary horsepower.....	16,042	8,707	84.2

¹ Includes statistics for the production of coke at bituminous coal mines, which could not be deducted without disclosing the operations of an individual enterprise.

² A minus sign (—) denotes decrease.

³ Exclusive of amount paid to miners compensated by a share of the product, which is included under "Contract work," in Table 7.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7

	Aggregate.	PRODUCING MINES AND QUARRIES.							Non-producing mines and quarries. ²
		Total.	Bituminous coal.	Gold and silver, deep mines.	Copper.	Gypsum.	Sandstone.	All other. ¹	
Number of operators.....	149	98	16	47	12	5	3	15	51
Number of mines and quarries.....	358	285	28	63	12	133	3	46	73
Capital ³	\$47,575,606	\$40,125,674	\$23,558,127	\$10,692,341	\$5,204,126	\$382,675	\$1,500	\$286,905	\$7,450,022
Expenses of operation and development.....	\$6,202,242	\$5,553,423	\$3,275,025	\$1,122,873	\$562,146	\$92,543	\$4,075	\$496,761	\$648,819
Services—									
Salaried officers of corporations, superintendents, and managers.....	\$285,929	\$234,187	\$97,588	\$75,364	\$20,275	\$10,620		\$29,340	\$51,742
Clerks and other salaried employees.....	\$231,225	\$210,947	\$147,430	\$27,531	\$19,367	\$6,278		\$10,335	\$20,278
Wage earners.....	\$3,818,807	\$3,529,356	\$2,459,307	\$572,423	\$193,495	\$28,954	\$2,940	\$267,147	\$289,451
Miscellaneous—									
Supplies.....	\$938,630	\$805,487	\$328,696	\$225,982	\$111,336	\$14,940	\$635	\$123,949	\$133,143
Fuel and rent of power.....	\$283,484	\$203,083	\$21,850	\$83,021	\$58,564	\$13,787		\$16,961	\$80,401
Royalties and rent of mines.....	\$79,110	\$78,995	\$6,712	\$49,692	\$353	\$480	\$400	\$21,358	\$115
Taxes.....	\$46,916	\$46,410	\$27,071	\$4,133	\$6,158	\$881		\$2,167	\$6,506
Contract work.....	\$162,683	\$132,535	\$7,521	\$23,618	\$101,396				\$30,148
Rent of offices and other sundry expenses.....	\$355,458	\$318,423	\$170,811	\$59,209	\$46,202	\$16,597	\$100	\$25,504	\$37,035
Value of products.....	\$5,587,744	\$5,587,744	\$3,984,660	\$625,626	\$300,394	\$106,944	\$4,963	\$505,137	
Persons engaged in industry.....	6,603	6,112	3,688	1,001	349	106	32	840	491
Proprietors and officials.....	202	210	52	100	21	8	3	26	82
Proprietors and firm members.....	130	86	13	49	14		3	7	44
Number performing manual labor.....	49	39	8	19	7		1	4	10
Salaried officers of corporations.....	41	27	14	8			2	3	14
Superintendents and managers.....	121	97	25	43	7		6	16	24
Clerks and other salaried employees.....	242	220	146	31	21		8	14	22
Wage earners, Dec. 15, 1909, or nearest representative day.....	6,069	5,682	3,400	960	307	90	29	806	387
Above ground.....	2,257	2,144	781	371	176	90	29	697	113
Below ground.....	3,812	3,538	2,709	589	131			109	274
Men 16 years of age and over.....	6,010	5,623	3,442	960	304	90	29	798	387
Engineers, firemen, mechanics, etc.....	543	489	207	148	72	1	1	60	54
Above ground.....	423	371	122	117	70	1	1	60	52
Below ground.....	120	118	85	31	2			2	2
Miners, miners' helpers, and quarrymen.....	3,042	3,408	2,324	613	143	87	13	378	234
Above ground.....	375	300		9	28	37	13	279	9
Below ground.....	3,267	3,042	2,324	504	115			99	225
All other employees.....	1,825	1,726	911	299	89	52	15	300	99
Above ground.....	1,430	1,378	641	245	75	52	15	350	52
Below ground.....	395	348	270	54	14			10	47
Boys under 16 years of age ⁴	59	59	48		3			8	
Number of wage earners employed on the 15th day of each month:									
January.....	4,737	4,436	3,530	471	139	51		195	301
February.....	5,073	4,754	3,676	654	199	60		165	319
March.....	5,092	4,673	3,576	706	179	50		162	329
April.....	5,328	4,985	3,662	636	202	76	25	384	343
May.....	5,327	4,962	3,516	677	200	55	25	400	365
June.....	5,414	5,079	3,461	735	200	49	26	548	335
July.....	5,749	5,407	3,589	785	312	50	29	642	342
August.....	5,684	5,326	3,543	801	237	53	3	680	358
September.....	5,882	5,570	3,623	838	255	66		804	366
October.....	5,618	5,307	3,417	730	316	73		771	311
November.....	5,631	5,364	3,444	805	272	61		762	267
December.....	5,703	5,415	3,455	822	256	90		792	288
Land controlled, acres.....	467,626	397,174	294,318	74,917	4,090	20,530	35	3,284	70,452
Owned.....	340,975	270,755	240,124	5,667	3,870	20,290	10	1,364	70,220
Held under lease.....	126,651	126,419	54,194	69,820	220	240	25	1,920	232
Mineral land.....	227,795	167,568	115,540	24,600	4,090	20,520	35	2,714	60,227
Owned.....	155,281	95,286	64,029	5,078	3,870	20,280	10	1,119	59,995
Held under lease.....	72,514	72,282	50,020	19,522	220	240	25	1,595	232
Timber land.....	0,025								9,025
Other land.....	230,206	229,606	178,709	50,257		10		570	600
Primary horsepower.....	17,431	16,042	9,387	3,623	650	747		1,635	1,389

¹ Includes operators as follows: Anthracite coal, 1; bismuth, 1; clay, 1; fluorspar, 1; granite, 1; iron, 1; lead and zinc, 2; limestone, 2; placer gold, 2; precious stones, 2; traprock, 1.

² Includes operators as follows: Bituminous coal, 1; gold and silver, deep mines, 40; placer gold, 1.

³ Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

⁴ In the bituminous coal industry 30 boys were employed below ground.

NEW YORK.

Summary.—The gross value of the products of mining industries in New York in 1909 amounted to \$13,334,975. Deducting from this amount, \$65,656, the value of natural gas produced by some operators and sold to others, who sold it again, leaves \$13,269,319 as the net value of the products. Of this amount stone quarries producing limestone, bluestone, traprock, sandstone, granite, marble, and slate, contributed \$5,719,205, or 43.1 per cent. Iron-ore mining, the most important mining industry, reported products valued at \$3,095,023. In the production of graphite, the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work resulting in permanent improvements to the mining properties. The same conditions exist for the total of the six industries combined under the heading of "All other," in Table 7.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 1,351 operators of producing enterprises in all industries, 174, or 12.9 per cent, were corporations. These corporations reported 69.1 per cent of the total value of products and employed 70.3 per cent of all wage earners. In the iron-ore industry all enterprises, except one, were conducted by corporations.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of operators.		Number of wage earners.		Value of products.		Per cent distribution.		
	Number of operators.	Number of wage earners.	Total.	Per operator.	Operators.	Wage earners.	Value of products.		
All Industries.....	1,351	11,303	\$13,334,975	\$9,870	100.0	100.0	100.0		
Individual.....	587	1,960	1,714,117	2,920	43.4	17.3	12.9		
Firm.....	578	1,379	2,381,883	4,121	42.8	12.2	17.9		
Corporation.....	174	7,944	9,210,581	52,934	12.9	70.3	69.1		
Other.....	12	20	28,304	2,366	0.9	0.2	0.2		
Petroleum and natural gas.....	708	374	2,668,996	3,770	100.0	100.0	100.0		
Individual.....	227	74	534,507	2,355	32.1	19.8	20.0		
Firm.....	423	140	1,190,238	2,814	59.7	37.4	44.6		
Corporation.....	49	151	921,470	18,806	6.9	40.4	34.5		
Other.....	9	9	22,781	2,531	1.3	2.4	0.9		
Limestone.....	127	3,104	2,656,142	20,915	100.0	100.0	100.0		
Individual.....	73	616	391,067	5,357	57.5	19.8	14.7		
Firm.....	14	350	309,357	22,098	11.0	11.3	11.6		
Corporation.....	40	2,138	1,955,718	48,893	31.5	68.9	73.6		

Size of enterprises.—In Table 3 the producing mining enterprises are classified according to the number of wage earners employed per enterprise or operating unit. Only 28 enterprises, or 2.1 per cent of the total

number, employed over 100 wage earners each. These enterprises, however, employed more than one-half of all wage earners. In the production of petroleum and natural gas the average number of wage earners per enterprise was less than 1. This was due to the fact that 90 enterprises were operated without any wage earners at all and 464 were operated by contract work or by wage earners who gave only a part of their time to the enterprise.

	Incorporated.	Unincorporated.
Number of operators.....	174	1,177
Number of mines and quarries.....	161	591
Number of wells.....	1,696	9,646
Proprietors and firm members, total.....		2,294
Number performing manual labor.....		633
Salaried employees:		
Officers of corporations.....	114	
Superintendents and managers.....	163	70
Clerks and other salaried employees.....	242	44
Wage earners, Dec. 15, 1909, or nearest representative day.....	7,944	3,359
Capital.....	\$30,994,957	\$14,176,275
Expenses of operation and development.....	7,344,419	2,643,349
Salaries—		
Officers of corporations.....	213,396	
Superintendents and managers.....	227,230	55,150
Clerks and other salaried employees.....	193,552	18,537
Wages.....	3,446,170	1,271,419
Royalties and rent of mines.....	276,617	188,837
Taxes.....	130,784	43,205
Supplies and miscellaneous expenses.....	2,791,170	1,066,689
Cost of natural gas purchased and resold.....	65,494	162
Value of products.....	9,210,581	4,124,394

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All Industries.....	1,351	100.0	11,303	100.0
No wage earners.....	189	14.0		
Contract work and part-time employees.....	471	34.9		
1 to 5.....	451	33.4	941	8.3
6 to 20.....	131	9.7	1,346	11.9
21 to 50.....	65	4.8	2,088	18.5
51 to 100.....	16	1.2	1,171	10.4
Over 100.....	28	2.1	5,757	50.9
Iron.....	14	100.0	2,542	100.0
6 to 50.....	5	35.7	144	5.7
Over 50.....	9	64.3	2,398	94.3
Petroleum and natural gas.....	708	100.0	374	100.0
No wage earners.....	90	12.7		
Contract work and part-time employees.....	464	65.5		
1 to 5.....	141	19.9	226	60.4
Over 5.....	13	1.8	148	39.6
Limestone.....	127	100.0	3,104	100.0
No wage earners.....	5	3.9		
Contract work.....	3	2.4		
1 to 5.....	53	41.7	157	5.1
6 to 20.....	34	26.8	346	11.1
21 to 50.....	20	15.7	620	20.0
Over 50.....	12	9.4	1,981	63.8

Persons employed in mining.—Of the 14,230 persons employed in producing mines December 15, 1909, or the nearest representative day, 11,303 were wage earners, 633 were salaried employees, and 2,294 were pro-

prietors and firm members. Of the proprietors and firm members 663 performed manual labor in or about the mines. The relatively small number of wage earners in the mining industry working underground, 18 per cent, is explained by the large number employed in stone quarries.

Prevailing hours of labor.—In Table 4 all producing enterprises, except those employing no wage earners and those operated exclusively by contract work and part-time employees, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. Petroleum and natural gas wells are not included in this table, because the lack of regularity in the number of hours worked per day in a large number of enterprises rendered such classification impracticable. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise. In 85.1 per cent of all enterprises weighted according to the number of wage earners, a day of 10 hours prevailed.

INDUSTRY AND HOURS PER DAY.	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries	1,537	100.0	100.0
8 hours and under.....	34	6.3	6.7
9 hours.....	55	10.2	7.9
10 hours.....	446	85.1	85.1
11 hours.....	1	0.2	0.3
12 hours.....	1	0.2	0.1
Iron	14	100.0	100.0
10 hours.....	14	100.0	100.0
Limestone	120	100.0	100.0
8 hours.....	22	18.3	16.5
9 hours.....	17	14.2	9.1
10 hours.....	81	67.5	74.3

¹ Exclusive of petroleum and natural gas, and of 1 slate quarry, for which number of hours was not reported.

Engines and power.—As shown by Table 5, the aggregate horsepower employed in the producing enterprises was 101,759, of which 91,076 was developed by engines and water wheels owned by the enterprises

using them, and 10,683 horsepower by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Iron.	Petroleum and natural gas.	Limestone.	All other.
Primary power:					
Aggregate horsepower.....	101,759	22,520	41,797	16,980	20,462
Owned.....	91,076	18,220	41,797	14,277	16,782
Steam engines—					
Number.....	2,283	124	1,761	182	216
Horsepower.....	68,594	17,223	25,378	14,139	11,854
Gas or gasoline engines—					
Number.....	1,216	6	1,173	4	33
Horsepower.....	18,213	747	16,419	24	1,023
Water wheels—					
Number.....	38	2		4	32
Horsepower.....	4,269	250		114	3,905
Electric motors operated by purchased current—					
Number.....	147	42		36	69
Horsepower.....	10,683	4,300		2,703	3,680
Electric motors run by current generated by enterprise using:					
Number.....	81	30		12	39
Horsepower.....	2,319	966		211	1,142

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902, it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement and for the operation of enterprises operated by governmental institutions, and to add to the 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

	PRODUCING ENTERPRISES		
	1909	1902	Per cent of increase.
Wages and salaries.....	\$5,693,286	\$4,517,851	26.0
Supplies and materials.....	\$2,647,861	\$1,627,489	62.7
Royalties and rent of mines.....	\$468,646	\$357,637	31.0
Contract work.....	\$374,435	\$350,663	6.8
Value of products.....	\$13,549,494	\$9,682,457	43.0
Primary horsepower.....	102,540	63,953	60.3

¹ Exclusive of amount paid to miners compensated by a share of the product and also of the wages of part-time employees for the petroleum and natural gas industry, which are included under "Contract work," in Table 7.

Duplication between manufactures and mining.—In a number of industries some of the operators subjected the products to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in New York involves a duplication of \$10,312,289.

Table 7	Aggregate.	PRODUCING MINES, QUARRIES, AND WELLS.						
		Total.	Iron.	Petroleum and natural gas.	Limestone.	Bluestone.	Traprock.	
1	Number of operators.....	1,356	1,351	14	708	127	350	8
2	Number of mines, quarries, and wells.....	12,097	12,094	19	11,342	140	413	8
3	Capital ²	\$45,333,052	\$45,171,232	\$12,613,215	\$14,903,354	\$4,169,316	\$702,033	\$1,568,929
4	Expenses of operation and development.....	\$10,004,532	\$9,987,768	\$2,118,267	\$1,558,691	\$2,111,652	\$691,590	\$588,657
5	Services—							
6	Salaried officers of corporations, superintendents, and managers.....	\$497,576	\$495,770	\$81,987	\$61,726	\$119,576	\$28,292	\$20,048
7	Clerks and other salaried employees.....	\$212,085	\$212,059	\$57,223	\$26,315	\$39,938	\$6,246	\$13,647
8	Wage earners.....	\$4,723,315	\$4,717,535	\$1,001,025	\$236,943	\$1,230,926	\$441,053	\$272,785
9	Miscellaneous—							
10	Supplies.....	\$1,889,747	\$1,886,937	\$556,997	\$420,405	\$205,000	\$65,939	\$88,790
11	Cost of natural gas purchased and resold.....	\$65,656	\$65,656		\$65,656			
12	Fuel and rent of power.....	\$585,161	\$585,161	\$199,817	\$8,689	\$146,564	\$17,517	\$33,065
13	Royalties and rent of mines.....	\$465,458	\$465,454	\$62,668	\$195,892	\$28,941	\$30,642	\$70,829
14	Taxes.....	\$174,389	\$173,959	\$51,491	\$64,657	\$18,934	\$1,987	\$7,686
15	Contract work.....	\$516,542	\$513,042	\$20,632	\$405,184	\$33,418	\$4,963	
16	Rent of offices and other sundry expenses.....	\$874,599	\$872,069	\$86,427	\$73,311	\$198,355	\$94,951	\$81,227
17	Value of products.....	\$13,334,975	\$13,334,975	\$3,095,023	\$2,668,996	\$2,656,142	\$810,054	\$755,128
18	Persons engaged in industry.....	14,253	14,230	2,637	2,087	3,346	1,657	800
19	Proprietors and officials.....	2,651	2,641	34	1,657	503	503	10
20	Proprietors and firm members.....	2,303	2,294	1	1,582	105	474	1
21	Number performing manual labor.....	665	663		179	44	381	
22	Salaried officers of corporations.....	114	114	10	34	19	7	1
23	Superintendents and managers.....	234	233	23	41	63	22	8
24	Clerks and other salaried employees.....	286	286	61	56	55	11	12
25	Wage earners, Dec. 15, 1909, or nearest representative day.....	11,316	11,303	2,542	374	3,104	1,143	778
26	Above ground.....	9,282	9,299	1,049	374	3,104	1,143	778
27	Below ground.....	2,034	2,004	1,493				
28	Men 16 years of age and over.....	11,303	11,295	2,541	374	3,099	1,143	776
29	Engineers, firemen, mechanics, etc.....	1,340	1,336	356	291	305	50	46
30	Above ground.....	1,298	1,294	322	291	305	50	46
31	Below ground.....	42	42	34				
32	Miners, miners' helpers, quarrymen, and stone-cutters.....	6,317	6,312	1,400		1,694	815	394
33	Above ground.....	4,687	4,682	158		1,694	815	394
34	Below ground.....	1,630	1,630	1,242				
35	All other employees.....	3,651	3,647	785	83	1,100	278	336
36	Above ground.....	3,290	3,286	509	83	1,100	278	336
37	Below ground.....	361	361	216				
38	Boys under 16 years of age ²	8	8	1				2
39	Number of wage earners employed on the 15th day of each month:							
40	January.....	5,932	5,922	1,885	346	1,428	485	116
41	February.....	6,081	6,071	1,922	334	1,457	522	81
42	March.....	7,057	7,047	1,909	341	1,657	605	633
43	April.....	8,844	8,834	1,832	333	2,501	973	699
44	May.....	10,037	10,027	1,792	384	2,988	1,187	747
45	June.....	10,587	10,557	1,854	382	3,242	1,224	712
46	July.....	11,223	11,213	2,008	353	3,369	1,166	786
47	August.....	11,279	11,269	2,175	370	3,644	1,182	766
48	September.....	11,068	11,058	2,333	369	3,578	1,108	814
49	October.....	10,284	10,251	2,353	352	3,442	1,073	748
50	November.....	8,540	8,527	2,957	374	3,180	833	773
51	December.....			2,510	370	2,145	531	693
52	Land controlled, acres.....	508,386	495,579	247,783	222,503	3,954	4,929	718
53	Owned.....	315,896	305,086	239,564	50,243	3,479	3,820	418
54	Held under lease.....	192,490	190,493	8,219	172,260	475	1,109	300
55	Mineral and oil land.....	335,140	332,733	95,920	222,503	3,349	2,661	678
56	Owned.....	147,154	146,747	87,701	50,243	2,961	1,732	398
57	Held under lease.....	187,986	185,986	8,219	172,260	388	929	280
58	Timber land.....	150,255	140,885	131,633		117	1,285	15
59	Other land.....	22,991	22,761	20,230		488	933	25
60	Primary horsepower.....	101,769	101,759	22,520	41,797	16,980	1,585	3,575

¹ Includes operators as follows: Clay, 2; infusorial earth, 1; mica, 1; pyrite, 1; quartz, 1.

² Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

MINING INDUSTRIES: 1909.

PRODUCING MINES, QUARRIES, AND WELLS—continued.													Non-producing mines, quarries, and wells.
Sandstone.	Granite.	Marble.	Slate.	Gypsum.	Talc and soapstone.	Graphite.	Garnet.	Feldspar.	Corundum and emery.	Buhrstones and millstones.	All other.		
1	50	28	10	10	13	5	4	3	3	3	9	6	5
2	62	32	11	10	15	7	5	4	4	5	9	8	3
3	\$885,229	\$895,443	\$1,065,232	\$244,050	\$1,811,897	\$5,104,033	\$661,480	\$181,858	\$84,950	\$16,909	\$1,685	\$261,619	\$161,820
4	\$420,598	\$385,095	\$306,601	\$99,424	\$917,714	\$253,911	\$176,454	\$98,206	\$45,475	\$6,523	\$6,981	\$192,839	\$16,764
5	\$26,135	\$22,630	\$34,911	\$3,547	\$53,924	\$21,172	\$7,290	\$3,550	\$3,820	\$1,044		\$6,115	\$1,800
6	\$4,027	\$7,944	\$5,759	\$468	\$35,442	\$6,661	\$1,450	\$900	\$909			\$5,100	
7	\$298,140	\$270,316	\$175,233	\$65,911	\$402,874	\$70,128	\$88,025	\$40,204	\$17,656	\$2,781	\$6,075	\$97,514	\$5,720
8	\$30,738	\$40,374	\$34,793	\$10,785	\$202,920	\$47,045	\$39,813	\$10,491	\$1,793	\$218	\$140	\$30,793	\$2,810
9													
10	\$11,908	\$17,884	\$24,048	\$6,004	\$61,671	\$5,181	\$21,746	\$5,795	\$3,630			\$20,142	
11	\$8,424	\$4,934	\$850	\$5,784	\$23,467	\$20,793	\$1,825	\$9,850	\$1,407	\$708	\$168	\$1,862	\$4
12	\$2,140	\$2,101	\$2,878	\$405	\$6,405	\$7,669	\$1,181	\$4,809	\$445	\$11	\$13	\$681	\$400
13	\$30,453	\$350	\$11,050		\$1,487							\$4,905	\$3,500
14	\$17,621	\$18,493	\$10,560	\$5,620	\$129,434	\$74,362	\$15,624	\$16,547	\$15,815	\$1,761	\$385	\$26,307	\$2,530
15	\$508,038	\$444,435	\$344,081	\$99,827	\$1,048,403	\$314,724	\$138,905	\$101,920	\$47,166	\$16,389	\$12,796	\$171,448	
16	970	614	326	197	737	220	190	120	69	17	31	212	23
17	84	48	24	17	27	14	5	7	0	2	10	6	10
18	58	28	11	12				6	4		10	3	9
19	25	8	2	0				2	4		9	3	2
20	3	7	8	2	12	10						1	
21	23	13	5	3	15	4	5	2	2	2		2	1
22	0	10	8	1	42	11	2	1	2			5	
23	877	556	294	170	668	195	183	112	61	15	21	201	13
24	877	556	294	135	341	132	183	112	45	15	21	110	13
25				44	327	63		16				91	
26	877	556	294	179	668	195	183	112	61	15	21	201	13
27	57	43	40	28	44	4	25	7	7	1		32	4
28	57	43	40	23	43	3	25	7	0	1		32	4
29				5	1			1					
30	740	426	127	145	263	69	84	39	35	13	21	47	5
31	740	426	127	110	14	7	84	39	35	13	21	5	5
32				35	249	62						42	
33	80	87	127	0	361	122	74	66	19	1		122	4
34	80	87	127	2	284	122	74	66	4	1		73	4
35				4	77				15			49	
36													
37	30	220	180	87	509	214	147	61	40	5	18	145	10
38	31	220	213	80	675	214	135	63	47	4	17	141	10
39	134	265	239	104	580	188	127	62	12	4	20	101	10
40	073	324	245	112	507	166	137	70	15	4	20	158	10
41	368	404	258	128	695	180	148	103	49	5	19	172	10
42	354	491	280	135	675	137	194	104	62	5	19	167	10
43	377	540	300	138	600	177	180	115	47	11	4	184	10
44	353	581	300	132	589	200	110	107	20	13	7	146	10
45	787	588	248	140	611	214	123	129	14	13	19	172	10
46	047	596	291	123	628	221	164	129	69	6	18	173	15
47	580	344	268	110	661	202	182	115	30	6	18	188	13
48	205	225	202	142	654	191	173	82	31	6	16	201	13
49													
50	1,587	690	313	213	1,824	308	3,246	5,396	144	631	249	1,081	12,807
51	1,350	607	272		550	110	2,734	1,306	4	1	225	301	10,807
52	237	83	41	213	1,268	189	612	4,000	140	630	24	790	2,000
53	1,053	630	313	213	1,702	308	843	996	15	631	62	856	2,407
54	303	547	272		514	119	331	696		1	38	301	407
55	160	83	41	213	1,188	189	512	300	15	630	24	555	2,000
56	10						2,335	4,300	125		80	175	10,170
57	624	00			122		08	100	4		107	60	230
58													
59													
60	1,304	3,379	1,087	410	3,174	3,720	800	315	220			913	

* In the iron mining industry 1 boy was employed below ground.

NORTH CAROLINA.

Summary.—The total value of the products of all mines and quarries in North Carolina in 1909 was \$1,358,617. Of this amount, granite quarries contributed \$766,931, or over one-half.

In the total for all industries, the expenses of operation and development exceeded the value of the products, the excess occurring in industries which are not shown separately in the general table. This was due in part to unprofitable mining ventures and in part to expenditures for development work resulting in permanent improvements to the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.....	118	2,825	\$1,358,617	\$11,514	100.0	100.0	100.0
Individual.....	41	228	92,216	2,249	34.7	8.1	6.8
Firm.....	47	487	214,975	4,574	39.8	17.2	15.8
Corporation.....	30	2,110	1,051,426	35,045	25.4	74.7	77.4
Granite.....	32	1,568	766,931	23,967	100.0	100.0	100.0
Individual.....	9	77	55,342	6,149	28.1	4.9	7.2
Firm.....	12	263	108,086	9,007	37.5	16.8	14.1
Corporation.....	11	1,228	603,503	54,864	34.4	78.3	78.7

	Incorporated.	Unincorporated.
Number of operators.....	30	88
Number of mines and quarries.....	37	93
Proprietors and firm members, total.....		165
Number performing manual labor.....		63
Salaried employees:		
Officers of corporations.....	12	
Superintendents and managers.....	39	16
Clerks and other salaried employees.....	35	3
Wage earners, Dec. 15, 1909, or nearest representative day.....	2,110	715
Capital.....	\$5,686,066	\$299,046
Expenses of operation and development.....	1,177,979	238,066
Salaries—		
Officers of corporations.....	22,110	
Superintendents and managers.....	51,280	8,256
Clerks and other salaried employees.....	31,480	9,916
Wages.....	708,995	153,767
Royalties and rent of mines.....	13,268	6,944
Taxes.....	6,286	1,279
Supplies and miscellaneous expenses.....	344,560	57,934
Value of products.....	1,051,426	307,191

Out of a total of 118 operators, 30 were corporations. These corporations reported 77.4 per cent of the total value of products and employed 74.7 per cent of all wage earners.

Size of enterprises.—In Table 3 the producing mining enterprises are classified according to the number of

wage earners employed. Of the 118 enterprises reported, only 6 employed more than 100 wage earners each. These enterprises, however, employed over one-half of the wage earners reported by all enterprises.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	118	100.0	2,825	100.0
No wage earners.....	9	7.6		
Contract work.....	2	1.7		
1 to 5.....	44	37.3	133	4.7
6 to 20.....	37	31.4	417	14.8
21 to 50.....	17	14.4	514	18.2
51 to 100.....	3	2.5	226	8.0
Over 100.....	6	5.1	1,535	54.3
Granite.....	32	100.0	1,568	100.0
1 to 5.....	5	15.6	20	1.3
6 to 20.....	13	40.6	142	9.1
21 to 50.....	9	28.1	291	18.6
Over 50.....	5	15.6	1,115	71.1

Prevailing hours of labor.—In Table 4 all producing enterprises, except those employing no wage earners and those operated exclusively by contract work, have been classified according to the prevailing hours of labor per day in each enterprise. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise.

INDUSTRY AND HOURS PER DAY.	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries.....	107	100.0	100.0
8 hours.....	5	4.7	24.4
9 hours.....	14	13.1	22.3
10 hours.....	80	80.4	48.8
11 hours.....	1	0.9	0.6
12 hours.....	1	0.9	3.9
Granite.....	32	100.0	100.0
8 hours.....	2	6.3	39.1
9 hours.....	11	34.4	37.5
10 hours.....	19	59.4	23.4

Only 24.4 per cent of the enterprises, weighted according to the number of wage earners, were operated on an 8-hour basis, while in nearly one-half of the enterprises so weighted a day of 10 hours prevailed.

Engines and power.—As shown by Table 5, the aggregate horsepower employed by producing enterprises was 6,062, of which 5,692 was developed by engines and water wheels owned by the enterprises using them and 370 horsepower by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Granite.	Talc and soap-stone.	Placer gold.	All other.
Primary power:					
Aggregate horsepower.....	6,062	2,981	1,003	310	1,768
Owned	5,692	2,636	998	310	1,748
Steam engines—					
Number.....	115	55	15	7	38
Horsepower.....	5,412	2,626	878	310	1,588
Water wheels—					
Number.....	6		4		2
Horsepower.....	280		120		160
Electric motors operated by purchased current—					
Number.....	10	7	1		2
Horsepower.....	370	345	5		20
Electric motors run by current generated by enterprise using:					
Number.....	5	4		1	
Horsepower.....	26	20		6	

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902,

92752°—13—9

it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for enterprises operated by governmental institutions, and to add to the 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

Table 6

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$1,005,826	\$599,959	67.6
Supplies and materials.....	\$288,315	\$118,494	126.4
Royalties and rent of mines.....	\$21,412	\$19,971	7.2
Contract work.....	\$3,340	\$9,000	—62.9
Value of products.....	\$1,402,765	\$924,676	51.7
Primary horsepower.....	6,225	3,746	66.2

¹ A minus sign (—) denotes decrease.

² Exclusive of amount paid to miners compensated by a share of the product, which is included under "Contract work," in Table 7.

Duplication between manufactures and mining.—In a number of industries some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in North Carolina involves a duplication of \$494,489.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	PRODUCING MINES AND QUARRIES.								Non-producing mines and quarries. ¹
	Aggregate.	Total.	Granite.	Mica.	Talc and soapstone.	Placer gold.	Monazite and zircon.	All other. ¹	
Number of operators.....	127	118	32	63	5	4	3	11	9
Number of mines and quarries.....	145	130	41	64	5	4	3	13	15
Capital.....	\$6,088,434	\$5,985,112	\$2,065,381	\$370,074	\$159,200	\$365,000	\$58,000	\$2,967,457	\$103,322
Expenses of operation and development.....	\$1,436,829	\$1,416,075	\$758,459	\$50,522	\$66,650	\$54,255	\$44,797	\$441,392	\$20,754
Services—									
Salaried officers of corporations, superintendents, and managers.....	\$83,028	\$81,646	\$30,259	\$4,167	\$6,200	\$3,500	\$3,100	\$31,120	\$1,382
Clerks and other salaried employees.....	\$43,774	\$41,396	\$17,909	—	\$1,916	\$8,000	\$600	\$12,311	\$2,378
Wage earners.....	\$568,947	\$562,762	\$519,777	\$32,499	\$34,844	\$18,533	\$5,046	\$252,013	\$6,185
Miscellaneous—									
Supplies.....	\$157,336	\$152,714	\$48,975	\$1,344	\$6,185	\$14,210	\$1,750	\$80,250	\$4,622
Fuel and rent of power.....	\$107,143	\$103,819	\$42,341	\$342	\$10,850	\$6,972	\$770	\$42,044	\$3,829
Royalties and rent of mines.....	\$20,212	\$20,212	\$5,515	\$5,659	\$3,300	—	\$100	\$5,638	—
Taxes.....	\$7,689	\$7,565	\$2,918	—	\$600	\$500	—	\$2,790	\$124
Contract work.....	\$37,586	\$37,586	\$700	\$6,036	\$150	—	\$30,500	—	\$200
Rent of offices and other sundry expenses.....	\$111,109	\$109,075	\$90,005	\$180	\$2,605	\$2,400	\$2,640	\$15,276	\$2,034
Value of products.....	\$1,358,617	\$1,358,617	\$766,931	\$73,978	\$77,833	\$57,319	\$47,178	\$335,578	—
Persons engaged in industry.....	3,175	3,094	1,642	389	102	66	34	855	81
Proprietors and officials.....	247	231	60	115	10	3	8	31	16
Proprietors and firm members.....	176	165	36	108	5	2	6	2	11
Number performing manual labor.....	66	63	3	58	—	—	—	4	3
Salaried officers of corporations.....	12	12	—	—	1	—	—	—	—
Superintendents and managers.....	59	54	19	7	4	1	2	19	5
Clerks and other salaried employees.....	38	38	14	—	3	—	1	18	—
Wage earners, Dec. 15, 1909, or nearest representative day.....	2,890	2,825	1,568	274	89	63	25	806	65
Above ground.....	2,320	2,274	1,568	76	59	63	25	483	46
Below ground.....	570	551	—	198	30	—	—	323	19
Men 16 years of age and over.....	2,867	2,804	1,561	271	88	63	25	796	63
Engineers, firemen, mechanics, etc.....	235	230	92	23	9	19	—	87	5
Above ground.....	202	197	92	4	9	19	—	73	5
Below ground.....	33	33	—	19	—	—	—	14	—
Miners, miners' helpers, quarrymen, and stonecutters.....	1,706	1,649	951	243	51	12	25	367	57
Above ground.....	1,182	1,142	951	67	21	12	25	66	40
Below ground.....	524	507	—	176	30	—	—	301	17
All other employees.....	926	925	518	5	28	32	—	342	1
Above ground.....	915	914	513	2	28	32	—	334	1
Below ground.....	11	11	—	3	—	—	—	8	—
Boys under 16 years of age.....	23	21	7	3	1	—	—	10	2
Number of wage earners employed on the 15th day of each month:									
January.....	1,905	1,859	1,077	103	75	52	8	544	46
February.....	2,057	2,011	1,104	122	67	52	24	582	46
March.....	2,048	2,002	1,089	105	70	52	8	678	46
April.....	2,035	1,987	1,136	88	61	60	20	632	38
May.....	2,041	2,027	1,163	78	57	60	8	641	14
June.....	2,234	2,220	1,213	115	60	65	2	765	14
July.....	2,298	2,279	1,277	127	72	65	21	717	19
August.....	2,440	2,424	1,444	145	76	65	2	673	16
September.....	2,462	2,436	1,411	177	89	55	2	702	26
October.....	2,487	2,461	1,399	157	99	63	21	722	26
November.....	2,526	2,505	1,454	151	81	63	25	731	21
December.....	2,384	2,357	1,325	118	82	52	25	755	27
Land controlled, acres.....	77,580	75,296	1,455	9,358	498	2,915	50,450	10,620	2,284
Owned.....	46,909	45,971	1,272	6,449	165	2,915	30,355	4,812	938
Held under lease.....	30,671	29,325	183	2,909	330	—	20,095	5,808	1,346
Mineral land.....	72,011	69,817	922	9,092	428	1,605	50,450	7,320	2,194
Owned.....	44,910	43,972	739	6,233	163	1,605	30,355	4,812	938
Held under lease.....	27,101	25,845	183	2,799	260	—	20,095	2,508	1,256
Timber land.....	1,556	1,266	65	—	—	—	700	300	90
Other land.....	4,213	4,213	468	65	70	—	—	3,000	—
Primary horsepower.....	6,368	6,062	2,981	53	1,003	310	45	1,670	306

¹ Includes operators as follows: Barytes, 1; buhrstones and millstones, 1; clay, 2; copper, 1; gold and silver, deep mines, 2; iron, 1; limestone, 2; marble, 1.

² Includes operators as follows: Chromite, 1; garnet, 1; gold and silver, deep mines, 2; mica, 3; placer gold, 1; tin, 1.

³ Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

⁴ In some cases the same operator conducted two or more enterprises producing different kinds of products, all enterprises being managed through one central administrative office. The total office expenses were accordingly apportioned among the several industries in proportion to the total expenses of each and the estimated amounts of such administrative expenses were added to "Sundry expenses" for each industry. In the totals for all enterprises, however, the expenses appear under the proper headings. The amounts included in "Rent of offices and other sundry expenses" for individual industries and properly distributed in the total for all industries are as follows: Salaried officers of corporations, superintendents, and managers, \$3,300; clerks and other salaried employees, \$600; and taxes, \$151.

⁵ The following numbers of persons, which could not be distributed among the several industries, are included under the proper headings in the totals for all enterprises: Aggregate, 6; salaried officers of corporations, 2; superintendents and managers, 2; clerks and other salaried employees, 2.

⁶ The 2 boys reported by nonproducing enterprises were employed below ground.

NORTH DAKOTA.

Summary.—Only 53 operators of mining enterprises were reported from North Dakota in 1909. Of these, 52 were engaged in the production of bituminous coal and 1 in the production of petroleum and natural gas. Detailed statistics for these enterprises are presented in Table 1.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 1	All industries. ¹	All industries. ¹
Number of operators.....	53	Number of wage earners employed on the 15th day of each month: January..... 742 February..... 727 March..... 627 April..... 414 May..... 351 June..... 324 July..... 387 August..... 394 September..... 454 October..... 719 November..... 756 December..... 851
Number of mines, quarries, and wells.....	59	
Capital.....	\$1,058,049	
Expenses of operation and development.....	\$570,140	
Services—		
Salaried officers of corporations, superintendents, and managers.....	\$34,372	
Clerks and other salaried employees.....	\$28,217	
Wage earners.....	\$364,321	
Miscellaneous—		
Supplies.....	\$95,352	
Fuel and rent of power.....	\$12,835	
Royalties and rent of mines.....	\$10,647	
Taxes.....	\$4,300	
Contract work.....	\$1,325	
Rent of offices and other sundry expenses.....	\$18,771	
Value of products.....	\$564,812	Land controlled, acres..... Owned..... 34,695 Held under lease..... 12,300 Mineral and oil land..... 22,395 Owned..... 30,356 Held under lease..... 7,071 Other land..... 22,385 4,339
Persons engaged in industry.....	960	
Proprietors and officials.....	79	
Proprietors and firm members.....	51	
Number performing manual labor.....	19	
Salaried officers of corporations.....	6	
Superintendents and managers.....	22	
Clerks and other salaried employees.....	21	
Wage earners, Dec. 15, 1909, or nearest representative day.....	860	
Above ground.....	202	
Below ground.....	658	
Engineers, firemen, mechanics, etc.....	51	
Above ground.....	45	
Below ground.....	6	
Miners and miners' helpers.....	581	
Above ground.....	531	
Below ground.....	228	
All other employees ²	157	
Above ground.....	157	
Below ground.....	71	

¹ Includes operators as follows: Bituminous coal, 52; petroleum and natural gas, 1

² Includes 1 boy under 16 years of age.

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement. Such items as are comparable for the two years are presented in Table 2.

The value of products increased 73.3 per cent, and the amount paid for wages and salaries, 84.8 per cent.

Table 2	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$426,910	\$231,014	84.8
Supplies and materials.....	\$108,187	\$86,467	25.1
Royalties and rent of mines.....	\$10,647	\$1,407	656.7
Contract work.....	\$1,325	\$2,795	-52.6
Value of products.....	\$564,812	\$325,987	73.3
Primary horsepower.....	2,025	839	141.4

¹ A minus sign (-) denotes decrease.

OHIO.

Summary.—The gross value of the products of all mines, quarries, and wells in Ohio in 1909 amounted to \$63,767,112. Deducting from this amount, \$5,376,075, the value of the natural gas produced and sold by some operators to others who sold it again, leaves \$58,391,037 as the net value of the products. This gives Ohio a rank of seventh among the states in the value of mineral products. The principal industries were bituminous coal mining and the production of petroleum and natural gas, which reported products valued respectively at \$27,353,663 and \$24,244,884.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of		Value of products.		Per cent distribution.		
	operators.	wage earners.	Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.....	1,876	57,185	\$63,767,112	\$33,991	100.0	100.0	100.0
Individual.....	580	2,782	2,006,017	4,493	30.9	4.9	4.1
Firm.....	712	3,119	4,915,845	6,904	38.0	5.5	7.7
Corporation.....	563	51,202	55,763,835	99,048	30.0	89.5	87.4
Other.....	21	82	481,414	22,924	1.1	0.1	0.8
Petroleum and natural gas.....	1,188	5,897	29,620,959	24,933	100.0	100.0	100.0
Individual.....	303	309	1,275,171	4,208	25.5	5.2	4.3
Firm.....	578	587	3,236,242	5,599	48.7	10.0	10.9
Corporation.....	287	4,919	24,638,448	85,848	24.2	83.4	83.2
Other.....	20	82	471,098	23,555	1.7	1.4	1.6
Bituminous coal.....	441	44,405	27,353,663	62,026	100.0	100.0	100.0
Individual.....	171	1,688	927,886	5,426	38.8	3.8	3.4
Firm.....	81	1,587	1,023,073	12,631	18.4	3.6	3.7
Corporation.....	189	41,130	25,402,704	134,406	42.9	92.6	92.9

	Incorporated.	Unincorporated.
Number of operators.....	563	1,313
Number of mines and quarries.....	489	475
Number of wells.....	20,840	14,127
Proprietors and firm members, total.....		3,064
Number performing manual labor.....		571
Salaried employees:		
Officers of corporations.....	448	
Superintendents and managers.....	659	162
Clerks and other salaried employees.....	1,250	106
Wage earners, Dec. 15, 1909, or nearest representative day.....	51,202	5,983
Capital.....	\$141,720,906	\$19,603,623
Expenses of operation and development.....	48,171,472	5,681,058
Salaries—		
Officers of corporations.....	767,806	
Superintendents and managers.....	851,640	130,316
Clerks and other salaried employees.....	970,991	54,231
Wages.....	24,225,059	2,544,170
Royalties and rent of mines.....	2,895,449	771,933
Taxes.....	789,460	67,306
Supplies and miscellaneous expenses.....	12,285,200	2,112,894
Cost of natural gas purchased and resold.....	5,375,867	208
Value of products.....	55,763,835	8,003,277

Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 1,876 operators, 563, or 30 per cent, were corporations. These corporations reported 87.4 per cent of the total value of products and employed 89.5 per cent of all wage earners.

Size of enterprises.—In Table 3 the producing enterprises of the state are classified according to the number of wage earners employed per enterprise or operating unit. For all enterprises combined the average number of persons employed per enterprise was 42, while for those engaged in the production of bituminous coal the corresponding average was 89. In this industry four-fifths of all the wage earners were employed in 99 enterprises employing over 100 wage earners each.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	1,943	100.0	57,185	100.0
No wage earners.....	97	5.0		
Contract work and part-time employees.....	571	29.4		
1 to 5.....	652	33.6	1,464	2.6
6 to 20.....	302	15.5	3,175	5.6
21 to 50.....	118	6.1	3,956	6.9
51 to 100.....	85	4.4	6,121	10.7
101 to 500.....	94	4.8	18,099	32.7
501 to 1,000.....	19	1.0	12,851	22.5
Over 1,000.....	5	0.3	10,919	19.1
Petroleum and natural gas.....	1,195	100.0	5,897	100.0
No wage earners.....	90	7.5		
Contract work and part-time employees.....	567	47.4		
1 to 5.....	441	36.9	764	13.0
6 to 20.....	75	6.3	713	12.1
21 to 50.....	9	0.8	280	4.7
51 to 100.....	6	0.5	469	8.0
101 to 500.....	4	0.3	1,179	20.0
Over 500.....	3	0.3	2,492	42.3
Bituminous coal.....	501	100.0	44,405	100.0
No wage earners.....	4	0.8		
Contract work.....	2	0.4		
1 to 5.....	130	25.9	455	1.0
6 to 20.....	137	27.3	1,401	3.2
21 to 50.....	61	12.2	2,192	4.9
51 to 100.....	68	13.6	4,842	10.9
101 to 500.....	79	15.8	15,156	34.1
501 to 1,000.....	16	3.2	10,699	24.1
Over 1,000.....	4	0.8	9,660	21.8

Persons employed in mining.—Of the 62,874 persons employed in producing mines in 1909, 57,185 were wage earners, 2,625 were salaried employees, and 3,064 were proprietors and firm members. Of the proprietors and firm members, 571 were performing manual labor in or about the mine. Of the total number of wage earners employed, 44,405, or 77.7 per cent, were engaged in the production of coal.

Prevailing hours of labor.—In Table 4 all producing mines and quarries, except those employing no wage earners and those operated exclusively by contract work and part-time employees, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. Petroleum and natural gas wells are not included in this table because the lack of regularity in the number of hours worked per day in a large number of enterprises rendered such classification impracticable. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December

15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise. In all industries combined 85.8 per cent and in the bituminous coal mining industry 98.6 per cent of the enterprises weighted according to the number of wage earners were operated on an eight-hour-per-day basis.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries.....	1 736	100.0	100.0
8 hours and under.....	492	69.8	85.8
9 hours.....	37	5.0	1.5
10 hours.....	204	27.7	12.0
11 hours.....	1	0.1	0.1
12 hours.....	2	0.3	0.6
Bituminous coal.....	495	100.0	100.0
8 hours and under.....	470	94.9	98.6
9 hours.....	16	3.2	1.2
10 hours.....	9	1.8	0.2

¹ Exclusive of petroleum and natural gas and of 1 sandstone quarry, for which number of hours was not reported.

Duplication between manufactures and mining.—In the grindstone, limestone, sandstone, and gypsum industries some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in Ohio involves a duplication of \$1,372,367.

Engines and power.—As shown by Table 5, the aggregate horsepower employed in producing enterprises was 294,763, of which 292,006 was developed by engines owned by the enterprises using them, and 2,757 by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Petroleum and natural gas.	Bituminous coal.	Limestone.	All other.
Primary power:					
Aggregate horsepower.....	294,763	167,027	97,422	17,186	13,128
Owned.....	292,006	167,027	95,704	16,897	12,378
Steam engines—					
Number.....	4,775	3,307	1,003	215	250
Horsepower.....	193,814	70,090	95,545	18,171	12,008
Gas or gasoline engines—					
Number.....	4,021	3,962	26	21	12
Horsepower.....	93,192	96,937	159	728	370
Electric motors operated by purchased current—					
Number.....	123		91	10	22
Horsepower.....	2,757		1,718	289	750
Electric motors run by current generated by enterprise using:					
Number.....	1,287	1	1,211	1	74
Horsepower.....	37,298	20	35,501	20	1,757

Comparison of mining industries: 1902–1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement and for enterprises operated by governmental institutions; to omit from the 1909 figures, as they appear in other tables in this chapter, the value of the by-products of bituminous coal mines; and to add to the 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

	PRODUCING ENTERPRISES.		
	1909	1902.	Per cent of increase. ¹
Wages and salaries.....	\$30,226,878	\$25,479,977	18.6
Supplies and materials.....	\$8,850,679	\$9,836,370	—10.0
Royalties and rent of mines.....	\$3,668,862	\$4,190,544	—12.4
Contract work.....	\$2,745,089	\$2,692,557	2.0
Value of products.....	\$59,931,837	\$56,340,184	6.4
Primary horsepower.....	298,635	204,341	46.1

¹ A minus sign (—) denotes decrease.

² Exclusive of the wages of part-time employees for the petroleum and natural gas industry which are included under "Contract work," in Table 7.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	PRODUCING MINES, QUARRIES, AND WELLS.										Non-producing mines, quarries and wells. ¹
	Aggregate.	Total.	Petroleum and natural gas.	Bituminous coal.	Limestone.	Sandstone.	Grindstones.	Iron.	Clay.	All other. ¹	
Number of operators.....	1,835	1,876	1,188	441	144	52	8	4	36	3	9
Number of mines, quarries, and wells.....	36,048	36,031	35,067	640	184	65	19	4	49	3	17
Capital ²	\$161,447,679	\$161,324,529	\$92,923,090	\$61,139,575	\$4,416,060	\$1,775,987	\$205,318	\$53,401	\$251,900	\$559,198	\$123,150
Expenses of operation and development.....	\$53,921,854	\$53,852,530	\$21,233,439	\$27,153,497	\$2,711,926	\$2,025,680	\$214,058	\$22,701	\$123,483	\$367,746	\$69,324
Services—											
Salaried officers of corporations, superintendents, and managers.....	\$1,750,002	\$1,749,782	\$541,476	\$911,606	\$152,273	\$91,977	\$15,572	\$1,320	\$10,860	\$24,678	\$240
Clerks and other salaried employees.....	\$1,025,222	\$1,025,222	\$451,240	\$455,430	\$46,665	\$45,118	\$5,373		\$1,600	\$19,796	
Wage earners.....	\$26,771,442	\$26,769,229	\$3,145,607	\$20,922,039	\$1,397,390	\$984,903	\$107,744	\$11,510	\$82,510	\$117,526	\$2,213
Miscellaneous—											
Supplies.....	\$7,380,294	\$7,360,280	\$4,009,599	\$2,292,815	\$537,917	\$402,481	\$27,988	\$3,225	\$9,031	\$77,224	\$20,014
Cost of natural gas purchased and resold.....	\$5,376,075	\$5,376,075	\$5,376,075	\$137,790							
Fuel and rent of power.....	\$892,714	\$892,671	\$137,790	\$388,466	\$191,282	\$111,816	\$10,136		\$2,373	\$50,828	\$43
Royalties and rent of mines.....	\$3,676,785	\$3,667,382	\$2,674,350	\$892,398	\$60,178	\$5,797	\$3,148	\$176	\$5,035	\$26,300	\$9,383
Taxes.....	\$856,871	\$856,766	\$585,542	\$234,021	\$24,276	\$6,764	\$1,809	\$389	\$1,257	\$2,708	\$105
Contract work.....	\$3,005,917	\$2,970,544	\$2,379,315	\$52,854	\$4,454	\$1,339	\$25,597	\$5,254	\$1,731		\$35,373
Rent of offices and other sundry expenses.....	\$3,186,552	\$3,184,599	\$1,432,445	\$1,003,868	\$297,511	\$375,485	\$16,691	\$827	\$9,086	\$48,686	\$1,953
Value of products.....	\$63,767,112	\$63,767,112	\$29,620,959	\$27,353,663	\$3,363,149	\$2,398,306	\$278,831	\$24,419	\$164,102	\$563,683	
Persons engaged in industry.....	62,902	62,874	9,312	46,046	4,110	2,441	314	39	284	328	28
Proprietors and officials.....	4,341	4,333	2,863	993	285	108	12	3	57	12	8
Proprietors and firm members.....	3,069	3,064	2,408	421	146	36	3	2	48	5	5
Number performing manual labor.....	571	571	281	203	54	13	1	1	18		1
Salaried officers of corporations.....	449	448	165	200	47	28	3		2	3	2
Superintendents and managers.....	823	821	290	372	92	44	6	1	7	9	2
Clerks and other salaried employees.....	1,356	1,356	552	648	79	50	6		4	17	
Wage earners, Dec. 15, 1909, or nearest representative day.....	57,205	57,185	5,897	44,405	3,746	2,283	296	36	223	299	20
Above ground.....	16,794	16,779	5,897	4,083	3,746	2,283	296	19	156	294	15
Below ground.....	40,411	40,406		40,322				17	67	67	5
Men 16 years of age and over.....	56,988	56,968	5,895	44,211	3,739	2,269	296	36	223	299	20
Engineers, firemen, mechanics, etc.....	5,918	5,914	3,263	1,946	356	309	28	1	11		4
Above ground.....	5,662	5,658	3,263	1,690	356	309	28	1	11		4
Below ground.....	256	256		256							
Miners, miners' helpers, quarrymen, and stonecutters.....	37,531	37,526		33,155	2,480	1,527	225	26	110	3	5
Above ground.....	4,287	4,287			2,480	1,527	225	9	43	3	
Below ground.....	33,244	33,239		33,155				17	67		5
All other employees.....	13,539	13,528	2,632	9,110	903	433	43	9	102	296	11
Above ground.....	6,812	6,801	2,632	2,383	903	433	43	9	102	296	11
Below ground.....	6,727	6,727		6,727							
Boys under 16 years of age ⁴	217	217	2	194	7	14					
Number of wage earners employed on the 15th day of each month:											
January.....	48,085	48,085	4,827	40,463	1,040	1,251	247	26	105	126	
February.....	47,900	47,900	4,589	40,405	1,096	1,297	243	27	102	141	
March.....	48,330	48,330	4,731	39,375	1,784	1,880	288	33	108	131	
April.....	47,429	47,427	4,927	36,910	2,565	2,402	293	34	170	126	2
May.....	47,960	47,958	5,110	36,684	2,996	2,498	323	34	191	122	2
June.....	48,861	48,860	5,207	37,235	3,238	2,523	320	31	194	112	1
July.....	49,768	49,767	5,378	37,680	3,520	2,515	315	31	196	132	1
August.....	51,699	51,695	5,663	39,281	3,567	2,509	310	31	191	143	4
September.....	52,974	52,970	5,730	40,418	3,754	2,302	301	35	205	135	4
October.....	53,294	53,290	5,859	40,784	3,740	2,208	331	33	208	127	4
November.....	56,413	56,405	6,303	43,770	3,321	2,352	315	31	182	131	8
December.....	54,142	54,122	5,865	43,126	2,562	1,942	294	31	173	129	20
Land controlled, acres.....	2,142,730	2,135,777	1,651,076	432,204	34,036	7,789	1,195	4,390	5,057	30	6,953
Owned.....	355,300	354,835	28,658	283,439	28,893	7,401	487	4,310	1,647		465
Held under lease.....	1,787,430	1,780,942	1,622,418	148,765	5,143	388	708	80	3,410	30	6,488
Mineral and oil land.....	2,091,920	2,084,967	1,651,076	406,336	12,852	6,916	1,054	4,390	2,313	30	6,953
Owned.....	310,383	309,918	28,658	280,423	8,750	6,528	346	4,310	903		465
Held under lease.....	1,781,537	1,775,049	1,622,418	145,913	4,102	388	708	80	1,410	30	6,488
Timber land.....	14,253	14,253		5,787	6,823	20			1,643		
Other land.....	36,557	36,557		20,101	14,361	853	141		1,101		
Primary horsepower.....	294,813	294,763	167,027	97,422	17,186	9,616	1,163		1,037	1,312	50

¹ Includes operators as follows: Gypsum, 2; oilstones, 1.

² Includes operators as follows: Bituminous coal, 2; petroleum and natural gas, 7.

³ Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

⁴ In the bituminous coal industry 184 boys were employed below ground.

OKLAHOMA.

Summary.—The total gross value of the products of the mining industry in Oklahoma in 1909 amounted to \$25,637,892. Deducting from this amount \$130,587, the value of natural gas produced by some operators and sold to others who sold it again, leaves \$25,507,305 as the net value of the products. Of this amount, petroleum and natural gas contributed \$17,554,505, or 68.8 per cent. Bituminous coal mining, with products valued at \$6,185,078, was second in importance. In this industry the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work resulting in permanent improvements to the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 864 operators, 565, or 65.4 per cent, were corporations. These corporations reported 83.6 per cent of the total value of products and employed 87.7 per cent of all wage earners. Of the total value of the products of bituminous coal mines, 95.3 per cent was reported by corporations.

100 wage earners each. These enterprises, however, employed three-fifths of all wage earners. In the bituminous coal mining industry 5 enterprises, employing over 500 wage earners each, reported 46.2 per cent of the total number of wage earners engaged in that industry.

	Incorporated.	Unincorporated.
Number of operators.....	565	299
Number of mines and quarries.....	136	76
Number of wells.....	8,415	3,698
Proprietors and firm members, total.....		648
Number performing manual labor.....		89
Salaried employees:		
Officers of corporations.....	231	
Superintendents and managers.....	354	116
Clerks and other salaried employees.....	484	89
Wage earners, Dec. 15, 1909, or nearest representative day.....	12,208	1,712
Capital.....	\$60,482,889	\$10,213,522
Expenses of operation and development.....	17,640,121	3,431,488
Salaries—		
Officers of corporations.....	337,072	
Superintendents and managers.....	491,632	144,125
Clerks and other salaried employees.....	326,244	43,494
Wages.....	6,887,178	888,235
Royalties and rent of mines.....	2,174,233	609,742
Taxes.....	262,601	45,615
Supplies and miscellaneous expenses.....	7,030,574	1,700,287
Cost of natural gas purchased and resold.....	130,587	
Value of products.....	21,442,813	4,195,079

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries...	864	13,920	\$25,637,892	\$29,673	100.0	100.0	100.0
Individual.....	118	756	1,451,138	12,298	13.7	5.4	5.7
Firm.....	162	836	2,101,037	12,969	18.8	6.0	8.2
Corporation.....	565	12,208	21,442,813	37,952	65.4	87.7	83.6
Other.....	19	120	642,904	33,837	2.2	0.9	2.5
Petroleum and natural gas...	711	3,066	17,685,092	24,874	100.0	100.0	100.0
Individual.....	85	220	1,165,510	13,712	12.0	7.2	6.6
Firm.....	131	256	1,614,074	12,321	18.4	8.3	9.1
Corporation.....	476	2,470	14,262,604	29,963	66.9	80.6	80.6
Other.....	19	120	642,904	33,837	2.7	3.9	3.6
Bituminous coal...	56	8,814	6,185,078	110,448	100.0	100.0	100.0
Individual.....	7	151	93,470	13,353	12.5	1.7	1.5
Firm.....	10	317	198,983	19,898	17.9	3.6	3.2
Corporation.....	39	8,346	5,892,625	151,093	69.6	94.7	95.3

Size of enterprises.—In Table 3 the producing enterprises are classified according to the number of wage earners employed per enterprise or operating unit. Only 27 out of a total of 872 enterprises reported over

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	872	100.0	13,920	100.0
No wage earners.....	19	2.2		
Contract work and part-time employees.....	132	15.1		
1 to 5.....	485	55.6	970	7.0
6 to 20.....	135	15.5	1,468	10.5
21 to 50.....	52	6.0	1,672	12.0
51 to 100.....	22	2.5	1,465	10.5
101 to 500.....	22	2.5	4,273	30.7
Over 500.....	5	0.6	4,072	29.3
Petroleum and natural gas.....	711	100.0	3,066	100.0
No wage earners.....	14	2.0		
Contract work and part-time employees.....	132	18.6		
1 to 5.....	456	64.1	881	28.7
6 to 20.....	86	12.1	840	27.4
21 to 50.....	18	2.5	515	16.8
Over 50.....	5	0.7	830	27.1
Bituminous coal.....	64	100.0	8,814	100.0
1 to 20.....	20	31.3	219	2.5
21 to 50.....	10	15.6	324	3.7
51 to 100.....	13	20.3	933	10.6
101 to 500.....	16	25.0	3,266	37.1
Over 500.....	5	7.8	4,072	46.2

Prevailing hours of labor.—In Table 4 all producing enterprises, except those employing no wage earners and those operated exclusively by contract work and

part-time employees, have been classified according to the prevailing hours of labor per day in each enterprise. Petroleum and natural gas wells are not included in this table because the lack of regularity in the number of hours worked per day in a large number of enterprises rendered such classification impracticable. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise.

For all industries combined, in 86.9 per cent of the enterprises, weighted according to the number of wage earners, a day of eight hours or less prevailed.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries ¹	156	100.0	100.0
8 hours and under.....	108	69.2	86.9
9 hours.....	8	5.1	0.4
10 hours.....	37	23.7	12.1
12 hours.....	3	1.9	0.6
Bituminous coal	64	100.0	100.0
8 hours and under.....	59	92.2	98.2
10 hours.....	5	7.8	1.8

¹ Exclusive of petroleum and natural gas.

Duplication between manufactures and mining.—In the production of granite and gypsum some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in Oklahoma involves a duplication of \$433,019.

Engines and power.—The aggregate horsepower employed in producing enterprises, as shown by Table 5,

was 95,074, of which 94,634 was developed by engines owned by the enterprises using them and 440 by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Petroleum and natural gas.	Bituminous coal.	Lead and zinc.	All other.
Primary power:					
Aggregate horsepower.....	95,074	60,496	26,316	4,521	3,741
Owued.....	94,634	60,496	25,881	4,516	3,741
Steam engines.....					
Number.....	2,280	1,818	277	129	56
Horsepower.....	69,089	35,022	25,881	4,516	3,670
Gas or gasoline engines.....					
Number.....	1,294	1,289			5
Horsepower.....	25,545	25,474			71
Electric motors operated by purchased current.....					
Number.....	10		9	1	
Horsepower.....	440		435	5	
Electric motors run by current generated by enterprise using:					
Number.....	33		31	1	1
Horsepower.....	1,722		1,700	20	2

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1909 figures, as they appear in other tables in this chapter, the value of the by-products of bituminous coal mines, and to combine for 1902 the data for Oklahoma and Indian Territory, shown separately by the report for that year.

The great growth of the mining industry from 1902 to 1909 was due to the development of the petroleum and natural gas fields, the increase in the value of products of this industry amounting to over \$17,300,000. Other notable increases occurred in the production of bituminous coal, lead and zinc, limestone, and gypsum.

	PRODUCING ENTERPRISES.		
	1909	1902 ¹	Per cent of increase.
Wages and salaries.....	\$9,117,970	\$3,513,261	159.5
Supplies and materials.....	\$5,281,362	\$360,997	1,363.0
Royalties and rent of mines.....	\$2,783,975	\$260,701	967.9
Contract work.....	\$2,071,311	\$78,639	2,533.9
Value of products.....	\$25,506,647	\$4,508,086	465.8
Primary horsepower.....	95,074	13,583	599.9

¹ Includes statistics for the production of lime, which are omitted from the figures for 1909.

² Exclusive of amount paid to miners compensated by a share of the product, and also of the wages of part-time employees for the petroleum and natural gas industry, which are included under "Contract work," in Table 7.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7

	PRODUCING MINES, QUARRIES, AND WELLS.										Non-producing mines, quarries, and wells. ²
	Aggregate.	Total.	Petroleum and natural gas.	Bituminous coal.	Lead and zinc.	Limestone.	Granite.	Sandstone.	Gypsum. ¹	Asphaltum and bituminous rock.	
Number of operators.....	880	864	711	56	47	17	6	12	11	4	16
Number of mines, quarries, and wells.....	12,352	12,325	12,113	104	50	20	6	14	12	6	27
Capital ³	\$70,912,464	\$70,696,411	\$62,739,176	\$5,672,886	\$602,648	\$210,438	\$108,500	\$24,935	\$1,105,714	\$232,114	\$216,053
Expenses of operation and development.....	\$21,156,030	\$21,071,609	\$12,950,891	\$6,535,441	\$663,818	\$379,663	\$59,957	\$40,292	\$401,720	\$39,827	\$84,421
Services—											
Salaried officers of corporations, superintendents, and managers.....	\$974,264	\$972,829	\$707,663	\$187,087	\$32,143	\$9,552	\$5,500	\$1,200	\$21,984	\$7,700	\$1,435
Clerks and other salaried employees.....	\$369,828	\$369,728	\$221,155	\$115,243	\$1,744	\$6,995	\$1,400		\$21,691	\$1,500	\$100
Wage earners.....	\$7,790,011	\$7,775,413	\$2,274,667	\$4,803,392	\$218,136	\$215,282	\$37,884	\$29,496	\$175,437	\$21,119	\$14,598
Miscellaneous—											
Supplies.....	\$4,930,408	\$4,897,176	\$3,894,782	\$745,984	\$112,526	\$58,302	\$7,338	\$6,146	\$69,944	\$2,154	\$33,232
Cost of natural gas purchased and resold.....	\$130,587	\$130,587	\$130,587								
Fuel and rent of power.....	\$385,645	\$384,186	\$57,718	\$166,630	\$81,515	\$20,288	\$4,010	\$1,370	\$52,244	\$411	\$1,459
Royalties and rent of mines.....	\$2,786,500	\$2,783,975	\$2,331,198	\$269,051	\$176,647	\$2,549	\$30	\$1,281	\$1,282	\$1,337	\$2,525
Taxes.....	\$308,497	\$308,216	\$261,631	\$36,589	\$3,100	\$1,151	\$455	\$151	\$4,592	\$547	\$281
Contract work.....	\$2,165,717	\$2,137,314	\$2,103,273	\$22,266	\$10,230					\$1,545	\$28,403
Rent of offices and sundry expenses.....	\$1,314,573	\$1,312,185	\$968,217	\$188,599	\$27,777	\$65,544	\$3,340	\$648	\$54,546	\$3,514	\$2,388
Value of products.....	\$25,637,892	\$25,637,892	\$17,685,092	\$6,185,078	\$695,235	\$487,883	\$60,289	\$59,455	\$417,594	\$47,266	.....
Persons engaged in industry.....	15,924	15,842	4,439	9,124	842	745	131	97	418	46	82
Proprietors and officials.....	1,378	1,349	1,013	143	113	27	13	14	22	4	29
Proprietors and firm members.....	672	648	499	35	80	11	9	13	1	.....	24
Number performing manual labor.....	93	89	23	22	33	2	.....	8	1	.....	4
Salaried officers of corporations.....	232	231	177	39	4	2	2	.....	7	.....	1
Superintendents and managers.....	474	470	337	69	29	14	2	1	14	4	4
Clerks and other salaried employees.....	575	573	360	167	5	14	2	.....	22	3	2
Wage earners, Dec. 15, 1909, or nearest representative day.....	13,971	13,920	3,066	8,814	724	704	116	83	374	39	51
Above ground.....	6,215	6,175	3,066	1,516	296	704	116	83	370	24	40
Below ground.....	7,756	7,745	.....	7,298	428	.....	.....	.....	4	15	11
Men 16 years of age and over.....	13,968	13,917	3,066	8,811	724	704	116	83	374	39	51
Engineers, firemen, mechanics, etc.....	3,423	3,389	2,336	790	186	57	12	2	1	5	34
Above ground.....	3,291	3,259	2,336	666	180	57	12	2	1	5	32
Below ground.....	130	130	.....	124	6	.....	.....	.....	.....	.....	2
Miners, miners' helpers, quarrymen, and stonecutters.....	6,677	6,668	.....	5,414	395	602	71	75	79	32	9
Above ground.....	854	854	.....	12	12	602	71	75	75	19	.....
Below ground.....	5,823	5,814	.....	5,414	383	.....	.....	.....	4	13	9
All other employees.....	3,868	3,860	730	2,607	143	45	33	6	294	2	8
Above ground.....	2,070	2,062	730	850	104	45	33	6	294	.....	8
Below ground.....	1,798	1,798	.....	1,757	39	.....	.....	.....	.....	2	.....
Boys under 16 years of age (all below ground).....	3	3	.....	3	.....	.....	.....	.....	.....	.....	.....
Number of wage earners employed on the 15th day of each month:											
January.....	11,481	11,463	2,737	7,545	281	538	35	17	281	29	18
February.....	11,153	11,140	2,760	7,274	254	489	34	17	283	29	13
March.....	10,739	10,722	2,806	6,676	257	590	38	17	309	29	17
April.....	10,446	10,434	2,772	6,451	288	514	50	24	306	29	12
May.....	10,507	10,495	2,774	6,377	348	542	46	24	346	38	12
June.....	10,818	10,799	2,864	6,621	347	473	48	82	327	37	19
July.....	11,484	11,469	2,880	7,296	328	475	59	82	312	37	15
August.....	11,727	11,705	2,851	7,543	337	496	57	84	300	37	22
September.....	12,277	12,258	2,947	7,794	475	486	105	79	335	37	19
October.....	12,953	12,935	3,007	8,373	438	544	104	76	356	37	18
November.....	13,084	13,049	2,929	8,544	449	603	102	76	309	37	35
December.....	13,462	13,426	3,059	8,720	459	648	106	75	322	37	36
Land controlled, acres.....	1,232,320	1,211,893	1,119,238	82,504	715	2,091	930	391	3,160	2,864	20,427
Owned.....	23,172	22,672	17,529	910	30	1,640	690	83	1,700	90	500
Held under lease.....	1,209,148	1,189,221	1,101,709	81,594	685	451	240	308	1,460	2,774	19,927
Mineral and oil land.....	1,225,446	1,205,019	1,119,238	75,744	715	1,991	930	391	3,160	2,850	20,427
Owned.....	23,072	22,572	17,529	910	30	1,540	690	83	1,700	90	500
Held under lease.....	1,202,374	1,182,447	1,101,709	74,834	685	451	240	308	1,460	2,760	19,927
Timber land.....	6,820	6,820	.....	6,720	.....	100	.....	.....	.....	.....	.....
Other land.....	54	54	.....	40	.....	.....	.....	.....	.....	14	.....
Primary horsepower.....	95,439	95,074	60,496	26,316	4,521	1,417	330	90	1,661	243	365

¹ Includes 1 operator engaged in the production of chromite.

² Includes operators as follows: Lead and zinc, 4; petroleum and natural gas, 11; placer gold, 1.

³ Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

OREGON.

Summary.—The total value of the products of all mines and quarries in Oregon in 1909 amounted to \$1,191,512. Of this amount, gold and silver deep mines and placer gold mines contributed products valued respectively at \$468,732 and \$159,002, a total of \$627,734. Bituminous coal mining, the industry next in importance, reported products valued at \$225,026. In the operations of gold and silver deep mines and bituminous coal mines the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work, resulting in permanent improvements to the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 116 operators, 45, or 38.8 per cent, were corporations. These corporations reported 69.8 per cent of the total value of products and employed 70 per cent of all wage earners.

Table 1

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.....	116	1,087	\$1,191,512	\$10,272	100.0	100.0	100.0
Individual.....	43	194	192,828	4,484	37.1	17.8	16.2
Firm.....	28	132	166,643	5,952	24.1	12.1	14.0
Corporation.....	45	761	832,041	18,490	38.8	70.0	69.8
Gold and silver, deep mines.....	32	436	468,732	14,648	100.0	100.0	100.0
Individual.....	5	66	111,245	22,249	15.6	15.1	23.7
Firm.....	5	32	15,214	3,043	15.6	7.3	3.2
Corporation.....	22	338	342,273	15,558	68.8	77.5	73.0
Placer gold.....	60	177	159,002	2,650	100.0	100.0	100.0
Individual.....	31	70	57,270	1,847	51.7	39.5	36.0
Firm.....	17	25	41,522	2,442	28.3	14.1	26.1
Corporation.....	12	82	60,210	5,018	20.0	46.3	37.9
Bituminous coal..	8	251	225,026	28,128	100.0	100.0	100.0
Firm ¹	4	37	25,532	6,383	50.0	14.7	11.8
Corporation.....	4	214	199,494	49,873	50.0	85.3	88.7

¹ Includes 2 individuals.

Size of enterprises.—In Table 3 the producing enterprises of the state are classified according to the number of wage earners employed per enterprise or oper-

ating unit. Of the 1,087 wage earners employed in all enterprises, 366, or 33.7 per cent, were reported by the 5 enterprises employing over 50 wage earners each.

Table 2

	Incorporated.	Unincorporated.
Number of operators.....	45	71
Number of mines and quarries.....	81	80
Proprietors and firm members, total.....		112
Number performing manual labor.....		66
Salaried employees:		
Officers of corporations.....	17	
Superintendents and managers.....	37	8
Clerks and other salaried employees.....	31	7
Wage earners, Dec. 15, 1909, or nearest representative day.....	761	326
Capital.....	\$3,211,089	\$955,745
Expenses of operation and development.....	897,748	325,720
Salaries—		
Officers of corporations.....	17,385	
Superintendents and managers.....	58,002	16,000
Clerks and other salaried employees.....	27,236	6,210
Wages.....	528,638	176,554
Royalties and rent of mines.....	11,987	4,948
Taxes.....	8,376	4,541
Supplies and miscellaneous expenses.....	246,124	117,467
Value of products.....	832,041	359,471

Table 3

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	117	100.0	1,087	100.0
No wage earners.....	16	13.7		
Contract work.....	4	3.4		
1 to 5.....	54	46.2	137	12.6
6 to 20.....	31	26.5	341	31.4
21 to 50.....	7	6.0	243	22.4
Over 50.....	5	4.3	366	33.7
Gold and silver, deep mines.....	32	100.0	436	100.0
Contract work.....	3	9.4		
1 to 5.....	11	34.4	36	8.3
6 to 20.....	11	34.4	140	32.1
Over 20.....	7	21.9	260	59.6
Placer gold.....	60	100.0	177	100.0
No wage earners.....	16	26.7		
Contract work.....	1	1.7		
1 to 5.....	35	58.3	80	45.2
Over 6.....	8	13.3	97	54.8

Prevailing hours of labor.—In Table 4 all producing enterprises, except those employing no wage earners and those operated exclusively by contract work, are classified according to the prevailing hours of labor per day in each enterprise or operating unit. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given

a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise. For all industries combined 55.8 per cent of the enterprises weighted according to the number of wage earners were operated on an eight-hour-per-day basis. For enterprises engaged in the production of gold and silver (deep mines) the corresponding percentage was 98.6.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries	97	100.0	100.0
8 hours.....	56	57.7	55.8
9 hours.....	8	8.2	3.2
10 hours.....	29	29.9	37.0
11 hours.....	1	1.0	3.4
12 hours.....	3	3.1	0.6
Gold and silver, deep mines	29	100.0	100.0
8 hours.....	27	93.1	98.6
10 hours.....	1	3.4	1.1
12 hours.....	1	3.4	0.2
Placer gold	43	100.0	100.0
8 hours.....	19	44.2	30.5
9 hours.....	3	7.0	4.0
10 hours.....	18	41.9	41.8
11 hours.....	1	2.3	20.9
12 hours.....	2	4.7	2.8
Bituminous coal	9	100.0	100.0
8 hours.....	7	77.8	45.0
9 hours.....	1	11.1	1.2
10 hours.....	1	11.1	53.8

Duplication between manufactures and mining.—In the production of granite and gypsum some of the operators subjected the product obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in Oregon involves a duplication of \$202,664.

Engines and power.—As shown by Table 5, the aggregate horsepower employed in producing enterprises was 8,070, of which 6,177 was developed by engines and water wheels owned by the enterprise using them and 1,893 by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Gold and silver, deep mines.	Placer gold.	Bituminous coal.	All other.
Primary power:					
Aggregate horsepower.....	8,070	4,497	1,110	1,109	1,354
Owned.....	6,177	3,217	970	1,109	881
Steam engines—					
Number.....	52	21	3	15	13
Horsepower.....	2,974	899	103	1,109	863
Gas or gasoline engines—					
Number.....	3	3			
Horsepower.....	48	48			
Water wheels—					
Number.....	35	28	6		1
Horsepower.....	3,155	2,270	867		18
Electric motors operated by purchased current—					
Number.....	40	23	6		11
Horsepower.....	1,893	1,280	140		473
Electric motors run by current generated by enterprise using:					
Number.....	18	7	1	9	1
Horsepower.....	1,366	1,160	1	200	5

Comparison of mining industries: 1902–1909.—In order to make comparisons between 1909 and 1902 it is necessary to add to the 1909 statistics figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$854,979	\$1,222,178	—30.0
Supplies and materials.....	\$296,459	\$408,112	—27.4
Royalties and rent of mines.....	\$16,935	\$60,499	—72.0
Contract work.....	\$3,240	\$19,522	—83.4
Value of products.....	\$1,237,292	\$2,087,389	—40.7
Primary horsepower.....	8,070	8,761	114.6

¹ A minus sign (—) denotes decrease.
² Exclusive of amount paid to miners compensated by a share of the product, which is included under "Contract work," in Table 7.

MINES AND QUARRIES.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	Aggregate.	PRODUCING MINES AND QUARRIES.							NONPRODUCING MINES, QUARRIES, AND WELLS.		
		Total.	Gold and silver, deep mines.	Placer gold.	Bituminous coal.	Granite.	Trap-rock.	All other. ¹	Total.	Gold and silver, deep mines.	All other. ²
Number of operators.....	235	116	32	60	8	8	4	4	119	110	9
Number of mines, quarries, and wells.....	457	161	58	71	9	8	11	4	296	280	16
Capital.....	\$20,526,593	\$9,166,834	\$7,070,156	\$1,006,290	\$642,410	\$190,457	\$38,931	\$218,590	\$11,359,759	\$10,916,247	\$443,512
Expenses of operation and development	\$1,776,206	\$1,223,468	\$579,724	\$120,797	\$238,246	\$130,683	\$78,476	\$75,542	\$552,738	\$530,053	\$22,685
Services—											
Salaried officers of corporations, superintendents, and managers.....	\$144,136	\$91,357	\$49,892	\$13,115	\$6,050	\$8,830	\$8,100	\$5,400	\$52,749	\$49,109	\$3,640
Clerks and other salaried employees.....	\$42,056	\$33,446	\$18,932	\$300	\$5,664	\$5,100	\$1,440	\$2,010	\$8,610	\$8,610	.....
Miscellaneous—	\$994,596	\$705,192	\$327,362	\$74,669	\$152,845	\$65,321	\$50,817	\$34,178	\$269,404	\$279,016	\$10,388
Supplies.....	\$325,135	\$186,796	\$114,054	\$17,318	\$19,523	\$15,841	\$8,681	\$11,379	\$138,339	\$131,412	\$6,927
Fuel and rent of power.....	\$115,336	\$96,592	\$30,306	\$978	\$43,007	\$6,292	\$4,105	\$11,844	\$18,744	\$18,744	.....
Royalties and rent of mines.....	\$17,435	\$16,935	\$2,332	\$2,467	\$438	\$9,270	\$2,388	\$40	\$500	\$500	.....
Taxes.....	\$16,160	\$12,917	\$4,027	\$3,238	\$2,642	\$2,029	\$650	\$325	\$3,243	\$2,650	\$563
Contract work.....	\$20,924	\$7,717	\$4,127	\$1,590	\$2,000	.....	.....	.....	\$13,207	\$13,207	.....
Rent of offices and other sundry expenses.....	\$100,428	\$72,486	\$28,692	\$7,122	\$6,017	\$18,000	\$2,289	\$10,366	\$27,942	\$26,775	\$1,167
Value of products	\$1,191,512	\$1,191,512	\$468,732	\$159,002	\$225,026	\$152,221	\$91,974	\$94,557	.....	.....	.....
Persons engaged in industry	1,990	1,299	505	260	271	129	57	77	691	654	37
Proprietors and officials.....	326	174	49	83	14	14	5	9	152	142	10
Proprietors and firm members.....	215	112	17	72	9	6	1	7	103	96	7
Number performing manual labor.....	110	66	7	49	9	.....	.....	1	44	40	4
Salaried officers of corporations, superintendents and managers.....	33	17	11	11	1	4	1	.....	16	15	1
Clerks and other salaried employees.....	78	45	21	11	4	4	3	2	33	31	2
Wage earners, Dec. 15, 1909, or nearest representative day (all 16 years of age and over).....	49	38	20	.....	6	7	2	3	11	11	.....
Above ground.....	1,615	1,087	436	177	251	108	50	65	528	501	27
Below ground.....	772	563	157	173	40	108	50	65	179	152	27
Engineers, firemen, mechanics, etc.....	843	494	279	4	211	.....	.....	.....	349	349	.....
Above ground.....	233	157	97	6	28	20	6	.....	76	69	7
Below ground.....	267	133	88	6	13	20	6	.....	74	67	7
Miners, miners' helpers, and quarrymen.....	26	24	9	.....	15	.....	.....	.....	2	2	.....
Above ground.....	1,133	756	166	166	196	39	39	31	377	369	8
Below ground.....	322	286	15	162	39	39	39	31	36	28	8
All other employees.....	811	470	270	4	196	.....	.....	.....	341	341	.....
Above ground.....	249	174	54	5	27	49	5	34	75	63	12
Below ground.....	243	174	54	5	27	49	5	34	69	57	12
.....	6	.....	.....	.....	.....	.....	.....	.....	6	6	.....
Number of wage earners employed on the 15th day of each month:											
January.....	981	791	267	141	258	58	25	42	190	186	4
February.....	1,025	845	292	136	270	71	28	48	180	176	4
March.....	1,111	900	317	139	245	113	29	57	211	202	9
April.....	1,058	853	331	126	199	116	32	48	205	195	10
May.....	1,114	808	313	109	171	158	65	52	246	239	7
June.....	1,087	779	312	93	121	110	94	49	308	289	19
July.....	1,062	726	310	51	112	107	79	67	336	319	17
August.....	1,133	778	346	42	141	95	79	75	355	338	17
September.....	1,270	892	350	75	178	141	87	61	378	365	13
October.....	1,380	982	403	90	229	134	79	47	398	376	22
November.....	1,366	981	423	118	212	119	54	55	385	363	22
December.....	1,304	920	366	137	235	84	43	55	354	379	5
Land controlled, acres	61,058	33,708	8,509	18,015	6,630	440	48	66	27,350	20,649	6,701
Owned.....	53,622	27,607	6,818	15,324	4,960	410	34	61	26,015	19,691	6,324
Held under lease.....	7,436	6,101	1,691	2,691	1,670	30	14	5	1,335	958	377
Mineral and oil land.....	46,218	22,638	6,293	12,696	3,122	440	21	66	23,580	16,883	6,697
Owned.....	39,382	17,137	4,602	10,605	1,452	410	7	61	22,245	15,925	6,320
Held under lease.....	6,836	5,501	1,691	2,091	1,670	30	14	5	1,335	958	377
Timber land.....	7,168	5,625	2,045	670	2,910	.....	.....	.....	1,543	1,543	.....
Other land.....	7,672	5,445	171	4,649	598	.....	27	.....	2,227	2,223	4
Primary horsepower	12,614	8,070	4,497	1,110	1,109	658	553	143	4,544	2,113	2,431

¹ Includes operators as follows: Gypsum, 1; marble, 1; sandstone, 2.

² Includes operators as follows: Petroleum and natural gas, 1; placer gold, 8.

PENNSYLVANIA.

Summary.—Pennsylvania holds the first place among the mining states. In 1909 its producing mining industries gave employment to 405,685 persons, or more than one-third of all persons employed in all mining enterprises in the United States. The gross value of the mining products of Pennsylvania in that year was \$349,059,786. Deducting from this amount \$3,099,183, the cost of bituminous coal sold by some operators and used as material by others, and the value of the natural gas purchased and resold, leaves a net value of products of \$345,960,603, which constituted over one-fourth of the total for the United States. The expenses of operation and development were reported as \$300,977,955, the principal elements of which were: Salaries and wages, \$210,531,202; supplies and materials (including fuel and rent of power), \$54,697,444; royalties and rent of mines, \$15,379,127.

The principal industry of the state was coal mining, which gave employment to 357,671 wage earners, of whom nearly half were in the anthracite mines. Pennsylvania is practically the sole producer of anthracite coal. The net value of the combined product of anthracite and bituminous coal in 1909 was \$296,396,507, of which \$148,957,894 represented the value of anthracite and \$147,438,613 that of bituminous coal. Of the latter amount, \$103,287,875 represented the value of coal sold as such, \$43,937,062 the value of coke made at the mines, and \$213,676 the value of other products. The net value of the products of petroleum and natural gas wells was \$36,126,096, which, together with the value of coal, constituted 96.1 per cent of the total net value of mining products in the state.

In the production of traprock and marble the expenses of operation and development exceeded the value of the products. This was due, in part, to unprofitable mining ventures and, in part, to expenditures for development work resulting in permanent improvements to the mining properties.

Of the total expenses of operation and development of producing mines, quarries, and wells, exclusive of the cost of purchased coal and natural gas, in Pennsylvania in 1909 (\$297,878,772), 70.7 per cent represented salaries and wages; 17.3 per cent supplies, materials, fuel, and rent of power; 5.2 per cent royalties and rent of mines; 2 per cent contract work; 1.9 per cent taxes; and 2.9 per cent rent of offices and other miscellaneous expenses. The distribution of the different elements of expenses in the anthracite mines is not widely different from that in the bituminous mines, and the expenses for these two classes combined substantially determine the total for all mining industries. The distribution of the expenses in the petroleum and natural gas industry is quite different from that in the coal mining industry, the proportion for salaries and wages being much lower, namely, 28.3 per cent of the total expenses (exclusive of the cost

of purchased gas), whereas the proportion for contract work is much higher, namely, 17.4 per cent.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated.

Table 1

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries..	4,851	384,833	\$349,059,786	\$71,956	100.0	100.0	100.0
Individual.....	2,003	10,543	9,824,888	4,905	41.3	2.8	2.8
Firm.....	1,906	20,310	20,260,914	10,306	40.5	5.3	5.8
Corporation.....	830	348,760	311,850,234	375,723	17.1	90.6	89.3
Other.....	52	4,920	7,123,750	136,995	1.1	1.3	2.0
Anthracite coal.....	189	173,263	148,957,894	788,137	100.0	100.0	100.0
Individual.....	37	308	283,018	7,049	19.6	0.2	0.2
Firm.....	48	7,915	6,547,823	136,413	25.4	4.6	4.4
Corporation ¹	104	165,040	142,127,053	1,366,606	55.0	95.3	95.4
Bituminous coal.....	689	184,408	147,466,417	214,030	100.0	100.0	100.0
Individual.....	245	6,262	6,027,827	16,440	35.6	3.4	2.7
Firm.....	145	7,787	5,317,263	30,671	21.0	4.2	3.6
Corporation.....	296	167,743	135,517,857	457,851	43.0	91.0	91.9
Other.....	3	2,616	2,608,470	867,823	0.4	1.4	1.8
Petroleum and natural gas.....	3,030	7,397	39,197,475	12,936	100.0	100.0	100.0
Individual.....	1,204	740	3,621,597	3,008	39.7	10.0	9.2
Firm.....	1,579	1,047	5,653,702	3,758	52.1	14.2	15.1
Corporation.....	207	4,591	26,581,488	128,413	6.8	62.1	67.8
Other.....	40	1,019	3,060,688	76,517	1.3	13.8	7.8

¹ Includes 2 estates.

Table 2

	Incorporated.	Unincorporated.
Number of operators.....	830	4,021
Number of mines and quarries.....	1,588	1,412
Number of wells.....	20,438	39,342
Proprietors and firm members.....		9,130
Number performing manual labor.....		2,113
Salaried employees:		
Officers of corporations.....	933	
Superintendents and managers.....	2,836	558
Clerks and other salaried employees.....	6,806	589
Wage earners, Dec. 15, 1909, or nearest representative day.....	348,760	36,078
Capital.....	\$764,703,344	\$101,503,864
Expenses of operation and development.....	272,854,850	28,123,105
Salaries—		
Officers of corporations.....	2,483,345	
Superintendents and managers.....	4,221,581	682,079
Clerks and other salaried employees.....	5,247,722	422,613
Wages.....	151,386,060	16,067,862
Royalties and rent of mines.....	12,814,088	2,565,029
Taxes.....	5,403,274	296,192
Supplies and miscellaneous expenses.....	58,324,038	7,944,939
Cost of coal purchased for material and natural gas purchased and resold.....	2,974,742	124,441
Value of products.....	311,850,234	37,209,552

Of the total number of operators in all industries combined, 17.1 per cent were corporations and 81.8 per cent were individuals and firms. The producing enterprises controlled by corporations employed 90.6 per cent of all wage earners, and contributed 89.3 per cent of the total value of all mining products. In anthracite coal mining more than one-half of all oper-

ators were incorporated; they employed 95.3 per cent of all wage earners and reported 95.4 per cent of the value of the products of all anthracite coal mines. In bituminous coal mining more than two-fifths of all operators were incorporated; they employed 91 per cent of all wage earners and contributed 91.9 per cent of the total value of products. In the petroleum and natural gas industry only 6.8 per cent of all operators were incorporated, but they employed 62.1 per cent of all wage earners engaged in the industry and contributed 67.8 per cent of the products of the industry.

Table 3
INDUSTRY AND WAGE EARNERS PER ENTERPRISE.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries	5,256	100.0	384,833	100.0
No wage earners.....	832	15.8		
Contract work and part-time employees.....	1,320	25.1		
1 to 5.....	1,433	27.3	2,944	0.8
6 to 20.....	531	10.1	5,857	1.5
21 to 50.....	357	6.8	11,996	3.1
51 to 100.....	246	4.7	18,149	4.7
101 to 500.....	331	6.3	78,956	20.5
501 to 1,000.....	134	2.5	95,395	24.8
Over 1,000.....	72	1.4	171,536	44.6
Anthracite coal	359	100.0	173,263	100.0
No wage earners.....	6	1.7		
Contract work.....	2	0.6		
1 to 5.....	40	11.1	105	0.1
6 to 20.....	37	10.3	434	0.3
21 to 50.....	31	8.6	1,003	0.6
51 to 100.....	30	8.4	2,211	1.3
101 to 500.....	75	20.9	24,042	13.9
501 to 1,000.....	94	26.2	66,300	38.3
Over 1,000.....	44	12.3	79,168	45.7
Bituminous coal	923	100.0	184,408	100.0
No wage earners.....	5	0.5		
Contract work.....	2	0.2		
1 to 5.....	144	15.6	468	0.3
6 to 20.....	182	19.7	1,994	1.1
21 to 50.....	149	16.1	5,257	2.9
51 to 100.....	157	17.0	11,589	6.3
101 to 500.....	221	23.9	48,428	26.3
501 to 1,000.....	36	3.9	25,880	14.0
Over 1,000.....	27	2.9	90,792	49.2
Petroleum and natural gas	3,030	100.0	7,397	100.0
No wage earners.....	751	24.8		
Contract work and part-time employees.....	1,295	42.7		
1 to 5.....	884	29.2	1,434	19.4
6 to 20.....	68	2.2	643	8.7
21 to 50.....	19	0.6	631	8.5
51 to 100.....	3	0.1	227	3.1
101 to 500.....	7	0.2	1,269	17.2
Over 500.....	3	0.1	3,193	43.2

Size of enterprises.—In Table 3 the producing enterprises are classified according to the number of wage earners employed per enterprise or operating unit. This table shows that about one-sixth of all enterprises were operated without wage earners, all the work being performed by the proprietors, and that about one-fourth were operated by contractors who furnished all necessary labor, or by men who gave only a part of their time to the enterprise. The latter two methods are most common in the petroleum and natural gas industry, where the drilling of new wells is done mostly by contract, while very little labor is required to operate the wells. Over one-fourth of all enterprises were operated with only from one to five wage earners each, and the wage earners employed in these enterprises constituted only 0.8 per cent of the

total number in the mining industries. On the other hand, more than two-thirds of all wage earners were employed in 206 enterprises with more than 500 wage earners each, although these enterprises constituted only 3.9 per cent of the total number. In coal mining there were only 15 enterprises which were operated without wage earners or by contract. In this industry about five-sixths of all wage earners in anthracite mines and about five-eighths of those in bituminous mines were employed in enterprises with more than 500 wage earners each. In the petroleum and natural gas industry over two-thirds of all enterprises were operated without regular wage earners, and over one-fourth had only from one to five wage earners. On the other hand, three enterprises with over 500 wage earners each employed over 3,000 regular wage earners; that is, more than two-fifths of all the regular wage earners employed in the industry.

Persons employed in mining.—Of the 405,685 persons engaged in the producing mining industries of Pennsylvania in 1909, 13,457 were proprietors and officials, 7,395 clerks, and 384,833 wage earners (number reported December 15, 1909, or the nearest representative day). Of the wage earners, 110,346 were employed above ground and 274,487 below ground. No women were reported as employed, but there were 4,506 boys under 16 years of age.

Prevailing hours of labor.—In Table 4 all producing enterprises reporting hours of labor, except those employing no wage earners and those operated exclusively by contract work and part-time employees, have been classified according to the prevailing hours of labor in each enterprise or operating unit. Petroleum and natural gas wells are not included in this table because the lack of regularity in the number of hours worked per day in a large number of enterprises rendered such classification impracticable. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise. The table shows that, while in all industries combined there are more enterprises which work 10 hours per day than any other number, yet when the size of the enterprises, weighted according to the number of wage earners, is taken into account the nine-hour day appears the most prevalent, this fact being chiefly due to the predominance of the nine-hour day in the anthracite coal industry.

Table 4

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries	2,114	100.0	100.0
8 hours and under.....	627	29.7	25.5
9 hours.....	634	30.0	57.6
10 hours.....	851	40.3	15.5
12 hours.....	2	0.1	0.4
Anthracite coal	350	100.0	100.0
8 hours and under.....	12	3.4	1.7
9 hours.....	289	82.6	98.1
10 hours.....	48	13.7	0.3
12 hours.....	1	0.3	(*)
Bituminous coal	915	100.0	100.0
8 hours and under.....	587	64.2	52.5
9 hours.....	185	20.2	23.6
10 hours.....	142	15.5	23.2
12 hours.....	1	0.1	0.8

¹ Exclusive of petroleum and natural gas and of 1 anthracite coal mine, 1 bituminous coal mine, 2 bluestone quarries, 3 slate quarries, and 1 limestone quarry for which number of hours was not reported.
² Less than one-tenth of 1 per cent.

Engines and power.—Table 5 presents for all industries combined and for anthracite coal mines, bituminous coal mines, and petroleum and natural gas wells separately, detailed statistics of the engines and power employed.

About nine-tenths of the total primary power employed in Pennsylvania mining enterprises is generated by steam engines and most of the remainder by gas and gasoline engines. A considerable part of this primary power, however, is used in operating electric motors for the more direct application of power. In the bituminous coal mines the horsepower of electric motors (including those run by purchased power and by power generated by the same enterprises) was equal to more than one-fourth of the aggregate primary power. Most of the gas or gasoline engines are used in connection with petroleum and natural gas wells.

Table 5

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Coal.		Petroleum and natural gas.	All other.
		Anthracite.	Bituminous.		
Primary power:					
Aggregate horsepower	1,618,806	676,128	404,654	478,946	159,078
Owned	1,603,999	674,718	393,912	478,846	156,523
Steam engines—					
Number.....	30,388	7,567	2,993	18,706	1,122
Horsepower.....	1,460,514	673,946	393,371	339,194	54,003
Gas or gasoline engines—					
Number.....	8,180	25	50	8,062	43
Horsepower.....	143,452	772	541	139,652	2,487
Electric motors operated by purchased current—					
Number.....	412	32	308	1	71
Horsepower.....	14,807	1,410	10,742	100	2,555
Electric motors run by current generated by enterprise using:					
Number.....	4,851	1,152	3,617	42	40
Horsepower.....	172,310	46,088	115,195	406	10,621

¹ Includes 2 water wheels with a total of 33 horsepower.

Comparison of mining industries: 1902–1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in

the mines and quarries report for that year, statistics for the production of cement and enterprises operated by governmental institutions; to omit from the 1909 figures, as they appear in other tables in this chapter, statistics for the manufacture of coke at bituminous coal mines; and to add to the 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909.

The increase in the total amount paid in wages and salaries is equal to 68.3 per cent, while the value of products shows an increase of only 46.3 per cent. It must be borne in mind that the value assigned to coal at the mine and to petroleum at the well is arbitrary in many cases, the products being either consumed by the owners or affiliated concerns or transported by such owners or affiliated concerns to markets, the division, of the ultimate value received, between the mine and the transportation system being largely a matter of form.

Such items as are comparable for the two years are presented in Table 6.

Table 6

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase.
Wages and salaries.....	\$203,684,971	\$121,051,866	68.3
Supplies and materials.....	\$31,202,196	\$29,062,686	76.2
Royalties and rent of mines.....	\$15,358,322	\$10,722,810	43.2
Contract work.....	\$5,632,791	\$5,598,074	0.6
Value of products.....	\$331,376,718	\$226,641,178	46.2
Primary horsepower.....	1,627,488	1,114,526	46.0

¹ Exclusive of amount paid to miners compensated by a share of the product and also of the wages of part-time employees for the petroleum and natural gas industry, which are included under "Contract work," in Table 7.

Duplication between manufactures and mining.—In a number of industries some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and mining. As a result of this fact the combined value of products for the manufacturing and mining industries in Pennsylvania involves a duplication of \$48,301,454. Of this amount, \$44,117,871 represents the value of coke and by-products of coke ovens duplicated, \$3,491,558 the value of slate, and \$692,025 the combined value of bluestone, granite, graphite, limestone, marble, sandstone, and trap-rock. The total value of all coke produced in the state, both at mines and at plants not connected with mines, as shown by the report on manufactures, was \$51,816,000. Thus the value of the coke produced at mines and included in both reports represents 85.1 per cent of the total production. In the slate industry the value of the products duplicated represents substantially the entire production. Of the total value of slate produced (\$3,492,026), products valued at only \$468 were marketed without being subjected to some form of treatment at the quarry before marketing. Among the various forms in which the slate was marketed by the quarry operators were the following: Roofing slate, blackboards, school slates, grave-stones, etc.

RHODE ISLAND.

Summary.—In Rhode Island in 1909, 20 operators were engaged in quarrying granite and 1 operator was engaged in quarrying talc and soapstone. Detailed

statistics for these operations, which comprise all those in the state during the year, are shown in Table 1.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 1		All industries. ¹	All industries. ¹	
Number of operators.....		21	Number of wage earners employed on the 15th day of each month:	
Number of mines and quarries.....		27	January.....	505
Capital.....		\$567,016	February.....	524
Expenses of operation and development.....		\$673,877	March.....	635
Services—			April.....	733
Salaried officers of corporations, superintendents, and managers.....		\$29,948	May.....	755
Clerks and other salaried employees.....		\$27,941	June.....	755
Wage earners.....		\$409,883	July.....	781
Miscellaneous—			August.....	747
Supplies.....		\$130,947	September.....	717
Fuel and rent of power.....		\$26,991	October.....	718
Royalties and rent of mines.....		\$8,552	November.....	632
Taxes.....		\$3,343	December.....	523
Rent of offices and other sundry expenses.....		\$36,272	Land controlled, acres.....	659
Value of products.....		\$897,606	Owned.....	541
Persons engaged in industry.....		737	Held under lease.....	118
Proprietors and officials.....		37	Mineral land.....	512
Proprietors and firm members.....		18	Owned.....	424
Number performing manual labor.....		7	Held under lease.....	88
Salaried officers of corporations.....		12	Timber land.....	60
Superintendents and managers.....		23	Other land.....	87
Clerks and other salaried employees.....		677	Primary horsepower.....	2,350
Wage earners, Dec. 15, 1909, or nearest representative day ²		102	Steam engines—	
Engineers, firemen, mechanics, etc. ²		471	Number.....	70
Quarrymen and stonecutters.....		104	Horsepower.....	2,315
All other employees.....			Gas or gasoline engines—	
			Number.....	1
			Horsepower.....	35

¹ Includes operators as follows: Granite, 20; talc and soapstone, 1.

² Includes 3 engineers, firemen, mechanics, etc., below ground.

Character of organization.—Table 2 classifies the mining operations of the state under form of organization, distinguishing corporations from individual owners and firms.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of operators.	Number of wage earners.	VALUE OF PRODUCTS.		PER CENT DISTRIBUTION.	
			Total.	Per operator.	Wage earners.	Value of products.
All industries.....	21	677	\$897,606	\$42,743	100.0	100.0
Individual.....	10	115	110,411	11,041	17.0	12.3
Firm.....	3	179	189,185	63,062	26.4	21.1
Corporation.....	8	383	598,010	74,751	56.6	66.6

Table 3 gives further details for incorporated enterprises distinguished from those which are unincorporated. Of the 21 operators, 8 were corporations. These corporations reported 66.6 per cent of the total value of products and employed 56.6 per cent of all wage earners.

Table 3	Incorporated.	Unincorporated.
Number of operators.....	8	13
Number of mines and quarries.....	11	16
Proprietors and firm members, total.....		18
Number performing manual labor.....		7
Salaried employees:		
Officers of corporations.....	7	
Superintendents and managers.....	8	4
Clerks and other salaried employees.....	16	7
Wage earners, Dec. 15, 1909, or nearest representative day.....	383	294
Capital.....	\$383,115	\$183,900
Expenses of operation and development.....	443,943	229,934
Salaries—		
Officers of corporations.....	13,000	
Superintendents and managers.....	9,000	7,948
Clerks and other salaried employees.....	23,959	3,982
Wages.....	257,051	152,832
Royalties and rent of mines.....	1,670	6,882
Taxes.....	2,385	958
Supplies and miscellaneous expenses.....	136,878	57,332
Value of products.....	598,010	299,596

Size of enterprises.—In Table 4 the mining enterprises of the state are classified according to the number of wage earners employed per enterprise or operating unit. Of the 677 wage earners employed in all enterprises, 398, or 58.8 per cent, were employed in three enterprises employing over 100 wage earners each.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	Number of enterprises.	WAGE EARNERS.	
		Number.	Per cent distribution.
All industries.....	21	677	100.0
1 to 5.....	3	11	1.6
6 to 20.....	11	132	19.5
21 to 50.....	4	136	20.1
Over 100.....	3	398	58.8

Comparison of mining industries, 1902-1909.—In the following table are presented for 1909 and 1902 such items as are comparable for the two years.

Table 5	1909	1902 ¹	Per cent of increase. ²
Wages and salaries.....	\$467,772	\$491,374	-4.8
Supplies and materials.....	\$157,938	\$85,127	85.5
Royalties and rent of mines.....	\$8,552	\$15,143	-43.5
Value of products.....	\$897,606	\$774,611	15.9
Primary horsepower.....	2,350	1,436	63.6

¹ Includes statistics for the production of lime which are omitted from the figures for 1909.

² A minus sign (-) denotes decrease.

Duplication between manufactures and mining.—In the operation of granite quarries some of the operators subjected the product obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in Rhode Island involves a duplication of \$657,815.

SOUTH CAROLINA.

Summary.—The total value of the products of all mines and quarries in South Carolina in 1909 amounted to \$1,252,792. Of this total, phosphate rock mining, the leading industry, contributed \$862,409, or 68.8 per cent. Granite quarrying and clay mining, the industries next in importance, reported products valued, respectively, at \$166,710 and \$133,342.

In the production of granite and gold and silver (deep mines) the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work resulting in permanent improvements to the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated.

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.....	29	2,014	\$1,252,792	\$43,200	100.0	100.0	100.0
Unincorporated ¹	11	364	207,771	18,888	37.9	18.1	16.6
Corporation.....	18	1,650	1,045,021	58,057	62.1	81.9	83.4

¹ Includes 9 individuals and 2 firms.

	Incorporated.	Unincorporated.
Number of operators.....	18	11
Number of mines and quarries.....	21	11
Proprietors and firm members, total.....		13
Number performing manual labor.....		3
Salaried employees:		
Officers of corporations.....	11	
Superintendents and managers.....	17	4
Clerks and other salaried employees.....	17	3
Wage earners, Dec. 15, 1909, or nearest representative day.....	1,650	364
Capital.....	\$967,034	\$242,356
Expenses of operation and development.....	865,723	169,100
Salaries—		
Officers of corporations.....	15,200	
Superintendents and managers.....	30,255	9,610
Clerks and other salaried employees.....	24,275	2,900
Wages.....	522,025	104,404
Royalties and rent of mines.....	9,806	530
Taxes.....	8,282	2,501
Supplies and miscellaneous expenses.....	255,880	49,155
Value of products.....	1,045,021	207,771

Out of a total of 29 operators in all industries, 18 were corporations. These corporations reported 83.4 per cent of the total value of products and employed 81.9 per cent of all wage earners.

Size of enterprises.—In Table 3 the producing mining enterprises are classified according to the number of wage earners employed per enterprise or operating unit. The largest enterprises were those engaged in the production of phosphate rock. Four enterprises in this industry employed 60 per cent of the wage earners reported by all enterprises.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909		
	Number of enterprises.	Wage earners.	
		Number.	Per cent distribution.
All industries.....	31	2,014	100.0
Contract work.....	2		
1 to 20.....	13	144	7.1
21 to 50.....	6	228	11.3
51 to 100.....	6	433	21.5
Over 100.....	4	1,209	60.0
Phosphate rock.....	7	1,307	100.0
6 to 100.....	3	98	7.5
Over 100.....	4	1,209	92.5
Granite.....	11	321	100.0
1 to 20.....	6	65	20.2
Over 20.....	5	256	79.8

Prevailing hours of labor.—In Table 4 all producing enterprises, except those operated exclusively by contract work, are classified according to the prevailing hours of labor per day in each enterprise. The table shows the total number of enterprises falling in each group, and a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise. In 97.6 per cent of the enterprises weighted according to the number of wage earners a day of 10 hours prevailed.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909	
	Number of enterprises.	Per cent distribution of enterprises weighted according to number of wage earners.
9 hours.....	1	2.4
10 hours.....	28	97.6

Engines and power.—As shown by Table 5, the total horsepower employed in all producing enterprises was 7,012, of which 5,031, or 71.7 per cent, was employed in the phosphate rock industry.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Phosphate rock.	Granite.	Gold and silver, deep mines.	All other.
Primary power (all owned):					
Total.....	7,012	5,031	1,134	303	544
Steam engines—					
Number.....	147	92	26	11	18
Horsepower.....	6,945	4,996	1,110	303	536
Gas or gasoline engines—					
Number.....	4	1	1		2
Horsepower.....	67	35	24		8

Comparison of mining industries: 1902-1909.—Table 6 presents statistics for 1909 and 1902 for such items as are comparable for the two years.

Table 6

	PRODUCING ENTERPRISES.		
	1909	1902 ¹	Per cent of increase. ²
Wages and salaries.....	\$708,669	\$1,018,729	—30.4
Supplies and materials.....	\$242,517	\$342,379	—29.2
Royalties and rent of mines.....	\$10,336	\$48,691	—78.8
Contract work.....	³ \$680		
Value of products.....	\$1,252,792	\$1,834,134	—31.7
Primary horsepower.....	7,012	4,773	46.9

¹ Includes statistics for the production of lime, which were omitted from the figures for 1909.

² A minus sign (—) denotes decrease.

³ Exclusive of amount paid to miners compensated by a share of the product, which is included under "Contract work," in Table 7.

Duplication between manufactures and mining.—In the production of granite some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining, involving a duplication of \$11,420.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

	PRODUCING MINES AND QUARRIES.					
	Total.	Phosphate rock.	Granite.	Clay (sold as such).	Gold and silver, deep mines.	All other. ¹
Number of operators.....	29	5	11	5	4	4
Number of mines and quarries.....	32	7	12	5	4	4
Capital ²	\$1,209,390	\$146,000	\$402,213	\$322,881	\$178,150	\$160,146
Expenses of operation and development.....	\$1,034,823	\$674,088	\$177,203	\$96,009	\$31,935	\$55,587
Services—						
Salaried officers of corporations, superintendents, and managers.....	\$55,065	\$24,129	\$10,736	\$11,000	\$3,800	\$5,400
Clerks and other salaried employees.....	\$27,175	\$9,093	\$14,882	\$2,000		\$1,200
Wage earners.....	\$626,429	\$429,374	\$96,420	\$63,087	\$13,895	\$23,653
Miscellaneous—						
Supplies.....	\$124,618	\$71,267	\$22,538	\$14,105	\$3,766	\$12,942
Fuel and rent of power.....	\$117,899	\$87,333	\$17,356	\$2,017	\$6,000	\$5,193
Royalties and rent of mines.....	\$10,336	\$9,025	\$1,303		\$8	
Taxes.....	\$10,783	\$7,512	\$1,415	\$1,081	\$624	\$201
Contract work.....	\$6,680				\$680	\$6,000
Rent of offices and other sundry expenses.....	\$55,838	\$36,356	\$12,553	\$2,769	\$3,162	\$998
Value of products.....	\$1,252,792	\$862,409	\$166,710	\$133,342	\$8,550	\$81,781
Persons engaged in industry.....	2,079	1,327	344	233	67	108
Proprietors and officials.....	45	14	13	7	5	6
Proprietors and firm members.....	13	2	5	3	2	1
Number performing manual labor.....	3		3			
Salaried officers of corporations.....	11	5	3	1		2
Superintendents and managers.....	21	7	5	3	3	3
Clerks and other salaried employees.....	20	6	10	2		2
Wage earners, Dec. 15, 1909, or nearest representative day.....	2,014	1,307	321	224	62	100
Above ground.....	1,996	1,307	321	224	51	93
Below ground.....	18				11	7
Men 16 years of age and over.....	1,965	1,267	316	220	62	100
Engineers, firemen, mechanics, etc. (all above ground).....	208	136	36	12	8	16
Miners, millers' helpers, quarrymen, and stonecutters.....	764	427	138	159	26	14
Above ground.....	746	427	138	159	15	7
Below ground.....	18				11	7
All other employees (all above ground).....	993	704	142	49	28	70
Boys under 16 years of age (all above ground).....	49	40	5	4		
Number of wage earners employed on the 15th day of each month:						
January.....	1,930	1,399	239	150	49	93
February.....	1,819	1,273	245	157	49	95
March.....	1,608	1,092	261	167	49	99
April.....	1,568	1,057	261	163	55	32
May.....	1,675	1,125	264	154	54	78
June.....	1,737	1,212	267	155	5	98
July.....	1,977	1,462	277	152	5	81
August.....	1,927	1,361	313	159	6	88
September.....	2,015	1,390	364	155		106
October.....	1,833	1,291	336	135	49	22
November.....	1,810	1,249	320	167	49	25
December.....	1,868	1,289	263	161	55	100
Land controlled, acres.....	47,899	35,163	3,719	3,695	3,374	1,948
Owned.....	42,642	32,074	3,645	3,175	1,800	1,948
Held under lease.....	5,257	3,089	74	520	1,574	
Mineral land.....	45,555	35,163	1,475	3,695	3,374	1,848
Owned.....	40,298	32,074	1,401	3,175	1,800	1,848
Held under lease.....	5,257	3,089	74	520	1,574	
Timber land.....	100					100
Other land.....	2,244		2,244			
Primary horsepower.....	7,012	5,031	1,134	190	303	354

¹ Includes operators as follows: Fuller's earth, 1; marl, 1; monazite and zircon, 1; traprock, 1.

² Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

SOUTH DAKOTA.

Summary.—The gross value of the products of the mining industry in South Dakota in 1909 amounted to \$6,432,417. Deducting from this amount, \$55,139, the value of the gold and silver ore produced by some establishments and used as material by others, leaves \$6,377,278 as the net value of the products. Of this amount, gold and silver deep mines contributed \$6,065,831, or 95.1 per cent.

In the operation of placer gold mines and in the combined total for the industries included in column headed "All other" the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work which added to the value of the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 39 operators, 19 were corporations. These corporations reported 96.6 per cent of the total value of products and employed 95.3 per cent of all wage earners.

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909		Value of products.		Per cent distribution.		
	Number of operators.	Number of wage earners.	Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.....	39	3,866	\$6,432,417	\$164,934	100.0	100.0	100.0
Individual.....	12	95	49,021	4,085	30.8	2.5	0.8
Firm.....	8	88	172,833	21,604	20.5	2.3	2.7
Corporation.....	19	3,683	6,210,563	326,872	48.7	95.3	96.6
Gold and silver, deep mines.....	13	3,466	6,120,970	470,844	100.0	100.0	100.0
Firm.....	2	35	143,813	71,907	15.4	1.0	2.3
Corporation.....	11	3,431	5,977,157	543,378	84.6	99.0	97.7

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according to the number of wage earners employed per enterprise or operating unit. Of the 3,866 wage earners re-

ported by all enterprises, 3,303, or 85.4 per cent, were employed by the four largest enterprises.

	Incorporated.	Unincorporated.
Number of operators.....	19	20
Number of mines and quarries.....	24	19
Number of wells.....	1	2
Proprietors and firm members, total.....		31
Number performing manual labor.....		8
Salaried employees:		
Officers of corporations.....	10	3
Superintendents and managers.....	31	1
Clerks and other salaried employees.....	45	
Wage earners, Dec. 15, 1909, or nearest representative day.....	3,683	183
Capital.....	\$32,578,840	\$119,151
Expenses of operation and development.....	4,984,296	169,967
Salaries—		
Officers of corporations.....	33,491	3,120
Superintendents and managers.....	76,498	600
Clerks and other salaried employees.....	93,428	600
Wages.....	3,126,521	98,154
Royalties and rent of mines.....	2,517	2,259
Taxes.....	101,684	379
Supplies and miscellaneous expenses.....	1,549,640	10,833
Cost of ore purchased.....	517	54,622
Value of products.....	6,210,563	221,854

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	39	100.0	3,866	100.0
No wage earners.....	4	10.3		
1 to 5.....	10	25.6	26	0.7
6 to 20.....	11	28.2	131	3.4
21 to 100.....	10	25.6	406	10.5
Over 100.....	4	10.3	3,303	85.4
Gold and silver, deep mines.....	13	100.0	3,466	100.0
1 to 20.....	4	30.8	40	1.2
21 to 50.....	5	38.5	170	4.9
Over 50.....	4	30.8	3,256	93.9

Prevailing hours of labor.—In Table 4 all producing enterprises, except those engaged in the production of petroleum and natural gas, in which no wage earners were employed, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enter-

prise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise.

Table 4

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries ¹	35	100.0	100.0
8 hours.....	16	45.7	93.2
9 hours.....	7	20.0	4.5
10 hours.....	12	34.3	2.3
Gold and silver, deep mines	13	100.0	100.0
8 hours.....	11	84.6	99.5
10 hours.....	2	15.4	0.5

¹ Exclusive of petroleum and natural gas.

Duplication between manufactures and mining.—In the production of granite, sandstone, and gypsum, some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result, the combined value of products for the manufacturing and mining industries in South Dakota involves a duplication of \$122,244.

Engines and power.—As shown by Table 5, the aggregate horsepower employed in producing enterprises was 15,648, of which 11,951 was developed by engines and water wheels owned by the enterprises using them and 3,697 horsepower by electric motors operated by purchased current.

Table 5

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909			
	Total.	Gold and silver, deep mines.	Sandstone.	All other.
Primary power:				
Aggregate horsepower.....	15,648	14,570	275	803
Owned.....	11,951	11,043	105	803
Steam engines—				
Number.....	58	44	2	12
Horsepower.....	11,120	10,393	87	640
Gas or gasoline engines—				
Number.....	7		2	5
Horsepower.....	96		18	78
Water wheels—				
Number.....	4	2		2
Horsepower.....	735	650		85
Electric motors operated by purchased current—				
Number.....	141	135	6	
Horsepower.....	3,697	3,527	170	
Electric motors run by current generated by enterprise using:				
Number.....	30	22		8
Horsepower.....	716	524		192

Comparison of mining industries: 1902—1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement and enterprises operated by governmental institutions; and to add to the 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

Table 6

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$3,446,944	\$3,593,242	-4.1
Supplies and materials.....	\$1,496,495	\$1,962,937	-23.8
Royalties and rent of mines.....	\$4,776	\$8,736	-45.3
Contract work.....	\$50	\$406	-87.7
Value of products.....	\$6,415,788	\$6,697,797	-4.2
Primary horsepower.....	15,648	12,265	27.6

¹ A minus sign (-) denotes decrease.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	Aggregate.	PRODUCING MINES, QUARRIES, AND WELLS.						Non-producing gold and silver, deep mines.
		Total.	Gold and silver, deep mines.	Placer gold.	Sandstone.	Granite.	All other. ¹	
Number of operators.....	55	39	13	3	10	4	9	16
Number of mines, quarries, and wells.....	65	46	20	3	10	4	9	19
Capital.....	\$34,388,578	\$32,697,991	\$31,958,028	\$17,338	\$37,400	\$10,500	\$674,725	\$1,090,537
Expenses of operation and development.....	\$5,302,165	\$5,154,263	\$4,845,649	\$7,523	\$84,449	\$18,974	\$197,668	\$147,902
Services—								
Salaried officers of corporations, superintendents, and managers.....	\$128,559	\$113,109	\$100,241	\$1,380	\$3,000		\$8,488	\$15,480
Clerks and other salaried employees.....	\$96,638	\$94,028	\$89,420		\$1,945		\$2,663	\$2,610
Wage earners.....	\$3,309,003	\$3,224,075	\$3,016,641	\$3,251	\$69,781	\$16,556	\$118,446	\$84,328
Miscellaneous—								
Supplies.....	\$1,073,412	\$1,054,532	\$1,020,103	\$2,270	\$1,155	\$1,054	\$29,950	\$18,880
Cost of ore purchased.....	\$55,139	\$55,139	\$55,139					
Fuel and rent of power.....	\$425,942	\$421,048	\$397,256	\$115	\$2,251	\$55	\$21,371	\$4,894
Royalties and rent of mines.....	\$5,276	\$4,776	\$12	\$5	\$3,320	\$339	\$600	\$500
Taxes.....	\$105,251	\$102,063	\$101,025		\$94	\$3	\$941	\$3,188
Contract work.....	\$12,050	\$50		\$50				\$12,000
Rent of offices and other sundry expenses.....	\$90,865	\$84,843	\$65,812	\$452	\$2,903	\$467	\$15,209	\$6,022
Value of products.....	\$6,432,417	\$6,432,417	\$6,120,970	\$2,833	\$89,028	\$23,188	\$196,398	
Persons engaged in industry.....	4,169	3,987	3,544	14	188	33	208	122
Proprietors and officials.....	94	75	37	3	15	6	14	19
Proprietors and firm members.....	39	31	6	1	12	6	6	8
Number performing manual labor.....	13	8	1		5		2	5
Salaried officers of corporations.....	13	10	10					3
Superintendents and managers.....	42	34	21	2	3		8	8
Clerks and other salaried employees.....	51	46	41		2		3	5
Wage earners, Dec. 15, 1909, or nearest representative day..	4,024	3,866	3,466	11	171	27	191	158
Above ground.....	2,057	2,007	1,649	11	171	27	149	50
Below ground.....	1,967	1,859	1,817				42	108
Men 16 years of age and over.....	4,018	3,860	3,464	11	168	26	191	158
Engineers, firemen, mechanics, etc.....	409	379	331	2	13	1	32	30
Above ground.....	383	353	314	2	13	1	23	30
Below ground.....	26	26	17				9	
Miners, miners' helpers, quarrymen, and stone-cutters.....	1,439	1,332	1,127	9	118	20	58	107
Above ground.....	193	185	3	9	118	20	35	8
Below ground.....	1,246	1,147	1,124				23	99
All other employees.....	2,170	2,149	2,006		37	5	101	21
Above ground.....	1,475	1,463	1,330		37	5	91	12
Below ground.....	695	686	676				10	9
Boys under 16 years of age (all above ground).....	6	6	2		3	1		
Number of wage earners employed on the 15th day of each month:								
January.....	3,532	3,464	3,297		86	11	70	68
February.....	3,406	3,341	3,188		67	11	75	65
March.....	3,496	3,423	3,240		113	22	48	73
April.....	3,650	3,579	3,235		169	31	144	71
May.....	3,652	3,572	3,185	7	175	27	178	80
June.....	3,704	3,616	3,174	15	201	28	198	88
July.....	3,850	3,743	3,290	10	167	24	252	107
August.....	3,957	3,846	3,398	12	163	24	249	111
September.....	3,984	3,859	3,449	12	158	29	211	125
October.....	3,878	3,748	3,307	9	145	32	195	130
November.....	3,823	3,699	3,360		143	28	168	124
December.....	1,706	1,585	1,285		113	27	160	121
Land controlled, acres.....	42,924	31,933	30,420	530	225	21	737	10,991
Owned.....	42,425	31,456	30,420	430	140	2	494	10,969
Held under lease.....	499	477		100	85	19	273	22
Mineral and oil land.....	22,729	11,738	10,225	530	225	21	737	10,991
Owned.....	22,230	11,261	10,225	430	140	2	484	10,969
Held under lease.....	499	477		100	85	19	273	22
Timber land.....	18,015	18,015	18,015					
Other land.....	2,180	2,180	2,180					
Primary horsepower.....	16,408	15,648	14,570	25	275	3	775	760

¹ Includes operators as follows: Gypsum, 2; limestone, 2; mica, 1; petroleum and natural gas, 3; tin, 1.

TENNESSEE.

Summary.—The gross value of the products of the mining industry in Tennessee in 1909 amounted to \$12,692,547. From this amount should be deducted \$41,959, the value of the copper ore and the bituminous coal sold by some operators and used as material by others. This leaves \$12,650,588 as the net value of the products. Of this amount, bituminous coal mining, the leading industry, reported products valued at \$6,672,108, of which \$6,086,423 represented the value of the coal sold as such and \$585,685 the value of the coke made at the mines.

The industry second in importance was the production of copper. Statistics for this industry can not be shown separately without revealing the operations of an individual enterprise, there being but two operators in the state. The industry is therefore included under "All other." In the production of phosphate rock, the industry third in importance, Tennessee ranked second among the states in 1909, the value of the product being \$1,395,942. In the following industries, coal, iron, and metalliferous deep mines, the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures, and in part to expenditures for development work resulting in permanent improvements to the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated.

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.....	216	18,028	\$12,692,547	\$58,762	100.0	100.0	100.0
Individual.....	36	434	157,020	4,362	16.7	2.4	1.2
Firm.....	24	702	368,737	15,364	11.1	3.9	2.9
Corporation.....	156	16,892	12,166,790	77,992	72.2	93.7	95.9
Bituminous coal.....	85	11,154	6,688,454	78,688	100.0	100.0	100.0
Individual.....	9	96	27,727	3,081	10.6	0.9	0.4
Firm.....	6	315	210,457	35,076	7.1	2.8	3.1
Corporation.....	70	10,743	6,450,270	92,147	82.4	96.3	96.4
Phosphate rock.....	23	1,725	1,395,942	60,693	100.0	100.0	100.0
Individual.....	4	80	16,650	4,163	17.4	5.0	1.2
Firm ¹	19	1,639	1,379,292	72,594	82.6	95.0	98.8

¹ Includes 1 individual.

For all mines combined and for the coal and phosphate rock industries over 90 per cent of the wage earners were employed and over 95 per cent of the value of

the products was produced by the corporations. In the iron-ore industry all establishments were operated by corporations.

	Incorporated.	Unincorporated.
Number of operators.....	156	60
Number of mines, quarries, and wells.....	288	78
Proprietors and firm members, total.....		87
Number performing manual labor.....		24
Salaried employees:		
Officers of corporations.....	141	
Superintendents and managers.....	240	14
Clerks and other salaried employees.....	449	9
Wage earners, Dec. 15, 1909, or nearest representative day.....	16,892	1,136
Capital.....	\$33,514,965	\$305,012
Expenses of operation and development.....	11,502,036	467,221
Salaries—		
Officers of corporations.....	270,403	
Superintendents and managers.....	328,995	9,623
Clerks and other salaried employees.....	374,877	4,390
Wages.....	7,035,720	322,863
Royalties and rent of mines.....	610,000	7,097
Taxes.....	89,664	4,911
Supplies and miscellaneous expenses.....	2,766,764	101,991
Cost of ore and coal purchased for material.....	25,613	16,346
Value of products.....	12,166,790	525,757

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according to the number of wage earners employed. For all industries combined, 68.3 per cent of the wage earners were reported by the 58 enterprises employing over 100 wage earners each. Of these 58 enterprises, 40 were engaged in bituminous coal mining and employed 79.5 per cent of all wage earners in that industry.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Percent distribution.
All industries.....	241	100.0	18,028	100.0
No wage earners.....	1	0.4		
Contract work.....	3	1.2		
1 to 5.....	18	7.5	69	0.4
6 to 20.....	59	24.5	757	4.2
21 to 50.....	63	26.1	2,132	11.8
51 to 100.....	39	16.2	2,764	15.3
Over 100.....	58	24.1	12,306	68.3
Bituminous coal.....	95	100.0	11,154	100.0
No wage earners.....	1	1.1		
Contract work.....	1	1.1		
1 to 5.....	3	3.2	15	0.1
6 to 20.....	11	11.6	172	1.5
21 to 50.....	19	20.0	622	5.6
51 to 100.....	20	21.1	1,472	13.2
Over 100.....	40	42.1	8,573	79.5
Phosphate rock.....	34	100.0	1,725	100.0
Contract work.....	1	2.9		
1 to 5.....	3	8.8	13	0.8
6 to 20.....	10	29.4	123	7.1
21 to 50.....	8	23.5	279	16.2
51 to 100.....	8	23.5	535	31.0
Over 100.....	4	11.8	775	44.9
Iron.....	19	100.0	1,659	100.0
21 to 50.....	8	42.1	266	16.0
51 to 100.....	5	26.3	381	23.0
Over 100.....	6	31.6	1,012	61.0

Prevailing hours of labor.—In Table 4 all producing mines and quarries, except one which employed no wage earners and those operated exclusively by contract work, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. Petroleum and natural gas wells are not included in this table, because the lack of regularity in the number of hours worked per day in a large number of enterprises rendered such classification impracticable. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise. For all industries combined, 36.4 per cent of all enterprises, weighted according to the number of wage earners employed, were operated on a 9-hour basis and 48.3 per cent on a 10-hour basis. Only 8.8 per cent of the enterprises reported a day of 8 hours or under. In the phosphate rock industry a day of either 10 or 11 hours prevailed in all enterprises.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries	1 237	100.0	100.0
8 hours and under.....	11	4.6	8.8
9 hours.....	61	25.7	36.4
10 hours.....	153	64.6	48.3
11 hours.....	9	3.8	4.1
12 hours.....	3	1.3	2.5
Bituminous coal	92	100.0	100.0
8 hours and under.....	9	9.8	12.3
9 hours.....	57	62.0	51.1
10 hours.....	25	27.2	34.9
12 hours.....	1	1.1	1.7
Phosphate rock	33	100.0	100.0
10 hours.....	27	81.8	71.6
11 hours.....	6	18.2	28.4
Iron	19	100.0	100.0
9 hours.....	1	5.3	25.6
10 hours.....	17	89.5	65.8
11 hours.....	1	5.3	8.6

¹ Exclusive of petroleum and natural gas, and 1 bituminous coal mine for which number of hours was not reported.

Engines and power.—As shown by Table 5, the aggregate horsepower employed in the producing mining industries in the state was 34,523, of which 16,075 horsepower, or 46.6 per cent, was employed in the operation of bituminous coal mines. All the power,

except 100 horsepower which was developed by electric motors operated by purchased current, was developed by engines owned by the enterprises using them.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Bituminous coal.	Phosphate rock.	Iron.	All other.
Primary power:					
Aggregate horsepower.....	34,523	16,075	4,423	5,581	8,444
Owued:	34,423	16,075	4,323	5,581	8,444
Steam engines—					
Number.....	459	153	53	74	179
Horsepower.....	34,192	16,027	4,212	5,571	8,382
Gas or gasoline engines—					
Number.....	27	9	10	1	7
Horsepower.....	231	45	111	10	62
Electric motors operated by purchased current—					
Number.....	1		1		
Horsepower.....	100		100		
Electric motors run by current generated by enterprise using:					
Number.....	275	103	120	1	51
Horsepower.....	14,725	4,054	9,088	25	1,558

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for enterprises operated by governmental institutions; to omit from the 1909 figures, as they appear in other tables in this chapter, statistics for the manufacture of coke at bituminous coal mines, and statistics for the operation of copper smelters, and to add to the 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$8,054,131	\$5,488,714	46.9
Supplies and materials.....	\$1,638,019	\$835,754	96.0
Royalties and rent of mines.....	\$618,177	\$414,367	49.2
Contract work.....	² \$43,623	\$174,496	-75.0
Value of products.....	\$11,803,400	\$9,268,074	27.4
Primary horsepower.....	34,376	12,407	177.1

¹ A minus sign (-) denotes decrease.
² Exclusive of amount paid to miners compensated by a share of the product and also of the wages of part-time employees for the petroleum and natural gas industry, which are included under "Contract work," in Table 7.

Duplication between manufactures and mining.—In the operation of limestone and marble quarries, and coal and copper mines, some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in Tennessee involves a duplication of \$2,692,373.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7

	Aggregate.	PRODUCING MINES, QUARRIES, AND WELLS.									Non-producing mines and quarries.
		Total.	Bituminous coal.	Phosphate rock.	Iron.	Marble.	Limestone.	Clay (sold as such).	Metalliferous deep mines.	All other. ¹	
Number of operators.....	221	216	85	23	15	18	49	14	3	9	5
Number of mines, quarries, and wells.....	376	366	142	45	46	22	58	25	3	25	10
Capital ²	\$33,947,377	\$33,819,977	\$20,329,066	\$5,941,954	\$1,960,549	\$1,044,760	\$301,287	\$222,650	\$92,000	\$3,927,711	\$127,400
Expenses of operation and development.....	\$12,066,648	\$11,969,257	\$6,859,204	\$1,122,789	\$834,178	\$484,116	\$356,694	\$87,795	\$78,820	\$2,145,661	\$97,391
Services—											
Salaried officers of corporations, superintendents, and managers.....	\$612,239	\$609,021	\$329,796	\$51,486	\$41,489	\$55,118	\$22,308	\$7,343	\$11,270	\$90,211	\$3,218
Clerks and other salaried employees.....	\$379,567	\$379,267	\$232,105	\$21,256	\$28,197	\$6,745	\$3,475	\$3,840	\$2,034	\$81,615	\$300
Wage earners.....	\$7,378,022	\$7,358,583	\$4,838,203	\$557,218	\$514,191	\$311,346	\$231,179	\$67,666	\$30,851	\$807,929	\$19,439
Miscellaneous—											
Supplies.....	\$1,636,973	\$1,571,612	\$596,846	\$148,074	\$113,156	\$38,317	\$40,724	\$2,653	\$14,878	\$616,964	\$65,361
Cost of ore and coal purchased for material.....	\$41,959	\$41,959	\$16,346							\$25,613	
Fuel and rent of power.....	\$645,471	\$645,376	\$100,762	\$98,738	\$68,019	\$29,257	\$15,004	\$783	\$6,059	\$326,724	\$95
Royalties and rent of mines.....	\$618,127	\$617,097	\$404,429	\$141,544	\$28,065	\$7,941	\$10,599	\$3,719	\$6,620	\$14,180	\$1,030
Taxes.....	\$84,920	\$84,575	\$48,704	\$9,670	\$6,863	\$2,934	\$1,177	\$260	\$233	\$24,734	\$345
Contract work.....	\$60,472	\$54,372	\$6,036	\$34,225		\$694	\$8	\$360	\$1,604	\$11,445	\$6,100
Rent of offices and other sundry expenses.....	\$598,898	\$597,395	\$285,947	\$60,578	\$34,198	\$31,764	\$32,220	\$1,171	\$5,271	\$146,246	\$1,503
Value of products.....	\$12,692,547	\$12,692,547	\$6,688,454	\$1,395,942	\$815,181	\$613,741	\$417,506	\$117,949	\$47,292	\$2,596,482	
Persons engaged in industry.....	19,092	18,968	11,729	1,799	1,735	926	1,093	271	171	1,244	194
Proprietors and officials.....	490	482	235	45	38	38	66	25	7	28	8
Proprietors and firm members.....	89	87	20	9		3	35	17		3	2
Number performing manual labor.....	24	24	9				9	5		1	
Salaried officers of corporations, superintendents and managers.....	141	141	78	8	6	24	10	2		13	
Clerks and other salaried employees.....	260	254	137	28	32	11	21	6	7	12	6
Wage earners, Dec. 15, 1909, or nearest representative day.....	459	458	340	29	38	10	6	4	2	29	1
Above ground.....	18,143	18,028	11,154	1,725	1,659	878	1,021	242	162	1,187	115
Below ground.....	7,537	7,431	1,849	1,551	1,100	878	1,021	242	104	686	106
Men 16 years of age and over.....	10,606	10,597	9,305	1,744	1,559	878	1,007	240	58	501	9
Below ground.....	17,777	17,667	10,918	1,701	1,577	678	1,007	240	162	1,184	110
Boys under 16 years of age.....	1,193	1,171	534	169	157	88	71	5	18	149	22
Above ground.....	1,007	985	377	169	154	68	71	5	18	123	22
Below ground.....	186	186	157		3					26	
Miners, miners' helpers, quarrymen, and stonecutters.....	12,087	12,034	7,348	1,378	1,091	661	872	203	135	346	53
Above ground.....	3,775	3,731		1,207	615	661	872	203	77	96	44
Below ground.....	8,312	8,303	7,348	171	476				58	250	9
All other employees.....	4,497	4,462	3,036	154	329	149	64	32	9	689	35
Above ground.....	2,601	2,566	1,424	151	263	149	64	32	9	464	35
Below ground.....	1,896	1,896	1,602	8	66					225	
Boys under 16 years of age.....	366	361	236	24	82		14	2		3	5
Number of wage earners employed on the 15th day of each month:											
January.....	16,440	16,408	10,971	1,351	1,460	778	477	123	30	1,218	32
February.....	16,052	15,983	10,726	1,378	1,396	802	466	117	31	1,107	69
March.....	16,365	16,345	10,646	1,636	1,367	794	545	164	59	1,134	20
April.....	16,090	16,048	10,372	1,697	1,136	773	647	185	62	1,176	42
May.....	15,918	15,876	10,216	1,630	1,209	761	702	200	27	1,131	42
June.....	15,941	15,910	10,005	1,596	1,283	796	791	193	99	1,147	31
July.....	15,984	15,957	9,958	1,480	1,422	779	812	190	87	1,229	27
August.....	15,982	15,891	10,205	1,475	1,475	772	873	214	61	816	91
September.....	16,440	16,359	10,264	1,467	1,505	778	835	202	83	1,225	81
October.....	16,786	16,713	10,636	1,430	1,502	785	850	189	94	1,227	73
November.....	17,472	17,359	11,117	1,533	1,501	843	812	210	115	1,228	113
December.....	17,311	17,208	11,119	1,408	1,523	877	760	214	128	1,179	103
Land controlled, acres.....	809,634	807,131	661,507	38,876	75,256	2,132	3,941	1,951	373	23,095	2,563
Owned.....	674,945	674,717	548,247	35,314	65,007	1,145	2,041	553	173	22,234	228
Held under lease.....	134,689	132,414	113,260	3,562	10,249	984	1,900	1,398	200	861	2,275
Mineral and oil land.....	525,871	525,218	458,924	32,641	14,250	2,126	3,177	1,682	373	12,045	653
Owned.....	408,164	407,936	353,954	29,154	10,001	1,142	1,277	461	173	11,774	228
Held under lease.....	117,707	117,282	104,970	3,487	4,249	984	1,900	1,221	200	271	425
Timber land.....	154,753	154,753	128,540	4,800	21,250		5	8		150	
Other land.....	129,010	127,160	74,043	1,435	39,756	6	759	261		10,900	1,850
Primary horsepower.....	34,708	34,523	16,075	4,423	5,531	2,120	1,863	81	447	3,933	185

¹ Includes operators as follows: Barytes, 1; bauxite, 1; copper, 2; manganese, 1; placer gold, 1; petroleum and natural gas, 1; quartz, 1; sandstone, 1.
² Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.
³ In the bituminous coal industry 198 boys were employed below ground, and in the iron industry 14.

TEXAS.

Summary.—The gross value of the products of mining enterprises in Texas in 1909 was \$10,742,150. Deducting from this amount, \$35,313, the value of the natural gas produced and sold by some operators to others who sold it again, leaves \$10,706,837 as the net value of the products. Of this amount, \$6,356,000, or 59.4 per cent, was reported by the petroleum and natural gas industry. Bituminous coal and gypsum mining, the industries next in importance, reported products valued, respectively, at \$3,136,004 and \$387,739.

In the production of clay the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work resulting in permanent improvements to the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 236 operators, 101, or 42.8 per cent, were corporations. These corporations reported 82.1 per cent of the total value of products and employed 84.3 per cent of all wage earners. In the bituminous coal industry 99.3 per cent of the value of products was reported by corporations.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of		Value of products.		Per cent distribution.		
	operators.	wage earners.	Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries...	236	6,957	\$10,742,150	\$45,518	100.0	100.0	100.0
Individual.....	64	607	839,535	13,118	27.1	8.7	7.8
Firm.....	68	455	988,026	14,530	28.8	6.5	9.2
Corporation.....	101	5,864	8,821,994	87,346	42.8	84.3	82.1
Other.....	3	31	92,595	30,865	1.3	0.4	0.9
Petroleum and natural gas...	163	1,405	6,391,313	39,211	100.0	100.0	100.0
Individual.....	42	174	635,898	15,140	25.8	12.4	9.9
Firm.....	59	160	793,710	13,453	36.2	11.4	12.4
Corporation.....	59	1,040	4,869,110	82,527	36.2	74.0	76.2
Other.....	3	31	92,595	30,865	1.8	2.2	1.4
Bituminous coal	29	4,234	3,136,004	108,138	100.0	100.0	100.0
Individual.....	4	117	21,127	5,282	13.8	2.8	0.7
Firm.....	4	117	21,127	5,282	13.8	2.8	0.7
Corporation.....	25	4,117	3,114,877	124,595	86.2	97.2	99.3

¹ Includes 1 individual.

Size of enterprises.—In Table 3 the producing enterprises of the state are classified according to the number of wage earners employed per enterprise or

operating unit. Of the 238 enterprises reported, only 16 employed over 100 wage earners each. These enterprises, however, employed 62.9 per cent of the wage earners reported by all enterprises.

	Incorporated.	Unincorporated.
Number of operators.....	101	135
Number of mines.....	60	32
Number of wells.....	1,367	912
Proprietors and firm members, total.....		261
Number performing manual labor.....		65
Salaried employees:		
Officers of corporations.....	62	
Superintendents and managers.....	96	42
Clerks and other salaried employees.....	193	32
Wage earners, Dec. 15, 1909, or nearest representative day.....	5,864	1,093
Capital.....	\$17,140,919	\$2,435,050
Expenses of operation and development.....	6,740,585	1,437,198
Salaries—		
Officers of corporations.....	133,787	
Superintendents and managers.....	174,239	55,699
Clerks and other salaried employees.....	161,145	16,892
Wages.....	3,463,654	533,841
Royalties and rent of mines.....	687,506	230,293
Taxes.....	56,191	6,142
Supplies and miscellaneous expenses.....	2,028,750	594,331
Cost of natural gas purchased and resold.....	35,313	
Value of products.....	8,821,994	1,920,156

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	238	100.0	6,957	100.0
No wage earners.....	8	3.4		
Contract work and part-time employees.....	33	13.9		
1 to 5.....	87	36.6	208	3.0
6 to 20.....	59	24.8	664	9.5
21 to 50.....	22	9.2	746	10.7
51 to 100.....	13	5.5	960	13.8
Over 100.....	16	6.7	4,379	62.9
Petroleum and natural gas.....	163	100.0	1,405	100.0
No wage earners.....	7	4.3		
Contract work and part-time employees.....	32	19.6		
1 to 5.....	79	48.5	190	13.5
6 to 20.....	35	21.5	357	25.4
21 to 50.....	4	2.5	106	7.5
51 to 100.....	3	1.8	186	13.2
Over 100.....	3	1.8	566	40.3
Bituminous coal.....	31	100.0	4,234	100.0
Contract work.....	1	3.2		
6 to 20.....	3	9.7	54	1.3
21 to 50.....	10	32.3	358	8.5
51 to 100.....	7	22.6	509	12.0
Over 100.....	10	32.3	3,313	78.2

Prevailing hours of labor.—In Table 4 all producing enterprises, except those employing no wage earners and those operated exclusively by contract work and part-time employees, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. Petroleum and natural gas wells are not included in this table, because the lack of regularity in the number of hours worked per day in a

large number of enterprises rendered such classification impracticable. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise.

For all industries combined a day of eight hours prevailed in 53.6 per cent of all enterprises weighted according to the number of wage earners. In the bituminous coal industry the corresponding percentage was 70.6.

Table 4

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries.....	1 72	100.0	100.0
8 hours.....	15	20.8	53.6
9 hours.....	14	19.4	5.3
10 hours.....	41	56.9	38.3
12 hours.....	2	2.8	2.7
Bituminous coal.....	29	100.0	100.0
8 hours.....	14	48.3	70.6
9 hours.....	2	6.9	1.5
10 hours.....	13	44.8	27.9

¹ Exclusive of petroleum and natural gas and of 1 bituminous coal mine, for which number of hours was not reported.

Duplication between manufactures and mining.—In a number of industries some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in Texas involves a duplication of \$437,990.

Engines and power.—As shown by Table 5, the total horsepower employed in all producing enterprises was 32,003, all of which was developed by engines owned by the enterprises using them.

Table 5

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Petroleum and natural gas.	Bituminous coal.	Gypsum.	All other.
Primary power (all owned):					
Total.....	32,003	23,062	6,217	762	1,962
Steam engines—					
Number.....	1,098	954	92	4	48
Horsepower.....	29,650	20,899	6,217	750	1,784
Gas or gasoline engines—					
Number.....	137	121	.....	1	15
Horsepower.....	2,353	2,163	.....	12	178
Electric motors run by current generated by enterprise using:					
Number.....	3	.....	.....	2	1
Horsepower.....	200	.....	.....	175	25

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement and enterprises operated by governmental institutions; to omit from the 1909 figures, as they appear in other tables in this chapter, the value of the by-products of bituminous coal mines; and to add to the 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

Table 6

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$4,696,677	\$2,797,146	67.9
Supplies and materials.....	\$2,197,036	\$964,937	127.7
Royalties and rent of mines.....	\$918,608	\$294,530	211.9
Contract work.....	² \$130,778	\$1,384,548	-90.6
Value of products.....	\$11,095,588	\$6,737,696	64.7
Primary horsepower.....	32,537	10,037	224.2

¹ A minus sign (-) denotes decrease.

² Exclusive of the wages of part-time employees for the petroleum and natural gas industry, which are included under "Contract work," in Table 7.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	Aggregate.	PRODUCING MINES, QUARRIES, AND WELLS.									Nonproducing mines, quarries, and wells. ²
		Total.	Petroleum and natural gas.	Bituminous coal.	Gypsum.	Limestone.	Granite.	Sandstone.	Clay (sold as such).	All other. ¹	
Number of operators.....	258	236	163	29	3	16	11	5	3	6	22
Number of mines, quarries, and wells.....	2,376	2,371	2,279	47	3	15	11	5	4	6	5
Capital.....	\$20,102,169	\$19,575,969	\$11,821,450	\$5,884,399	\$906,913	\$188,902	\$77,600	\$54,000	\$115,948	\$516,258	\$526,200
Expenses of operation and development	\$8,333,378	\$8,177,783	\$4,286,563	\$2,812,079	\$361,087	\$247,280	\$111,944	\$51,152	\$3,138	\$304,540	\$155,595
Services—											
Salaried officers of corporations, superintendents, and managers.....	\$371,520	\$363,725	\$174,536	\$115,072	\$28,883	\$6,764	\$4,500	\$1,200	\$675	\$29,295	\$7,795
Clerks and other salaried employees.....	\$178,787	\$178,037	\$68,563	\$62,031	\$18,816	\$7,617	\$3,360			\$17,250	\$750
Wage earners.....	\$4,053,758	\$3,997,495	\$1,367,275	\$2,126,043	\$107,197	\$157,322	\$67,906	\$36,430	\$1,856	\$133,466	\$56,263
Miscellaneous—											
Supplies.....	\$1,851,774	\$1,798,102	\$1,319,086	\$293,264	\$69,861	\$24,135	\$11,671	\$5,800	\$100	\$74,185	\$53,672
Cost of natural gas purchased and re-sold.....	\$35,313	\$35,313	\$35,313								
Fuel and rent of power.....	\$276,944	\$255,614	\$83,709	\$41,603	\$69,844	\$13,995	\$4,791	\$4,773	\$90	\$36,836	\$21,330
Royalties and rent of mines.....	\$917,799	\$917,799	\$864,968	\$36,247		\$3,096	\$12,345	\$587	\$1	\$582	
Taxes.....	\$62,653	\$62,333	\$43,958	\$12,340	\$2,609	\$710	\$486	\$204	\$36	\$1,990	\$320
Contract work.....	\$156,496	\$152,096	\$120,864	\$21,214	\$185	\$9,833					\$4,400
Rent of offices and other sundry expenses.....	\$428,334	\$417,269	\$208,291	\$104,265	\$63,692	\$23,835	\$6,882	\$2,158	\$410	\$10,836	\$11,065
Value of products.....	\$10,742,150	\$10,742,150	\$6,391,313	\$3,136,004	\$387,739	\$312,413	\$135,221	\$72,609	\$1,853	\$304,998	
Persons engaged in industry.....	7,819	7,643	1,772	4,416	266	590	144	93	28	331	176
Proprietors and officials.....	496	461	305	79	12	25	15	5	3	15	35
Proprietors and firm members.....	284	261	218	8		18	10	4	2	1	28
Number performing manual labor.....	68	65	47			9	4	3	1	1	3
Salaried officers of corporations.....	64	62	22	22	7	2	1			8	10
Superintendents and managers.....	148	138	65	49	5	5	4	1	1	11	3
Clerks and other salaried employees.....	228	225	62	103	22	22	4				
Wage earners, Dec. 15, 1909, or nearest representative day.....	7,095	6,957	1,405	4,234	232	543	125	88	25	305	138
Above ground.....	3,300	3,170	1,405	580	232	543	125	88	25	172	130
Below ground.....	3,795	3,787		3,654						133	8
Men 16 years of age and over.....	7,081	6,943	1,399	4,234	232	535	125	88	25	305	138
Engineers, firemen, mechanics, etc.....	1,379	1,337	1,033	234	3	23	7	7		30	42
Above ground.....	1,346	1,304	1,033	202	3	23	7	7		29	42
Below ground.....	33	33		32						1	
Miners, miners' helpers, quarrymen, and stonemasons.....	3,913	3,903		3,192		324	89	64	25	209	10
Above ground.....	597	595				324	89	64	25	93	2
Below ground.....	3,316	3,308		3,192						116	8
All other employees.....	1,789	1,703	368	808	229	188	29	17		66	96
Above ground.....	1,343	1,257	366	378	229	188	29	17		50	86
Below ground.....	446	446		430						16	
Boys under 16 years of age (all above ground).....	14	14	6				8				
Number of wage earners employed on the 15th day of each month:											
January.....	6,335	6,267	1,373	4,032	119	162	174	95	15	297	68
February.....	6,385	6,309	1,392	4,067	97	217	169	88	12	267	76
March.....	6,358	6,282	1,368	4,011	153	224	157	89	17	263	77
April.....	6,437	6,360	1,339	4,075	182	223	157	88	15	281	77
May.....	6,269	6,196	1,371	3,904	149	224	182	78		288	73
June.....	6,264	6,177	1,326	3,910	166	264	170	55		286	87
July.....	6,563	6,480	1,390	4,015	165	402	162	58		288	83
August.....	6,331	6,307	1,348	3,896	199	389	113	58		304	74
September.....	6,518	6,442	1,344	3,988	194	431	102	55		328	76
October.....	6,744	6,659	1,339	4,174	190	455	120	54		327	85
November.....	6,506	6,424	1,275	4,093	157	485	98	64		252	82
December.....	6,739	6,644	1,388	4,118	200	477	90	64	10	297	95
Land controlled, acres.....	468,785	429,263	276,356	130,063	440	4,413	460	277	2,176	6,078	48,522
Owned.....	185,621	175,468	58,032	108,132	440	2,362	101	247	2,176	3,978	10,153
Held under lease.....	283,164	244,795	218,324	21,931		2,051	359	30		2,100	35,369
Mineral and oil land.....	460,132	412,358	276,356	125,774	440	3,633	460	277	2,022	3,396	47,774
Owned.....	178,446	168,933	58,032	104,513	440	2,282	101	247	2,022	1,296	9,513
Held under lease.....	281,686	243,425	218,324	21,261		1,351	359	30		2,100	35,261
Timber land.....	2,797	2,689		80						2,609	108
Other land.....	5,856	5,216		4,209		789			154	73	640
Primary horsepower.....	32,668	32,003	23,062	6,217	762	760	472	187	100	443	665

¹ Includes operators as follows: Fuller's earth, 2; gold and silver, deep mines, 2; iron, 1; quicksilver, 1.
² Includes operators as follows: Bituminous coal, 1; gold and silver, deep mines, 1; marble, 1; petroleum and natural gas, 19.
³ Includes \$10,499 which could not be distributed among the several industries. Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.
⁴ In some cases the same operator conducted two or more enterprises producing different kinds of products, all enterprises being managed through one central administrative office. The total office expenses were accordingly apportioned among the several industries in proportion to the total expenses of each and the estimated amounts of such administrative expenses were added to "Sundry expenses" for each industry. In the totals for all enterprises, however, the expenses appear under the proper headings. The amounts included in "Rent of offices and other sundry expenses" for individual industries and properly distributed in the total for all industries are as follows: Salaried officers of corporations, superintendents, and managers, \$2,700; and clerks and other salaried employees, \$400.
⁵ The following numbers of persons, which could not be distributed among the several industries, are included under the proper headings in the totals for all enterprises: Aggregate, 3; salaried officers of corporations, 2; and clerks and other salaried employees, 1.

UTAH.

Summary.—The statistics presented include reports of smelters, concentrating mills, and cyaniding plants operated in connection with gold and silver and copper mines.

The gross value of the products of all mines and quarries in Utah in 1909 amounted to \$22,083,282. Deducting from this total, \$106,910, the value of the products sold by some operators and used as material by others, leaves \$21,976,372 as the net value of the products. Gold and silver (deep mines), with products valued at \$8,541,522, ranked first in importance among the industries, and the copper industry, with products worth \$8,432,099, was second. In the production of iron ore the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work resulting in permanent improvements to the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 188 operators, 139, or 73.9 per cent, were corporations. These corporations reported 99.1 per cent of the total value of products and employed 97.9 per cent of all wage earners.

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries..	188	11,004	\$22,083,282	\$117,464	100.0	100.0	100.0
Individual.....	26	129	117,707	4,527	13.8	1.2	0.5
Firm.....	23	105	84,528	3,675	12.2	1.0	0.4
Corporation.....	139	10,770	21,881,047	157,418	73.9	97.9	99.1
Gold and silver, deep mines.....	108	3,905	8,541,522	79,088	100.0	100.0	100.0
Individual.....	14	56	68,260	4,876	13.0	1.4	0.8
Firm.....	10	20	7,131	713	9.3	0.5	0.1
Corporation.....	84	3,829	8,466,131	100,787	77.8	98.1	99.1
Copper.....	22	3,304	8,432,099	383,277	100.0	100.0	100.0
Unincorporated ¹	4	20	14,209	3,552	18.2	0.6	0.2
Corporation.....	18	3,284	8,417,890	467,661	81.8	99.4	99.8
Bituminous coal.....	14	3,160	4,111,987	293,713	100.0	100.0	100.0
Unincorporated ²	3	16	11,635	5,878	21.4	0.5	0.3
Corporation.....	11	3,144	4,100,352	372,759	78.6	99.5	99.7

¹ Includes 2 individuals and 2 firms.

² Includes 2 individuals and 1 firm.

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according

to the number of wage earners employed. For all industries combined, 70.8 per cent of all wage earners were reported in the 20 enterprises employing over 100 wage earners each.

	Incorporated.	Unincorporated.
Number of operators.....	139	49
Number of mines and quarries.....	176	59
Proprietors and firm members, total.....		102
Number performing manual labor.....		39
Salaried employees:		
Officers of corporations.....	101	7
Superintendents and managers.....	180	2
Clerks and other salaried employees.....	339	
Wage earners, Dec. 15, 1909, or nearest representative day.....	10,770	234
Capital.....	\$80,544,212	\$455,831
Expenses of operation and development.....	16,424,446	181,582
Salaries—		
Officers of corporations.....	251,167	
Superintendents and managers.....	494,148	9,918
Clerks and other salaried employees.....	441,494	890
Wages.....	8,885,495	101,356
Royalties and rent of mines.....	46,542	25,369
Texas.....	211,037	883
Supplies and miscellaneous expenses.....	16,094,563	43,256
Value of products.....	21,881,047	202,235

¹ Includes \$106,910, the cost of purchased ore.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	193	100.0	11,004	100.0
No wage earners.....	5	2.6		
Contract work.....	7	3.6		
1 to 5.....	54	28.0	154	1.4
6 to 20.....	57	29.5	661	6.0
21 to 50.....	28	14.5	846	7.7
51 to 100.....	22	11.4	1,559	14.2
101 to 500.....	17	8.8	4,553	41.4
Over 500.....	3	1.6	3,231	29.4
Gold and silver, deep mines.....	109	100.0	3,905	100.0
No wage earners.....	3	2.8		
Contract work.....	5	4.6		
1 to 5.....	35	32.1	104	2.7
6 to 20.....	26	23.9	299	7.7
21 to 50.....	17	15.6	508	13.0
51 to 100.....	14	12.8	947	24.3
Over 100.....	9	8.3	2,047	52.4
Copper.....	22	100.0	3,304	100.0
1 to 5.....	7	31.8	18	0.5
6 to 50.....	8	36.4	105	3.2
51 to 100.....	3	13.6	245	7.4
Over 100.....	4	18.2	2,936	88.9
Bituminous coal.....	18	100.0	3,160	100.0
1 to 20.....	5	27.8	30	0.9
21 to 50.....	3	16.7	86	2.7
51 to 100.....	3	16.7	243	7.7
Over 100.....	7	38.9	2,801	88.6

Prevailing hours of labor.—In Table 4 all producing enterprises, except those employing no wage earners and those operated exclusively by contract work, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. The table shows the percentage of the total number of

enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise. A day of eight hours prevailed in 96.5 per cent of the number of enterprises weighted according to the number of wage earners. In each of the three leading industries, gold and silver, copper, and coal, only one enterprise reported a longer day.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries.....	181	100.0	100.0
8 hours.....	161	89.0	96.5
9 hours.....	10	5.5	1.5
10 hours.....	10	5.5	2.0

Duplication between manufactures and mining.—In a number of industries some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in Utah involves a duplication of \$886,960.

Engines and power.—The aggregate horsepower employed in producing enterprises, as shown by Table 5, was 47,226, of which 37,955 was developed by engines and water wheels owned by the enterprises using them and 9,271 horsepower by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Gold and silver, deep mines.	Copper.	Bituminous coal.	All other.
Primary power:					
Aggregate horsepower.....	47,226	16,087	22,617	6,929	1,593
Owned.....	37,955	11,605	18,168	6,914	1,268
Steam engines—					
Number.....	219	92	44	60	23
Horsepower.....	35,186	10,260	17,091	6,914	921
Gas or gasoline engines—					
Number.....	32	23	5	.....	4
Horsepower.....	841	692	77	.....	72
Water wheels—					
Number.....	11	8	2	.....	1
Horsepower.....	1,928	653	1,000	.....	275
Electric motors operated by purchased current—					
Number.....	229	83	140	1	5
Horsepower.....	9,271	4,482	4,449	15	325
Electric motors run by current generated by enterprise using:					
Number.....	177	14	95	68	.....
Horsepower.....	12,016	730	8,075	3,211	.....

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement; to omit from the 1909 figures statistics for the manufacture of coke at bituminous coal mines, which were not included in the census of 1902; and to add to the 1909 statistics figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase.
Wages and salaries.....	\$10,085,225	\$5,632,477	79.1
Supplies and materials.....	\$4,995,124	\$1,786,842	179.6
Royalties and rent of mines.....	\$72,311	\$40,978	76.5
Contract work.....	\$59,000	\$37,054	59.2
Value of products.....	\$21,718,741	\$12,200,035	78.0
Primary horsepower.....	47,246	14,509	225.6

¹ Exclusive of amount paid to miners compensated by a share of the product, which is included under "Contract work," in Table 7.

Table 7	PRODUCING MINES AND QUARRIES.							
	Aggregate.	Total.	Gold and silver, deep mines.	Placer gold.	Copper.	Bituminous coal.	Asphaltum and bituminous rock.	
1	Number of operators.....	499	188	108	3	22	14	3
2	Number of mines, quarries, and wells.....	675	235	117	4	24	22	8
3	Capital.....	\$97,983,800	\$81,000,043	\$51,983,576	\$43,800	\$20,025,213	\$5,856,501	\$1,646,325
4	Expenses of operation and development.....	\$18,320,557	\$16,606,028	\$6,064,503	\$4,160	\$6,415,305	\$3,217,579	\$162,507
5	Services—							
6	Salaried officers of corporations, superintendents, and managers.....	\$851,410	\$755,233	\$307,365	\$100	\$275,794	\$118,347	\$21,009
7	Clerks and other salaried employees.....	\$459,522	\$442,294	\$69,718	.....	\$284,750	\$77,426	\$1,200
8	Wage earners.....	\$9,848,661	\$9,866,861	\$3,228,884	\$3,000	\$3,000,093	\$2,328,300	\$62,006
9	Miscellaneous—							
10	Supplies.....	\$4,483,488	\$4,027,324	\$1,248,070	\$500	\$1,997,859	\$493,259	\$43,359
11	Fuel and rent of power.....	\$1,151,700	\$1,074,119	\$437,813	\$110	\$480,307	\$110,661	\$10,854
12	Royalties and rent of mines.....	\$72,111	\$71,911	\$45,364	.....	\$5,095	\$2,169	.....
13	Taxes.....	\$234,524	\$211,920	\$84,125	\$100	\$66,190	\$55,183	\$3,890
14	Contract work.....	\$380,291	\$265,066	\$235,132	.....	\$14,006	\$2,500	.....
15	Rent of offices and other sundry expenses.....	\$838,850	\$771,310	\$408,032	\$350	\$291,211	\$29,734	\$10,681
16	Value of products.....	\$22,083,282	\$22,083,282	\$8,541,522	\$4,178	\$8,432,099	\$4,111,987	\$218,486
17	Persons engaged in industry.....	13,360	11,735	4,182	40	2,554	3,263	90
18	Proprietors and officials.....	586	390	195	17	58	50	11
19	Proprietors and firm members.....	206	102	42	16	6	5	2
20	Number performing manual labor.....	57	39	17	2	3	.....	.....
21	Salaried officers of corporations.....	129	101	54	.....	17	18	4
22	Superintendents and managers.....	251	187	99	1	35	27	5
23	Clerks and other salaried employees.....	378	341	82	.....	192	53	1
24	Wage earners, Dec. 15, 1909, or nearest representative day.....	12,396	11,004	3,905	23	3,304	3,160	78
25	Above ground.....	4,788	4,534	900	23	2,350	795	28
26	Below ground.....	7,608	6,470	3,005	.....	954	2,365	55
27	Men 16 years of age and over.....	12,360	10,968	3,902	23	3,304	3,132	78
28	Engineers, firemen, mechanics, etc.....	1,772	1,645	432	.....	851	330	8
29	Above ground.....	1,538	1,410	369	.....	754	255	8
30	Below ground.....	237	235	63	.....	97	75	.....
31	Miners, miners' helpers, quarrymen, and stonecutters.....	7,379	6,219	2,430	15	1,410	1,941	59
32	Above ground.....	1,031	976	59	15	625	.....	4
33	Below ground.....	6,348	5,243	2,371	.....	785	1,941	55
34	All other employees.....	3,206	3,104	1,040	8	1,043	861	11
35	Above ground.....	2,195	2,124	470	8	971	523	11
36	Below ground.....	1,011	980	570	.....	72	333	.....
37	Boys under 16 years of age ¹	36	36	3	.....	.....	28	.....
38	Number of wage earners employed on the 15th day of each month:							
39	January.....	10,586	9,841	3,240	.....	3,225	2,912	68
40	February.....	10,451	9,683	3,262	.....	3,197	2,800	79
41	March.....	10,605	9,755	3,306	1	3,280	2,653	72
42	April.....	10,715	9,826	3,329	6	3,362	2,621	63
43	May.....	10,751	9,834	3,425	7	3,405	2,473	68
44	June.....	11,095	10,141	3,667	23	3,428	2,463	73
45	July.....	11,398	10,470	3,851	8	3,476	2,581	68
46	August.....	11,457	10,547	3,846	8	3,479	2,638	81
47	September.....	11,286	10,363	3,890	7	3,268	2,667	68
48	October.....	10,950	10,088	3,837	2	3,115	2,599	72
49	November.....	10,937	10,080	3,784	2	3,154	2,670	72
50	December.....	11,220	10,444	3,678	.....	3,204	3,120	78
51	Land controlled, acres.....	152,350	74,650	21,165	2,120	9,800	27,541	1,170
52	Owned.....	146,448	70,795	18,907	2,120	9,295	27,341	1,170
53	Held under lease.....	5,902	3,855	2,258	.....	505	200	.....
54	Mineral and oil land.....	125,043	56,855	19,818	2,120	4,162	17,341	1,170
55	Owned.....	119,231	53,090	17,560	2,120	3,657	17,221	1,170
56	Held under lease.....	5,812	3,765	2,258	.....	505	120	.....
57	Timber land.....	4,600	4,600	.....	.....	.....	4,600	.....
58	Other land.....	22,707	13,195	1,347	.....	5,638	5,600	.....
59	Primary horsepower.....	51,171	47,226	16,087	124	22,617	6,929	220

¹ Includes operators as follows: Lead and zinc, 2; marble, 1; precious stones, 1; graphite, 1; phosphate rock, 1; sulphur, 1.

² Includes operators as follows: Asphaltum and bituminous rock, 1; bituminous coal, 1; iron, 1; limestone, 1; lithographic stone, 1; manganese, 1; marble, 1; phosphate rock, 1; precious stones, 1.

MINING INDUSTRIES: 1909.

	PRODUCING MINES AND QUARRIES—continued.							NONPRODUCING MINES, QUARRIES, AND WELLS.				
	Iron.	Limestone.	Sandstone.	Granite.	Gypsum.	Clay (sold as such).	All other. ¹	Total.	Gold and silver, deep mines.	Placer gold.	Petroleum and natural gas.	All other. ²
1	3	9	9	3	3	4	7	311	294	4	4	9
2	5	9	11	3	3	4	25	440	389	8	4	39
3	\$206, 077	\$273, 342	\$67, 486	\$6, 745	\$406, 954	\$137, 900	\$346, 124	\$16, 983, 757	\$16, 650, 490	\$6, 067	\$69, 000	\$258, 200
	\$185, 429	\$158, 112	\$66, 744	\$20, 847	\$62, 556	\$11, 817	\$236, 469	\$1, 714, 529	\$1, 625, 280	\$1, 664	\$47, 259	\$40, 326
5	\$1, 000	\$4, 476	\$1, 275	\$3, 562	\$8, 670	\$1, 080	\$12, 555	\$96, 177	\$90, 977	\$387		\$4, 813
6	\$1, 050	\$800	\$1, 275		\$2, 580		\$3, 495	\$17, 228	\$16, 648		\$180	\$400
7	\$104, 823	\$102, 840	\$39, 520	\$14, 375	\$33, 026	\$8, 050	\$61, 934	\$861, 810	\$817, 714	\$725	\$16, 764	\$26, 607
8	\$72, 834	\$21, 811	\$8, 141	\$2, 616	\$4, 320	\$660	\$133, 895	\$456, 164	\$432, 185	\$222	\$17, 650	\$6, 107
9	\$5, 160	\$9, 803	\$1, 162		\$6, 869		\$11, 380	\$77, 581	\$73, 718		\$3, 415	\$448
10		\$12, 752	\$5, 931				\$600	\$200	\$200			
11	\$502	\$524	\$30	\$47	\$313		\$899	\$22, 604	\$22, 083	\$55	\$225	\$241
12		\$400	\$1, 710			\$1, 800		\$115, 225	\$106, 650		\$8, 575	
13	\$60	\$4, 706	\$7, 700	\$247	\$6, 778	\$100	\$11, 711	\$67, 540	\$65, 105	\$275	\$450	\$1, 710
14	\$100, 844	\$190, 825	\$71, 485	\$28, 625	\$81, 493	\$16, 522	\$285, 216					
15	81	196	85	33	85	27	99	1, 625	1, 505	11	16	93
16	3	23	6	6	6	6	9	196	182	5		9
17		18	4	4			5	104	96	3		5
18		11	3				3	18	15	2		1
19	2	1			2		3	28	28			
20	1	4	2	2	4	1	6	64	58	2		4
21	3	2	2		4		2	37	35		1	1
22	75	171	77	27	75	21	88	1, 392	1, 288	6	15	83
23	12	171	77	27	75	21	60	254	196	2	15	41
24	63						28	1, 138	1, 092	4		42
25	75	170	73	27	75	21	88	1, 392	1, 288	6	15	83
26	12	7	2	1			2	130	113		15	2
27	12	7	2	1			2	128	111		15	2
28								2	2			
29	63	139	49	26	17	21	49	1, 160	1, 098	4		58
30		139	49	26	17	21	21	55	39			16
31	63						28	1, 105	1, 059	4		42
32		24	22		58		37	102	77	2		23
33		24	22		58		37	71	46	2		23
34								31	31			
35		1	4									
36	75	149	5	16	72	12	67	745	724		16	5
37	75	88	5	21	70	12	74	768	743		14	11
38	75	135	50	24	67	12	80	850	781		21	48
39	75	124	63	23	67	12	81	889	817		21	51
40	67	132	71	31	66	12	77	917	850		11	56
41	67	152	85	29	65	12	77	954	887		13	54
42	67	156	79	29	67	12	76	928	898		15	15
43	67	166	69	34	68	12	79	910	879	3	7	21
44	67	127	57	38	67	12	95	923	893		7	23
45	67	123	58	38	67	12	98	862	827	4	6	25
46	48	125	20	26	71	12	96	857	809	4	7	37
47	48	122	1	17	71	21	84	776	730	2	3	41
48	268	3, 034	885	480	4, 940	1, 693	1, 554	77, 700	73, 420	320	2, 020	1, 940
49	268	2, 902	445	160	4, 940	1, 693	1, 554	75, 653	71, 793	320	1, 600	1, 940
50		132	440	320				2, 047	1, 627		420	
51	268	2, 424	885	480	4, 940	1, 693	1, 554	68, 188	64, 194	320	2, 020	1, 654
52	268	2, 302	445	160	4, 940	1, 693	1, 554	66, 141	62, 567	320	1, 600	1, 654
53		122	440	320				2, 047	1, 627		420	
54												
55		610						9, 512	9, 226			286
56	200	300	82		435		232	3, 945	3, 848			97

¹ Includes \$106,910, the cost of purchased ore.

² In the bituminous coal industry 11 boys were employed below ground and in the gold and silver industry (deep mines), 1.

VERMONT.

Summary.—The total value of products of all mines and quarries in Vermont in 1909 amounted to \$8,221,323. Of this amount, marble, granite, and slate quarries contributed \$7,971,764, or 97 per cent. Other products of the mining industry, with a combined value of \$249,559, were: Talc and soapstone; clay (sold as such); limestone; mineral pigments; asbestos; and scythestones.

The total number of wage earners employed in the producing enterprises on December 15 1909 was 8,388. Of this number, 8,113 or 96.7 per cent, were employed in the stone quarries.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 137 operators, 57 were corporations. These corporations reported 82.2 per cent of the total value of products and employed 78.2 per cent of all wage earners. In the marble industry the classification of production according to forms of organization can not be given, since to do so would disclose the operations of individual enterprises. In the slate industry the share of corporations in the total production is not so great as in the granite industry or in all industries combined.

Table 1

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries	137	8,388	\$8,221,323	\$60,010	100.0	100.0	100.0
Individual ¹	36	418	441,809	12,272	26.3	5.0	5.4
Firm.....	44	1,409	1,022,716	23,244	32.1	16.8	12.4
Corporation.....	57	6,561	6,756,798	118,540	41.6	78.2	82.2
Granite	51	2,035	2,829,522	55,481	100.0	100.0	100.0
Individual.....	21	177	194,572	9,265	41.2	8.7	6.9
Firm.....	12	142	170,750	14,229	23.5	7.0	6.0
Corporation.....	18	1,716	2,464,200	136,900	35.3	84.3	87.1
Slate	54	2,579	1,864,591	34,529	100.0	100.0	100.0
Individual.....	7	168	147,163	21,023	13.0	6.5	7.9
Firm.....	26	1,212	811,057	31,195	48.1	47.0	43.5
Corporation.....	21	1,199	906,371	43,161	38.9	46.5	48.6

¹ Includes 1 estate.

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according to the number of wage earners employed. Of the 137

producing enterprises reported in 1909 there were only 17 which had in excess of 100 wage earners, but these enterprises reported 70.8 per cent of the total number of wage earners employed in all producing mining enterprises in the state. The proportion of wage earners employed by the larger enterprises is somewhat greater in marble quarries than in granite and slate quarries.

Table 2

	Incorporated.	Unincorporated.
Number of operators.....	57	80
Number of mines and quarries.....	90	92
Proprietors and firm members, total.....		160
Number performing manual labor.....		63
Salaried employees:		
Officers of corporations.....	41	
Superintendents and managers.....	79	31
Clerks and other salaried employees.....	166	36
Wage earners, Dec. 15, 1909, or nearest representative day.....	6,561	1,827
Capital.....	\$12,325,025	\$1,667,071
Expenses of operation and development.....	5,544,921	1,250,347
Salaries—		
Officers of corporations.....	80,564	
Superintendents and managers.....	113,216	33,870
Clerks and other salaried employees.....	122,427	20,160
Wages.....	3,593,211	856,104
Royalties and rent of mines.....	46,510	37,822
Taxes.....	66,583	5,564
Supplies and miscellaneous expenses.....	1,522,410	296,827
Value of products.....	6,756,798	1,464,525

Table 3

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries	137	100.0	8,388	100.0
No wage earners.....	2	1.5		
Contract work.....	1	0.7		
1 to 5.....	20	14.6	70	8.8
6 to 20.....	49	35.8	534	6.4
21 to 50.....	38	27.7	1,140	13.6
51 to 100.....	10	7.3	704	8.4
Over 100.....	17	12.4	5,940	70.8
Marble	12	100.0	3,463	100.0
6 to 20.....	4	33.3	60	1.7
21 to 100.....	4	33.3	201	5.8
Over 100.....	4	33.3	3,202	92.5
Granite	51	100.0	2,035	100.0
No wage earners.....	2	3.9		
1 to 5.....	14	27.5	49	2.4
6 to 20.....	20	39.2	196	9.6
21 to 50.....	6	11.8	158	7.8
51 to 100.....	3	5.9	229	11.3
Over 100.....	6	11.8	1,403	68.9
Slate	54	100.0	2,579	100.0
1 to 20.....	17	31.5	188	7.3
21 to 50.....	26	48.1	805	31.2
51 to 100.....	4	7.4	251	9.7
Over 100.....	7	13.0	1,335	51.8

Prevailing hours of labor.—In Table 4 all producing enterprises, except those which employed no wage earners and one operated exclusively by contract work, have been classified according to the prevailing hours of labor per day in each enterprise. The table shows the percentage of the total number of enterprises falling into each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since in some cases a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise. In nearly one-half of all the enterprises 10 hours per day were the prevailing hours of labor, and the enterprises in which these hours are found employ somewhat over two-thirds of all the wage earners reported.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries	1 133	100.0	100.0
8 hours.....	45	33.8	24.2
9 hours.....	22	16.5	7.5
10 hours.....	66	49.6	68.4
Marble	12	100.0	100.0
10 hours.....	12	100.0	100.0
Granite	48	100.0	100.0
8 hours.....	44	91.7	99.2
9 hours.....	4	8.3	0.8
Slate	54	100.0	100.0
9 hours.....	16	29.6	23.0
10 hours.....	38	70.4	77.0

¹ Exclusive of 1 granite quarry for which number of hours was not reported.

Engines and power.—The aggregate horsepower employed in producing enterprises, as shown in Table 5, was 25,668, of which 23,590 horsepower was developed by engines and water wheels owned by the enterprises using them, and 2,078 by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Marble.	Granite.	Slate.	All other.
Primary power:					
Aggregate horsepower.....	25,668	11,272	6,649	6,370	1,377
Owued.....	23,590	11,272	4,875	6,136	1,307
Steam engines—					
Number.....	468	85	140	222	21
Horsepower.....	17,144	5,704	4,819	5,710	911
Gas or gasoline engines—					
Number.....	5	1	2	2	.....
Horsepower.....	102	3	56	43	.....
Water wheels—					
Number.....	34	16	.....	6	12
Horsepower.....	6,344	5,565	.....	383	396
Electric motors operated by purchased current—					
Number.....	61	.....	49	9	3
Horsepower.....	2,078	.....	1,774	234	70
Electric motors run by current generated by enterprise using:					
Number.....	192	190	.....	.....	2
Horsepower.....	5,375	5,335	.....	.....	40

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to include for 1909 figures for the production of lime, which were included in the report on mines and quarries for 1902, but classified as a manufacturing industry in 1909. In any case only the few items specified in Table 6 can be compared for the two years.

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$4,899,736	\$3,490,476	40.4
Supplies and materials.....	\$1,386,827	\$1,076,143	28.9
Royalties and rent of mines.....	\$85,632	\$101,546	-15.7
Contract work.....	\$64,988	.....	.....
Value of products.....	\$8,471,725	\$5,904,705	43.5
Primary horsepower.....	25,916	14,979	73.0

¹ A minus sign (-) denotes decrease.

Duplication between manufactures and mining.—In a number of industries some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. Such enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for manufacturing and mining industries in Vermont involves a duplication of \$6,699,723.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	Aggregate.	PRODUCING MINES AND QUARRIES.								Non-producing mines and quarries. ⁴
		Total.	Marble.	Granite.	Slate.	Limestone.	Talc and soapstone.	Clay (sold as such).	All other. ¹	
Number of operators.....	141	137	12	51	54	3	8	4	5	4
Number of mines and quarries.....	188	182	22	67	71	3	10	4	5	6
Capital ²	\$14,994,696	\$13,992,096	\$6,941,730	\$4,308,364	\$2,222,634	\$31,500	\$348,339	\$74,099	\$65,430	\$1,002,600
Expenses of operation and development.....	\$6,877,481	\$6,795,268	\$2,598,233	\$2,305,922	\$1,686,993	\$13,135	\$116,890	\$20,247	\$53,848	\$82,213
Services—										
Salaried officers of corporations, superintendents, and managers.....	\$227,650	\$227,650	\$73,974	\$73,330	\$62,798	\$1,220	\$10,392	\$1,500	\$4,436	.....
Clerks and other salaried employees.....	\$142,587	\$142,587	\$38,350	\$75,141	\$26,548	.....	\$1,618	.....	\$900	.....
Wage earners.....	\$4,475,209	\$4,449,315	\$1,766,836	\$1,376,111	\$1,204,333	\$6,860	\$58,871	\$11,642	\$24,662	\$25,894
Miscellaneous—										
Supplies.....	\$955,438	\$905,157	\$276,751	\$433,750	\$150,838	\$698	\$20,295	\$1,892	\$20,933	\$50,281
Fuel and rent of power.....	\$367,468	\$362,438	\$123,489	\$139,786	\$84,872	\$770	\$10,040	\$3,100	\$381	\$5,030
Royalties and rent of mines.....	\$84,332	\$84,332	\$4,218	\$14,762	\$61,249	\$200	\$3,903	.....	.....	.....
Taxes.....	\$72,645	\$72,147	\$50,660	\$14,714	\$5,248	\$247	\$571	\$163	\$544	\$498
Contract work.....	\$64,698	\$64,698	.....	\$43,399	\$18,219	\$3,080	.....	.....	.....	.....
Rent of offices and other sundry expenses.....	\$487,454	\$486,944	\$263,925	\$134,929	\$72,888	\$60	\$11,200	\$1,950	\$1,992	\$510
Value of products.....	\$8,221,323	\$8,221,323	\$3,277,651	\$2,829,522	\$1,864,591	\$17,580	\$120,328	\$35,465	\$76,186	.....
Persons engaged in industry.....	8,940	8,901	3,573	2,204	2,775	40	184	41	104	39
Proprietors and officials.....	320	311	38	95	146	4	10	9	9	9
Proprietors and firm members.....	169	160	7	49	85	1	4	8	6	9
Number performing manual labor.....	64	63	.....	22	39	.....	1	1	.....	1
Salaried officers of corporations.....	41	41	8	13	17	.....	1	1	1	.....
Superintendents and managers.....	110	110	23	33	44	3	5	.....	2	.....
Clerks and other salaried employees.....	202	202	72	74	50	.....	4	.....	2	.....
Wage earners, Dec. 15, 1909, or nearest representative day.....	8,418	8,358	3,463	2,035	2,579	36	150	32	93	30
Above ground.....	7,973	7,943	3,463	2,035	2,192	36	103	22	92	30
Below ground.....	445	445	.....	.....	387	.....	47	10	1	.....
Men 16 years of age and over.....	8,402	8,372	3,463	2,033	2,565	36	150	32	93	30
Engineers, firemen, mechanics, etc.....	633	621	239	142	198	6	23	2	11	12
Above ground.....	616	604	239	142	185	6	19	2	11	12
Below ground.....	17	17	.....	.....	13	.....	4	.....	.....	.....
Miners, miners' helpers, quarrymen, and stonecutters.....	4,374	4,356	1,009	1,639	1,546	28	85	13	36	18
Above ground.....	3,950	3,932	1,009	1,639	1,172	28	46	3	35	18
Below ground.....	424	424	.....	.....	374	.....	39	10	1	.....
All other employees.....	3,395	3,395	2,215	252	821	2	42	17	46	.....
Above ground.....	3,391	3,391	2,215	252	821	2	38	17	46	.....
Below ground.....	4	4	.....	.....	.....	.....	4	.....	.....	.....
Boys under 16 years of age (all above ground).....	16	16	.....	2	14	.....	.....	.....	.....	.....
Number of wage earners employed on the 15th day of each month:										
January.....	7,369	7,319	3,096	1,960	2,119	.....	103	13	28	50
February.....	7,555	7,505	3,209	2,031	2,132	.....	108	13	12	50
March.....	7,802	7,743	3,360	2,103	2,117	12	109	13	29	59
April.....	8,144	8,084	3,571	2,164	2,170	20	96	20	43	60
May.....	8,385	8,326	3,609	2,261	2,262	17	97	32	48	59
June.....	8,618	8,562	3,497	2,293	2,533	28	114	37	60	56
July.....	8,771	8,712	3,675	2,258	2,548	28	112	26	65	59
August.....	8,784	8,727	3,715	2,219	2,562	22	115	32	62	57
September.....	8,765	8,703	3,713	2,207	2,548	26	116	29	64	62
October.....	8,601	8,546	3,642	2,147	2,505	32	121	26	73	55
November.....	8,171	8,118	3,490	1,940	2,425	40	121	25	77	53
December.....	7,419	7,398	3,549	1,205	2,447	36	69	18	74	21
Land controlled, acres.....	36,663	35,327	27,006	2,389	3,078	47	1,167	523	1,117	1,336
Owned.....	34,520	33,190	26,480	1,932	2,322	42	774	523	1,117	1,330
Held under lease.....	2,143	2,137	526	457	756	5	393	.....	.....	6
Mineral land.....	9,755	8,419	2,776	1,986	1,566	47	1,067	495	482	1,336
Owned.....	7,761	6,431	2,251	1,629	858	42	674	495	482	1,330
Held under lease.....	1,994	1,988	525	357	708	5	393	.....	.....	6
Timber land.....	8,892	8,892	6,800	122	1,242	.....	90	28	610	.....
Other land.....	18,016	18,016	17,430	281	270	.....	10	.....	25	.....
Primary horsepower.....	26,576	25,668	11,272	6,649	6,370	115	663	121	478	908

¹ Includes operators as follows: Asbestos, 1; mineral pigments, 3; scythestones, 1.² Includes operators as follows: Marble, 1; gold and silver, deep mines, 1; slate, 2.³ Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

VIRGINIA.

Summary.—The total value of products for all producing mines and quarries in Virginia, in 1909, was \$8,795,646. Of this amount, the two leading industries, bituminous coal mining and iron ore mining, contributed \$6,671,331, or 75.8 per cent. Of the total for the two industries, bituminous coal, including the coal sold as such and the coke made at the mines, contributed \$4,988,328, of which \$2,776,965 represented the value of the coal and \$2,211,363 the value of the coke. The value of the products of the iron-ore industry was \$1,683,003.

In the production of bituminous coal, slate, and pyrite, the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work resulting in permanent improvements to the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 150 operators, 92, or 61.3 per cent, were corporations. These corporations reported 94.6 per cent of the total value of products and employed 93.1 per cent of all wage earners.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of operators.		Number of wage earners.		Value of products.		Per cent distribution.		
	Number of operators.	Number of wage earners.	Total.	Per operator.	Opera-tors.	Wage earners.	Value of products.	Per cent distribution.	
								Opera-tors.	Wage earners.
All industries.	150	16,893	\$8,795,646	\$58,638	100.0	100.0	100.0		
Individual ¹	35	595	198,877	5,682	23.3	3.5	2.3		
Firm.....	23	564	278,385	12,104	15.3	3.3	3.2		
Corporation.....	92	15,734	8,318,384	90,417	61.3	93.1	94.6		
Bituminous coal.	42	10,042	4,988,328	118,770	100.0	100.0	100.0		
Individual.....	4	30	13,090	3,273	9.5	0.3	0.3		
Firm.....	4	298	119,191	29,798	9.5	3.0	2.4		
Corporation.....	34	9,714	4,856,047	142,825	81.0	96.7	97.3		
Iron	17	3,077	1,683,003	99,000	100.0	100.0	100.0		
Individual and firm ²	5	122	25,146	5,029	29.4	4.0	1.5		
Corporation.....	12	2,955	1,657,857	138,155	70.6	96.0	98.5		

¹ Includes 1 estate.

² Includes 2 individuals and 3 firms.

Size of enterprises.—In Table 3 the producing enterprises of the state are classified according to the number of wage earners employed per enterprise or

operating unit. Out of a total of 16,893 wage earners reported by all industries 11,977, or 70.9 per cent, were employed in the 32 enterprises employing over 100 wage earners each. In bituminous coal mining 6,447 wage earners, or 64.2 per cent of the total number reported by the industry, were employed in the 5 enterprises employing over 500 wage earners each.

	Incorporated.	Unincorporated.
Number of operators.....	92	58
Number of mines and quarries.....	184	60
Proprietors and firm members, total.....		86
Number performing manual labor.....		15
Salaried employees:		
Officers of corporations.....	77	
Superintendents and managers.....	144	22
Clerks and other salaried employees.....	355	19
Wage earners, Dec. 15, 1909, or nearest representative day.....	15,734	1,159
Capital.....	\$54,377,482	\$1,615,211
Expenses of operation and development.....	8,450,121	413,833
Salaries—		
Officers of corporations.....	151,387	
Superintendents and managers.....	183,929	21,939
Clerks and other salaried employees.....	244,253	11,113
Wages.....	4,653,832	275,655
Royalties and rent of mines.....	404,338	14,015
Taxes.....	147,182	2,692
Supplies and miscellaneous expenses.....	2,365,200	87,919
Value of products.....	8,318,384	477,262

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.	182	100.0	16,893	100.0
1 to 5.....	18	9.9	56	0.3
6 to 20.....	46	25.2	627	3.7
21 to 50.....	54	29.7	1,992	11.8
51 to 100.....	32	17.6	2,241	13.3
101 to 500.....	27	14.8	5,530	32.7
Over 500.....	5	2.7	6,447	38.2
Bituminous coal	47	100.0	10,042	100.0
1 to 5.....	5	10.6	13	0.1
6 to 20.....	5	10.6	57	0.6
21 to 50.....	12	25.5	388	3.9
51 to 100.....	7	14.9	494	4.9
101 to 500.....	13	27.7	2,643	26.3
Over 500.....	5	10.6	6,447	64.2
Iron	44	100.0	3,077	100.0
1 to 20.....	8	18.2	96	3.1
21 to 50.....	16	36.4	631	20.5
51 to 100.....	12	27.3	816	26.5
Over 100.....	8	18.2	1,534	49.9

Prevailing hours of labor.—In Table 4 all producing enterprises are classified according to the prevailing hours of labor per day in each enterprise or operating

unit. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise. In 90.4 per cent of all enterprises, weighted according to the number of wage earners, a day of 10 hours prevailed. In bituminous coal mines and iron mines the corresponding percentages were 93.4 and 99.7, respectively.

Table 4

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries	¹ 180	100.0	100.0
8 hours.....	11	6.1	1.2
9 hours.....	18	10.0	5.7
10 hours.....	150	83.3	90.4
11 hours.....	1	0.6	2.8
Bituminous coal	45	100.0	100.0
8 hours.....	3	6.7	0.6
9 hours.....	9	20.0	6.0
10 hours.....	33	73.3	93.4
Iron	44	100.0	100.0
8 hours.....	1	2.3	0.3
10 hours.....	43	97.7	99.7

¹ Exclusive of 2 bituminous coal mines for which number of hours was not reported.

Duplication between manufactures and mining.—In a number of industries some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in Virginia involves a duplication of \$3,095,356.

Engines and power.—As shown by Table 5, the aggregate horsepower employed in producing enter-

prises was 34,630, all of which, except 170 developed by electric motors operated by purchased current, was developed by engines and water wheels or motors owned by the enterprises using them.

Table 5

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909			
	Total.	Bituminous coal.	Iron.	All other.
Primary power:				
Aggregate horsepower	34,630	16,630	6,458	11,542
Owned.....	34,460	16,460	6,458	11,542
Steam engines—				
Number.....	464	128	141	195
Horsepower.....	33,265	16,451	6,200	10,614
Gas or gasoline engines—				
Number.....	5	2	3	.....
Horsepower.....	62	9	53	.....
Water wheels—				
Number.....	19	.....	24	25
Horsepower.....	1,133	.....	205	928
Electric motors operated by purchased current:				
Number.....	9	9	.....	.....
Horsepower.....	170	170	.....	.....
Electric motors run by current generated by enterprise using:				
Number.....	327	296	1	30
Horsepower.....	10,577	9,775	20	782

¹ Includes 4 water motors of 865 horsepower.

² Includes 1 water motor of 115 horsepower.

³ Includes 3 water motors of 750 horsepower.

Comparison of mining industries: 1902–1909.—In order to make comparisons between 1909 and 1902, it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement; to omit from the 1909 figures, as they appear in the other tables in this chapter, the statistics for the production of coke at bituminous coal mines, and to add to the 1909 statistics figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

Table 6

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase.
Wages and salaries.....	\$5,501,589	\$3,876,556	41.9
Supplies and materials.....	\$1,855,201	\$837,287	121.6
Royalties and rent of mines.....	\$421,863	\$318,763	32.3
Contract work.....	\$119,043	\$35,964	231.0
Value of products.....	\$8,999,920	\$6,280,148	43.3
Primary horsepower.....	35,554	15,539	128.8

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7

	Aggregate.	PRODUCING MINES AND QUARRIES.									Non-producing mines and quarries ²
		Total.	Bituminous coal.	Iron.	Talc and soapstone.	Granite.	Limestone.	Slate.	Pyrite.	All other. ¹	
Number of operators.....	163	150	42	17	10	23	26	8	4	20	13
Number of mines and quarries.....	262	244	85	58	11	27	27	10	4	22	18
Capital.....	\$56,757,141	\$55,992,693	\$42,337,222	\$6,475,387	\$2,761,241	\$632,135	\$707,923	\$763,941	\$858,097	\$1,456,747	\$764,448
Expenses of operation and development.....	\$8,967,896	\$8,863,954	\$5,286,920	\$1,511,243	\$512,839	\$370,159	\$264,878	\$234,306	\$426,423	\$257,186	\$108,942
Services—											
Salaried officers of corporations, superintendents, and managers.....	\$373,104	\$357,255	\$202,349	\$39,438	\$23,105	\$24,298	\$9,509	\$14,575	\$19,760	\$24,221	\$15,849
Clerks and other salaried employees.....	\$256,440	\$255,366	\$180,385	\$18,312	\$20,104	\$7,851	\$4,547	\$5,840	\$13,469	\$4,858	\$1,074
Wage earners.....	\$5,265,761	\$5,229,737	\$3,204,769	\$843,006	\$292,503	\$245,814	\$144,910	\$149,682	\$241,581	\$107,522	\$35,974
Miscellaneous—											
Supplies.....	\$1,203,463	\$1,173,866	\$558,800	\$208,213	\$114,579	\$32,111	\$60,384	\$39,983	\$93,845	\$59,951	\$29,597
Fuel and rent of power.....	\$488,156	\$484,527	\$230,282	\$117,029	\$32,092	\$19,610	\$13,886	\$9,043	\$38,709	\$23,876	\$3,629
Royalties and rent of mines.....	\$419,603	\$418,353	\$261,824	\$148,130	\$400	\$5,579	\$3,219	\$3,121	.....	\$6,080	\$1,250
Taxes.....	\$150,941	\$150,074	\$117,232	\$16,565	\$4,068	\$2,046	\$1,740	\$2,276	\$3,999	\$1,548	\$567
Contract work.....	\$119,613	\$119,028	\$114,453	\$945	\$900	.....	.....	.....	\$2,730	.....	\$585
Rent of offices and other sundry expenses.....	\$690,815	\$675,698	\$426,826	\$119,605	\$24,488	\$32,850	\$20,683	\$9,786	\$12,330	\$29,130	\$15,117
Value of products.....	\$8,795,646	\$8,795,646	\$4,988,328	\$1,683,003	\$519,692	\$473,344	\$300,438	\$182,543	\$368,232	\$280,066	.....
Persons engaged in industry.....	17,777	17,596	10,418	3,160	835	789	663	476	717	538	181
Proprietors and officials.....	344	329	128	43	16	42	34	19	8	39	15
Proprietors and firm members.....	88	86	15	6	2	19	23	1	.....	20	2
Number performing manual labor.....	15	15	.....	.....	.....	.....	.....	.....	.....	.....	.....
Salaried officers of corporations.....	82	77	42	3	4	9	1	10	5	3	5
Superintendents and managers.....	174	166	71	34	10	14	10	8	3	16	8
Clerks and other salaried employees.....	378	374	248	40	31	11	8	8	19	9	4
Wage earners, Dec. 15, 1909, or nearest representative day.....	17,055	16,893	10,042	3,077	788	736	621	449	690	490	162
Above ground.....	8,780	8,647	3,175	2,232	633	736	621	437	425	385	133
Below ground.....	8,275	8,246	6,867	845	155	.....	.....	12	265	102	29
Men 16 years of age and over.....	16,801	16,641	9,915	3,011	779	734	613	435	672	482	160
Engineers, firemen, mechanics, etc.....	1,809	1,786	772	363	372	53	48	45	99	34	23
Above ground.....	1,619	1,596	623	349	371	53	48	45	87	20	23
Below ground.....	190	190	149	14	1	.....	.....	.....	12	14	.....
Miners, miners' helpers, quarrymen, and stonecutters.....	9,263	9,214	4,970	2,346	230	483	413	332	189	251	49
Above ground.....	3,079	3,057	.....	1,562	78	483	413	320	26	175	22
Below ground.....	6,184	6,157	4,970	784	152	.....	.....	12	163	76	27
All other employees.....	5,729	5,641	4,173	302	177	198	152	58	384	197	88
Above ground.....	3,947	3,861	2,527	271	176	198	152	58	294	185	86
Below ground.....	1,782	1,780	1,646	31	1	.....	.....	.....	90	12	2
Boys under 16 years of age.....	254	252	127	66	9	2	8	14	18	8	2
Above ground.....	135	133	25	50	8	2	8	14	18	8	2
Below ground.....	119	119	102	16	1	.....	.....	.....	.....	.....	.....
Number of wage earners employed on the 15th day of each month:											
January.....	14,658	14,602	9,014	2,590	690	558	492	347	662	249	56
February.....	14,563	14,509	8,789	2,688	707	575	454	376	676	244	54
March.....	14,589	14,534	8,620	2,793	712	652	403	333	719	252	55
April.....	14,830	14,771	8,734	2,733	743	683	442	433	684	319	59
May.....	14,864	14,782	8,727	2,662	761	679	463	440	730	320	62
June.....	15,356	15,275	9,073	2,605	843	693	472	446	767	371	81
July.....	15,474	15,377	9,075	2,703	865	618	509	468	720	419	97
August.....	15,916	15,768	9,168	2,950	895	667	521	432	718	417	148
September.....	15,768	15,621	9,032	3,019	895	642	513	442	675	403	147
October.....	15,615	15,457	9,206	2,753	781	662	529	440	693	393	158
November.....	16,151	15,993	9,596	2,837	795	675	559	440	724	367	158
December.....	16,561	16,399	9,967	2,932	763	694	542	436	690	375	162
Land controlled, acres.....	307,060	294,416	170,479	96,379	8,162	2,396	889	4,938	6,376	4,797	12,644
Owned.....	171,726	166,583	86,282	58,387	7,338	1,130	623	4,665	4,137	4,016	5,143
Held under lease.....	135,334	127,833	84,197	37,992	824	1,266	261	273	2,239	781	7,501
Mineral land.....	257,747	248,211	169,296	64,206	3,435	1,975	881	2,167	3,162	3,069	9,536
Owned.....	124,308	122,273	85,217	29,384	2,611	709	625	1,894	2,522	2,308	2,635
Held under lease.....	133,439	125,938	84,079	37,822	824	1,266	253	273	640	781	7,501
Timber land.....	25,852	25,752	710	22,953	325	1,40	.....	137	115	1,372	100
Other land.....	23,461	20,453	473	9,220	4,402	281	.....	2,634	3,099	336	3,008
Primary horsepower.....	35,812	34,630	16,630	6,458	2,932	1,773	1,122	950	3,445	1,320	1,182

¹ Includes operators as follows: Barytes, 2; buhrstones and millstones, 2; clay, 1; feldspar, 1; gold and silver, deep mines, 1; gypsum, 2; manganese, 2; marl, 1; mica, 3; mineral pigments, 1; sandstone, 4.
² Includes operators as follows: Bituminous coal, 1; gold and silver, deep mines, 4; iron, 1; manganese, 3; mica, 1; pyrite, 1; slate, 1; titanium, 1.

WASHINGTON.

Summary.—The total value of the products of mines and quarries in Washington in 1909 amounted to \$10,537,556. Of this amount the bituminous coal mining industry, including the coal sold as such and the coke made at the mines, contributed \$9,226,793, of which \$8,986,189 represented the value of the coal and \$240,604 the value of the coke. Granite and sandstone quarrying, which reported products valued respectively at \$739,107 and \$271,207, were the industries next in importance.

In the production of sandstone, gold and silver (deep mines), and copper, the expenses of operation and development exceeded the value of the products. This was due in part to unprofitable mining ventures and in part to expenditures for development work which added to the permanent value of the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 93 operators, 65 were corporations. These corporations reported 95.6 per cent of the total value of products and employed 94.8 per cent of all wage earners.

over 100 wage earners each. These enterprises, however, employed 69.7 per cent of the wage earners reported by all enterprises.

	Incorporated.	Unincorporated.
Number of operators.....	65	28
Number of mines and quarries.....	129	41
Proprietors and firm members, total.....		48
Number performing manual labor.....		16
Salaried employees:		
Officers of corporations.....	29	9
Superintendents and managers.....	76	5
Clerks and other salaried employees.....	143	
Wage earners, Dec. 15, 1909, or nearest representative day.....	6,959	384
Capital.....	\$12,258,210	\$816,481
Expenses of operation and development.....	7,428,321	372,401
Salaries—		
Officers of corporations.....	37,449	17,593
Superintendents and managers.....	158,156	5,060
Clerks and other salaried employees.....	126,408	291,288
Wages.....	5,599,719	7,847
Royalties and rent of mines.....	133,384	2,167
Taxes.....	91,426	48,446
Supplies and miscellaneous expenses.....	1,281,779	
Value of products.....	10,077,855	459,701

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries	102	100.0	7,343	100.0
No wage earners.....	2	2.0		
Contract work.....	3	2.9		
1 to 5.....	19	18.6	59	0.8
6 to 20.....	27	26.5	322	4.4
21 to 50.....	22	21.6	773	10.5
51 to 100.....	14	13.7	1,074	14.6
Over 100.....	15	14.7	5,115	69.7
Bituminous coal	40	100.0	6,155	100.0
1 to 20.....	9	22.5	111	1.8
21 to 50.....	7	17.5	282	4.6
51 to 100.....	10	25.0	772	12.5
Over 100.....	14	35.0	4,990	81.1
Granite	14	100.0	469	100.0
1 to 5.....	3	21.4	11	2.3
6 to 20.....	5	35.7	60	12.8
Over 20.....	6	42.9	398	84.9

Prevailing hours of labor.—In Table 4 all producing enterprises, except those employing no wage earners and those operated exclusively by contract work, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Per cent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries	93	7,343	\$10,537,556	\$113,307	100.0	100.0	100.0
Individual.....	16	207	308,786	19,299	17.2	2.8	2.9
Firm.....	12	177	150,915	12,576	12.9	2.4	1.4
Corporation.....	65	6,959	10,077,855	155,044	69.9	94.8	95.6
Bituminous coal	32	6,155	9,226,793	288,337	100.0	100.0	100.0
Individual.....	4	71	114,229	28,557	12.5	1.2	1.2
Corporation.....	28	6,084	9,112,564	325,449	87.5	98.8	98.8
Granite	14	469	739,107	52,793	100.0	100.0	100.0
Individual.....	8	159	232,447	29,056	57.1	33.9	31.4
Corporation.....	6	310	506,660	84,443	42.9	66.1	68.6

¹ Includes 1 firm.

Size of enterprises.—In Table 3 the producing enterprises are classified according to the number of wage earners employed per enterprise or operating unit. Of the 102 producing enterprises only 15 employed

weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise.

For all industries combined a day of eight hours prevailed in 88.7 per cent of the enterprises weighted according to the number of wage earners. In the production of bituminous coal the corresponding percentage was 98.8.

Table 4

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries.....	97	100.0	100.0
8 hours.....	66	68.0	88.7
9 hours.....	10	10.3	3.4
10 hours.....	20	20.6	7.8
11 hours.....	1	1.0	0.1
Bituminous coal.....	40	100.0	100.0
8 hours.....	38	95.0	98.8
9 hours.....	1	2.5	0.9
10 hours.....	1	2.5	0.3
Granite.....	14	100.0	100.0
8 hours.....	5	35.7	28.4
9 hours.....	3	21.4	11.9
10 hours.....	6	42.9	59.7

Duplication between manufactures and mining.—In a number of industries some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact, the combined value of products for the manufacturing and mining industries in Washington involves a duplication of \$681,100.

Engines and power.—The aggregate horsepower employed in producing enterprises, as shown by Table 5, was 20,742, of which 20,117 was developed by engines

and water wheels or motors owned by the enterprises using them and 625 by electric motors operated by purchased current.

Table 5

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Bituminous coal.	Granite.	Gold and silver, deep mines.	All other.
Primary power:					
Aggregate horsepower.....	20,742	16,812	1,217	1,201	1,512
Owned.....	20,117	16,641	972	1,032	1,472
Steam engines—					
Number.....	215	133	34	17	31
Horsepower.....	19,446	16,300	972	707	1,467
Gas or gasoline engines—					
Number.....	7	1	.....	6	.....
Horsepower.....	132	7	.....	125	.....
Water wheels—					
Number.....	18	16	.....	1	1
Horsepower.....	539	334	.....	200	5
Electric motors operated by purchased current—					
Number.....	22	6	6	9	1
Horsepower.....	625	171	245	169	40
Electric motors run by current generated by enterprise using:					
Number.....	177	169	6	1	1
Horsepower.....	5,904	5,834	135	10	15

¹ Includes 2 water motors of 14 horsepower.

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1909 figures, as they appear in other tables in this chapter, statistics for the manufacture of coke at bituminous coal mines, and to add to the 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

Table 6

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$6,342,392	\$4,063,773	56.1
Supplies and materials.....	\$1,196,670	\$615,807	94.3
Royalties and rent of mines.....	\$141,231	\$56,558	149.7
Contract work.....	² \$23,849	\$29,600	-19.4
Value of products.....	\$10,826,503	\$5,393,659	100.7
Primary horsepower.....	20,987	11,910	76.2

¹ A minus sign (—) denotes decrease.

² Exclusive of amount paid to miners compensated by a share of the product, which is included under "Contract work," in Table 7.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	PRODUCING MINES AND QUARRIES.									NONPRODUCING MINES AND QUARRIES.		
	Aggregate.	Total.	Bituminous coal.	Granite.	Sandstone.	Gold and silver, deep mines.	Placer gold.	Copper.	All other. ¹	Total.	Gold and silver, deep mines.	All other. ¹
Number of operators.....	416	93	32	14	11	18	5	6	7	323	308	15
Number of mines and quarries.....	1,250	170	54	25	12	49	12	7	11	1,080	1,047	33
Capital ²	\$21,305,841	\$13,074,691	\$9,085,316	\$965,072	\$377,148	\$1,191,849	\$291,500	\$245,018	\$318,785	\$8,231,150	\$7,550,287	\$671,863
Expenses of operation and development.....	\$8,674,564	\$7,800,722	\$6,533,104	\$578,591	\$276,433	\$256,170	\$3,695	\$33,247	\$119,422	\$873,842	\$805,953	\$67,889
Services.....												
Salaried officers of corporations, superintendents, and managers.....	\$309,236	\$213,198	\$132,530	\$25,650	\$17,590	\$22,378		\$5,600	\$9,450	\$66,038	\$81,648	\$14,390
Clerks and other salaried employees.....	\$136,693	\$131,468	\$113,910	\$7,570	\$5,940	\$2,518			\$1,530	\$5,225	\$4,925	\$300
Wage earners.....	\$6,378,923	\$5,891,007	\$5,040,450	\$413,764	\$200,028	\$150,431	\$452	\$14,792	\$71,090	\$487,016	\$454,123	\$33,793
Miscellaneous—												
Supplies.....	\$1,022,591	\$843,025	\$607,534	\$81,802	\$24,082	\$49,792	\$65	\$8,344	\$11,316	\$179,566	\$166,015	\$12,051
Fuel and rent of power.....	\$255,065	\$245,852	\$195,163	\$24,907	\$7,112	\$12,705		\$2,745	\$3,130	\$9,213	\$8,989	\$224
Royalties and rent of mines.....	\$142,239	\$141,231	\$103,330	\$3,389	\$5,003	\$9,859			\$10,650	\$1,008	\$8	\$1,000
Taxes.....	\$103,256	\$93,593	\$85,484	\$2,750	\$1,569	\$2,855		\$351	\$550	\$9,763	\$9,075	\$688
Contract work.....	\$62,741	\$14,462	\$10,162						\$3,100	\$48,279	\$48,277	\$2
Rent of offices and other sundry expenses.....	\$263,720	\$226,886	\$184,601	\$18,579	\$15,109	\$5,032	\$50	\$1,415	\$1,500	\$30,834	\$31,993	\$4,841
Value of products.....	\$10,537,556	\$10,537,556	\$9,226,793	\$739,107	\$271,207	\$156,227	\$3,700	\$15,438	\$125,084			
Persons engaged in industry.....	9,257	7,653	6,348	504	394	232	7	39	129	1,004	1,476	128
Proprietors and officials.....	607	162	69	26	18	27	3	0	13	445	407	38
Proprietors and firm members.....	398	48	6	8	7	15	3	3	0	350	319	31
Number performing manual labor.....	67	10	2	6	1	4		3		51		
Salaried officers of corporations, superintendents and managers.....	51	29	10	6		2		2	3	22	18	4
Clerks and other salaried employees.....	158	85	47	12	11	10		1	4	73	70	3
Wage earners, Dec. 15, 1909, or nearest representative day.....	8,492	7,343	6,155	469	367	202	4	33	113	1,149	1,059	90
Above ground.....	2,595	2,358	1,937	469	367	86	4	12	83	237	194	43
Below ground.....	5,897	4,985	4,218			110		21	30	912	865	47
Men 16 years of age and over.....	8,401	7,312	6,124	469	367	202	4	33	113	1,149	1,059	90
Engineers, firemen, mechanics, etc.....	672	623	502	46	22	35		2	16	40	46	3
Above ground.....	592	546	426	46	22	34		2	16	46	43	3
Below ground.....	80	77	76			1				3	3	
Miners, miners' helpers, quarrymen, and stonecutters.....	5,764	4,774	3,834	380	318	115	4	30	93	990	922	68
Above ground.....	867	778		380	318	4	4	9	63	89	68	21
Below ground.....	4,897	3,996	3,834			111		21	30	901	854	47
All other employees.....	2,025	1,915	1,788	43	27	52		1	4	110	91	19
Above ground.....	1,105	1,003	880	43	27	48		1	4	102	83	19
Below ground.....	920	912	908			4				8	8	
Boys under 16 years of age (all above ground).....	31	31	31									
Number of wage earners employed on the 15th day of each month:												
January.....	6,742	6,431	5,722	277	273	97		55	7	311	300	11
February.....	6,894	6,578	5,795	342	279	110		43	9	316	305	11
March.....	6,855	6,544	5,658	412	288	117		42	27	311	300	11
April.....	7,085	6,738	5,674	530	322	139		20	53	347	338	9
May.....	7,407	7,015	5,802	646	329	121	2	18	97	392	383	9
June.....	7,521	7,029	5,763	729	256	150	2	15	114	402	401	31
July.....	7,501	7,031	5,762	716	245	160	2	11	135	470	450	20
August.....	7,439	6,865	5,708	670	212	162	2	10	101	674	533	41
September.....	7,862	7,182	5,988	704	204	172	2	10	102	630	630	50
October.....	8,031	7,304	6,044	714	215	185	2	23	121	727	671	56
November.....	7,955	7,174	6,062	606	172	192		26	116	781	724	57
December.....	7,749	6,955	6,020	427	198	180		23	107	704	731	63
Land controlled, acres.....	158,120	107,989	98,167	795	539	3,928	854	1,660	2,046	48,131	44,613	3,518
Owned.....	132,023	85,329	76,271	757	330	3,023	854	1,660	1,834	46,694	43,702	2,992
Held under lease.....	24,097	22,660	21,896	38	209	305			212	1,437	1,111	526
Mineral land.....	142,771	96,276	88,611	710	537	3,258	854	800	1,440	46,495	42,982	3,513
Owned.....	119,641	74,583	67,635	672	330	2,998	854	860	1,234	45,058	42,071	2,987
Held under lease.....	23,130	21,693	20,976	38	207	260			212	1,437	1,111	526
Timber land.....	2,309	1,580	620			160		800		720	720	
Other land.....	11,049	10,133	8,936	85	2	610			600	916	916	5
Primary horsepower.....	24,440	20,742	16,812	1,217	772	1,201		195	545	3,698	3,508	190

¹ Includes operators as follows: Clay, 1; marble, 2; mineral pigments, 1; traprock, 2; tungsten, 1.

² Includes operators as follows: Antimony, 1; bituminous coal, 3; clay, 3; granite, 1; limestone, 2; marble, 2; molybdenum, 1; tungsten, 2.

³ Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

WEST VIRGINIA.

Summary.—The gross value of the products of all mining enterprises in West Virginia in 1909 amounted to \$76,287,889. From this amount should be deducted \$893,664, the value of natural gas sold by some operators to others who sold it again. This leaves \$75,394,225 as the net value of the products and gives West Virginia a rank of third among the states in the value of mining products. Pennsylvania and Illinois were the only states which reported products of greater value. Bituminous coal mining, with products valued at \$46,929,592, or 62.2 per cent of the net value of the products of all enterprises, was the leading industry. Of the total value of products of this industry, \$39,797,027 represented the value of the coal sold as such, \$7,132,392 the value of the coke made at the mines, and \$173 the value of all other products. In the production of petroleum and natural gas, the industry next in importance, the net value of products amounted to \$27,294,423. The total value of the products for these two industries combined was \$74,224,015, or 98.4 per cent of the total for the state.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 798 operators, 465, or 58.3 per cent, were corporations. These corporations reported 93.9 per cent of the total value of products and employed 97.1 per cent of all wage earners.

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of operators.		Value of products.		Percent distribution.		
	Number of operators.	Number of wage earners.	Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries...	798	78,404	\$76,287,889	\$95,599	100.0	100.0	100.0
Individual.....	114	690	1,017,825	8,928	14.3	0.9	1.3
Firm.....	208	907	2,109,401	10,141	26.1	1.2	2.8
Corporation.....	465	76,137	71,633,590	154,051	58.3	97.1	93.9
Other.....	11	670	1,527,073	138,825	1.4	0.9	2.0
Bituminous coal	307	69,666	46,929,592	152,865	100.0	100.0	100.0
Individual.....	24	369	180,091	7,870	7.8	0.5	0.4
Firm.....	13	448	229,734	17,672	4.2	0.6	0.5
Corporation.....	270	68,849	46,519,767	172,262	87.9	98.8	99.1
Petroleum and natural gas...	442	7,093	28,188,087	63,774	100.0	100.0	100.0
Individual.....	72	128	687,752	9,552	16.3	1.8	2.4
Firm.....	183	285	1,779,289	9,723	41.4	4.0	6.3
Corporation.....	175	6,010	24,190,745	138,233	39.6	84.7	85.8
Other.....	12	670	1,530,301	127,525	2.7	9.4	5.4

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according to the number of wage earners employed per enterprise or operating unit. For all industries combined there

were 176 enterprises which employed over 100 wage earners each. These enterprises, while they represent but one-fifth of the total number, employed over four-fifths of all the wage earners. Of the 400 enterprises engaged in the production of bituminous coal, 8 employed over 1,000 wage earners each and reported 29.7 per cent of all the wage earners in that industry.

	Incorporated.	Unincorporated.
Number of operators.....	465	333
Number of mines and quarries.....	646	72
Number of wells.....	10,711	4,435
Proprietors and firm members, total.....		909
Number performing manual labor.....		81
Salaried employees:		
Officers of corporations.....	385	
Superintendents and managers.....	873	69
Clerks and other salaried employees.....	2,120	48
Wage earners, Dec. 15, 1909, or nearest representative day.....	70,137	2,267
Capital.....	\$203,675,354	\$15,791,555
Expenses of operation and development.....	67,449,083	3,893,548
Salaries—		
Officers of corporations.....	855,929	
Superintendents and managers.....	1,274,334	67,354
Clerks and other salaried employees.....	1,610,212	21,055
Wages.....	35,057,167	923,569
Royalties and rent of mines.....	7,144,242	651,930
Taxes.....	858,400	107,043
Supplies and miscellaneous expenses.....	20,223,016	1,659,716
Cost of natural gas purchased and resold.....	425,783	487,881
Value of products.....	71,633,590	4,654,299

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	Enterprises.		Wage earners.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	891	100.0	78,404	100.0
No wage earners.....	25	2.8		
Contract work and part-time employees.....	155	17.4		
1 to 5.....	225	25.3	447	0.6
6 to 20.....	104	11.7	1,189	1.5
21 to 50.....	98	11.0	3,442	4.4
51 to 100.....	108	12.1	7,889	10.1
101 to 500.....	157	17.6	33,203	42.3
501 to 1,000.....	10	1.1	6,948	8.9
Over 1,000.....	9	1.0	25,280	32.3
Bituminous coal.....	400	100.0	69,666	100.0
Contract work.....	2	0.5		
1 to 5.....	18	4.5	58	0.1
6 to 20.....	39	9.8	480	0.7
21 to 50.....	77	19.3	2,780	4.0
51 to 100.....	94	23.5	6,868	9.9
101 to 500.....	153	38.3	32,432	46.6
501 to 1,000.....	9	2.3	6,375	9.2
Over 1,000.....	8	2.0	20,064	29.7
Petroleum and natural gas.....	442	100.0	7,093	100.0
No wage earners.....	25	5.7		
Contract work and part-time employees.....	153	34.6		
1 to 5.....	194	43.9	353	5.0
6 to 20.....	49	11.1	541	7.6
21 to 50.....	11	2.5	325	4.6
51 to 100.....	6	1.4	452	6.4
Over 100.....	4	0.9	5,422	76.4

Prevailing hours of labor.—In Table 4 all producing enterprises, except those employing no wage earners and those operated exclusively by contract work and part-time employees, have been classified according

to the prevailing hours of labor per day in each enterprise or operating unit. Petroleum and natural gas wells are not included in this table because the lack of regularity in the number of hours worked per day in a large number of enterprises rendered such classification impracticable. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise.

For all industries combined and in the production of bituminous coal over three-fourths of the wage earners were employed in enterprises where a day of 10 hours prevailed.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries	1 445	100.0	100.0
8 hours and under.....	42	9.4	3.2
9 hours.....	88	19.8	19.3
10 hours.....	315	70.8	77.6
Bituminous coal	396	100.0	100.0
8 hours and under.....	41	10.4	3.2
9 hours.....	79	19.9	19.6
10 hours.....	276	69.7	77.2

¹ Exclusive of petroleum and natural gas and ² bituminous coal mines for which number of hours was not reported.

Duplication between manufactures and mining.—In a number of industries some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact, the combined value of products for the manufacturing and mining industries in West Virginia involves a duplication of \$7,181,062.

Engines and power.—As shown by Table 5, the aggregate horsepower employed in producing enterprises was 416,282, of which 410,230 horsepower was developed by engines and water wheels owned by the enterprises using them, and 6,502 by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Bituminous coal.	Petroleum and natural gas.	Limestone.	All other.
Primary power:					
Aggregate horsepower.....	416,282	155,576	256,138	2,796	1,772
Owned.....	410,230	149,971	256,108	2,489	1,662
Steam engines—					
Number.....	8,014	1,114	6,833	24	43
Horsepower.....	327,310	149,815	173,374	2,489	1,032
Gas or gasoline engines—					
Number.....	3,349	20	3,328		1
Horsepower.....	82,910	146	82,734		30
Water wheels—					
Number.....	2	2			
Horsepower.....	10				
Electric motors operated by purchased current—					
Number.....	233	222	1	6	4
Horsepower.....	6,052	5,605	30	307	110
Electric motors run by current generated by enterprise using:					
Number.....	2,603	2,232	371		
Horsepower.....	89,014	81,598	7,416		

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement; to omit from the 1909 figures, as they appear in other tables in this chapter, statistics for the manufacture of coke at bituminous coal mines; and to add to the 1909 statistics, figures for the production of lime, which were omitted from the census of the mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$38,177,028	\$19,905,757	91.8
Supplies and materials.....	\$12,801,951	\$8,513,767	50.4
Royalties and rent of mines.....	\$7,736,597	\$3,874,780	101.2
Contract work.....	\$4,307,288	\$5,194,279	-17.1
Value of products.....	\$73,452,935	\$48,362,064	51.8
Primary horsepower.....	417,282	240,170	73.7

¹ A minus sign (-) denotes decrease.

² Exclusive of wages of part-time employees for the petroleum and natural gas industry, which are included under "Contract work," in Table 7.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	PRODUCING MINES, QUARRIES, AND WELLS.								Nonproducing mines, quarries, and wells. ²
	Aggregate.	Total.	Bituminous coal.	Petroleum and natural gas.	Limestone.	Sandstone.	Clay (sold as such).	All other. ¹	
Number of operators	815	798	307	442	12	27	3	7	17
Number of mines, quarries, and wells	15,894	15,864	661	15,146	13	33	4	7	20
Capital ³	\$221,659,945	\$219,466,909	\$148,802,294	\$68,811,344	\$1,385,323	\$281,152	\$83,609	\$98,187	\$2,193,036
Expenses of operation and development	\$71,658,910	\$71,347,631	\$45,469,759	\$25,005,078	\$617,643	\$188,788	\$29,682	\$36,681	\$311,279
Services—									
Salaried officers of corporations, superintendents, and managers	\$2,202,851	\$2,197,617	\$1,596,534	\$575,599	\$11,947	\$11,267	\$1,370	\$900	\$5,234
Clerks and other salaried employees	\$1,639,305	\$1,631,267	\$1,409,251	\$214,726	\$4,853	\$2,529	\$537	\$370	\$8,038
Wage earners	\$36,026,592	\$35,950,736	\$30,995,703	\$4,397,975	\$402,674	\$141,901	\$13,885	\$28,598	\$45,656
Miscellaneous—									
Supplies	\$11,758,558	\$11,647,711	\$5,138,803	\$6,334,336	\$143,226	\$17,822	\$10,505	\$3,019	\$110,847
Cost of natural gas purchased and resold	\$893,664	\$893,664		\$593,664					\$214
Fuel and rent of power	\$1,213,029	\$1,212,825	\$707,151	\$449,963	\$40,956	\$5,329	\$1,331	\$2,065	\$10,256
Royalties and rent of mines	\$7,806,428	\$7,796,172	\$2,870,850	\$4,921,505	\$1,323	\$1,514		\$650	\$5,562
Taxes	\$971,405	\$965,443	\$485,161	\$476,343	\$1,875	\$1,259	\$406	\$402	\$110,617
Contract work	\$4,576,543	\$4,465,929	\$62,279	\$4,403,647				\$647	\$14,295
Rent of offices and other sundry expenses	\$4,570,535	\$4,556,270	\$2,295,027	\$2,337,020	\$4,749	\$7,179	\$1,648	\$947	
Value of products	\$76,287,889	\$76,287,889	\$46,929,592	\$28,188,087	\$835,498	\$243,435	\$37,765	\$53,512	
Persons engaged in industry	83,062	82,808	72,477	8,606	1,149	437	42	97	254
Proprietors and officials	2,257	2,236	1,038	1,129	20	37	4	8	21
Proprietors and firm members	918	909	59	807	7	28	2	6	9
Number performing manual labor	81	81	12	56		10	1	2	5
Salaried officers of corporations	390	385	287	92	4	1	1	1	7
Superintendents and managers	949	942	692	230	9	8	1	2	12
Clerks and other salaried employees	2,180	2,168	1,773	384	4	4	2	1	
Wage earners, Dec. 15, 1909, or nearest representative day	78,625	78,404	69,666	7,093	1,125	396	36	88	221
Above ground	23,904	23,755	15,034	7,093	1,125	396	19	85	149
Below ground	54,721	54,649	54,632				17	3	72
Men 16 years of age and over	77,777	77,556	68,829	7,093	1,116	394	36	88	221
Engineers, firemen, mechanics, etc.	9,885	9,826	4,285	5,402	34	38	2	5	59
Above ground	9,035	8,976	3,435	5,402	34	38	2	5	59
Below ground	850	850							
Miners, miners' helpers, quarrymen, and stonecutters	42,248	42,154	40,710		1,063	279	28	74	94
Above ground	1,449	1,427			1,063	279	11	74	22
Below ground	40,799	40,727	40,710				17	0	72
All other employees	25,644	25,576	23,834	1,631	19	77	6	9	68
Above ground	13,295	13,227	11,485	1,631	19	77	6	9	68
Below ground	12,349	12,349	12,349						
Boys under 16 years of age ⁴	848	848	837		9	2			
Number of wage earners employed on the 15th day of each month:									
January	71,133	71,133	63,980	6,191	675	199	29	59	
February	70,622	70,622	63,461	6,152	707	206	31	65	
March	70,300	70,300	62,932	6,276	742	237	31	82	
April	71,243	71,241	63,308	6,417	1,126	284	30	76	2
May	71,120	71,118	62,983	6,590	1,123	316	30	76	2
June	72,301	72,297	63,906	6,826	1,097	353	33	82	4
July	72,571	72,499	64,080	6,861	1,093	353	32	80	72
August	74,029	73,951	65,276	7,072	1,147	334	32	81	78
September	75,874	75,768	66,965	7,106	1,189	375	32	84	116
October	76,638	76,483	67,704	7,054	1,191	417	33	84	155
November	78,328	78,160	69,161	7,401	1,096	391	35	76	188
December	77,528	77,369	68,986	7,087	822	366	36	72	159
Land controlled, acres	5,599,794	5,569,353	1,176,880	4,387,632	1,795	1,946	487	633	30,441
Owned	644,804	636,840	611,023	22,295	1,678	969	487	385	7,964
Held under lease	4,954,990	4,932,513	565,857	4,365,334	117	977		248	22,477
Mineral and oil land	5,556,577	5,526,703	1,134,485	4,387,632	1,520	1,946	487	633	20,874
Owned	616,427	608,805	583,263	22,295	1,403	969	487	385	7,622
Held under lease	4,940,150	4,917,898	551,222	4,365,334	117	977		248	22,252
Timber land	13,435	13,435	13,435						567
Other land	29,782	29,215	28,940		275				
Primary horsepower	417,409	416,282	155,576	256,138	2,796	973	418	381	1,127

¹ Includes operators as follows: Asphaltum and bituminous rock, 1; bluestone, 2; grindstones, 2; iron, 1; marble, 1.

² Includes operators as follows: Bituminous coal, 6; grindstones, 1; limestone, 1; marble, 1; petroleum and natural gas, 8.

³ Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

⁴ In the bituminous coal industry 723 boys were employed below ground.

WISCONSIN.

Summary.—The gross value of the products of all mines and quarries in Wisconsin in 1909 was \$7,459,404. Deducting from this amount, \$156,000, the value of lead and zinc ore produced by some operators and used as material by others, leaves \$7,303,404 as the net value of the products. The principal industries were the production of iron ore and lead and zinc. The value of the products of these two industries, after deducting the ore purchased by the lead and zinc mines, was \$4,806,491, or 65.8 per cent of the net value of all products. Granite quarrying, the industry next in importance, reported products valued at \$1,433,105.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated.

INDUSTRY AND CHARACTER OF ORGANIZATION.	PRODUCING ENTERPRISES: 1909						
	Number of operators.	Number of wage earners.	Value of products.		Percent distribution.		
			Total.	Per operator.	Operators.	Wage earners.	Value of products.
All industries.....	268	6,083	\$7,459,404	\$27,834	100.0	100.0	100.0
Individual.....	113	558	378,481	3,349	42.2	9.2	5.1
Firm.....	41	455	357,042	9,440	15.3	7.5	5.2
Corporation.....	114	5,070	6,693,881	58,715	42.5	83.3	89.7
Lead and zinc...	88	1,753	1,989,907	22,613	100.0	100.0	100.0
Individual.....	5	39	51,408	10,282	5.7	2.2	2.6
Firm.....	16	161	162,865	10,179	18.2	9.2	8.2
Corporation.....	67	1,553	1,775,634	26,502	76.1	88.6	89.2

	Incorporated.	Unincorporated.
Number of operators.....	114	154
Number of mines and quarries.....	126	160
Proprietors and firm members, total.....		216
Number performing manual labor.....		104
Salaried employees:		
Officers of corporations.....	54	
Superintendents and managers.....	108	8
Clerks and other salaried employees.....	88	10
Wage earners, Dec. 15, 1909, or nearest representative day.....	5,070	1,013
Capital.....	\$10,733,215	\$927,516
Expenses of operation and development.....	4,982,798	525,953
Salaries—		
Officers of corporations.....	48,650	
Superintendents and managers.....	131,082	6,992
Clerks and other salaried employees.....	67,089	4,659
Wages.....	2,705,090	376,269
Royalties and rent of mines.....	416,969	28,177
Taxes.....	59,537	3,218
Supplies and miscellaneous expenses.....	1,398,381	106,638
Cost of ore purchased.....	156,000	
Value of products.....	6,693,881	765,523

Out of a total of 268 operators, 114, or 42.5 per cent. were corporations. These corporations reported 89.7 per cent of the total value of products and employed 83.3 per cent of all wage earners. In the iron-ore

industry all enterprises were conducted by corporations.

Size of enterprises.—In Table 3 the producing enterprises are classified according to the number of wage earners employed per enterprise or operating unit. Of the 269 enterprises reported, only 11 employed over 100 wage earners each. These enterprises, however, employed 39.4 per cent of all wage earners. In the production of iron ore the 4 enterprises reporting over 100 wage earners each, employed 86.7 per cent of the wage earners engaged in that industry.

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	PRODUCING ENTERPRISES: 1909			
	Enterprises.		Wage earners	
	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	269	100.0	6,083	100.0
No wage earners.....	23	8.6		
1 to 5.....	94	35.0	218	3.6
6 to 20.....	82	30.5	1,116	18.3
21 to 50.....	45	16.7	1,400	23.0
51 to 100.....	14	5.2	952	15.7
Over 100.....	11	4.1	2,397	39.4
Iron.....	7	100.0	1,455	100.0
21 to 100.....	3	42.9	193	13.3
Over 100.....	4	57.1	1,262	86.7
Lead and zinc.....	88	100.0	1,753	100.0
No wage earners.....	3	3.4		
1 to 5.....	13	14.8	43	2.5
6 to 20.....	40	45.5	554	31.6
21 to 50.....	27	30.7	826	47.1
Over 50.....	5	5.7	330	18.8

Persons employed in mining.—While iron mining was the leading industry in 1909, when measured by the value of products, the building stone quarries, producing granite, limestone, and sandstone, rank first when the number of persons employed is considered. Out of a total of 6,567 persons employed in the producing mines, 3,116, or 47.4 per cent, were employed in the stone industry, and only 1,517, or 23.1 per cent, in the iron industry.

Prevailing hours of labor.—In Table 4 all producing enterprises, except those employing no wage earners, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. The table shows the percentage of the total number of enterprises falling in each group, and also a per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise.

The table shows a marked difference in the number of hours persons are employed in the different mining industries. In the lead and zinc mines, in 65 per cent of the enterprises weighted according to the number of wage earners, a day of 8 hours prevailed, while for all industries combined the corresponding per cent was only 23.5.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909		
	Enterprises.		Per cent distribution of enterprises weighted according to number of wage earners.
	Number.	Per cent distribution.	
All industries.....	246	100.0	100.0
8 hours.....	80	32.5	23.5
9 hours.....	41	16.7	20.8
10 hours.....	125	50.8	55.7
Lead and zinc.....	85	100.0	100.0
8 hours.....	61	71.8	65.0
9 hours.....	22	25.9	32.3
10 hours.....	2	2.4	2.8

Engines and power.—As shown by Table 5, the aggregate horsepower employed in all producing enterprises was 24,864.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Iron.	Lead and zinc.	Build- ing stone. ¹	All other.
Primary power:					
Aggregate horsepower.....	24,864	8,975	8,757	6,581	551
Owued.....	24,346	8,975	8,697	6,123	551
Steam engines—					
Number.....	404	122	148	133	1
Horsepower.....	22,028	8,959	7,542	5,457	70
Gas or gasoline engines—					
Number.....	75	2	57	14	2
Horsepower.....	1,413	16	1,155	226	16
Water wheels—					
Number.....	6			4	2
Horsepower.....	905			440	465
Electric motors operated by purchased current—					
Number.....	16		2	14	
Horsepower.....	518		60	458	
Electric motors run by current generated by enterprise using:					
Number.....	72	1	63	8	
Horsepower.....	1,207	8	964	235	

¹ Includes granite, limestone, and sandstone.

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement and enterprises operated by governmental institutions, and to add to the 1909 statistics, figures for the production of lime, which were omitted from the census of mines and quarries in 1909. Such items as are comparable for the two years are presented in Table 6.

The most marked increase in the value of products was in the lead and zinc industry, where the increase was from \$473,652 in 1902 to \$1,833,907 in 1909. Other noticeable increases were in the production of iron ore, the value of which increased from \$1,800,864 in 1902 to \$2,972,584 in 1909, and in the production of granite, the value of which increased from \$369,137 in 1902 to \$1,433,105 in 1909.

	PRODUCING ENTERPRISES.		
	1909	1902	Per cent of increase.
Wages and salaries.....	\$3,839,877	\$2,145,491	79.0
Supplies and materials.....	\$1,064,543	\$737,253	111.4
Royalties and rent of mines.....	\$445,191	\$240,110	85.4
Contract work.....	\$39,020	\$3,753	933.3
Value of products.....	\$8,575,402	\$4,257,685	101.4
Primary horsepower.....	26,848	12,011	123.5

¹ Exclusive of amount paid to miners compensated by a share of the product, which is included under "Contract work," in Table 7.

Duplication between manufactures and mining.—In a number of industries some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in Wisconsin involves a duplication of \$1,423,837. Of this amount, \$1,272,574 represents the value of granite duplicated, \$91,297 the value of limestone, and \$40,000 the value of sandstone, while quartz and graphite constitute the remainder of the duplication (\$19,966).

MINES AND QUARRIES.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	PRODUCING MINES AND QUARRIES.								Nonproducing mines and quarries. ¹
	Aggregate.	Total.	Iron.	Lead and zinc.	Granite.	Limestone.	Sandstone.	All other. ²	
Number of operators.....	290	268	6	88	21	110	39	4	22
Number of mines and quarries.....	308	286	11	89	23	118	41	4	22
Capital ³	\$13,042,748	\$11,660,731	\$3,979,729	\$4,656,607	\$1,078,516	\$1,554,276	\$319,454	\$72,149	\$1,382,017
Expenses of operation and development.....	\$5,614,672	\$5,508,751	\$1,798,595	\$4,616,103	\$1,287,914	\$646,729	\$140,762	\$18,648	\$105,921
Services—									
Salaried officers of corporations, superintendents, and managers.....	\$196,843	\$186,724	\$29,215	\$72,173	\$43,675	\$26,512	\$13,949	\$1,200	\$10,119
Clerks and other salaried employees.....	\$74,460	\$71,745	\$11,306	\$4,643	\$7,635	\$11,705	\$1,440	\$1,019	\$2,712
Wage earners.....	\$3,128,023	\$3,081,359	\$870,977	\$714,735	\$979,038	\$423,661	\$54,278	\$5,070	\$46,669
Miscellaneous—									
Supplies.....	\$730,724	\$721,925	\$310,027	\$190,137	\$120,688	\$79,211	\$19,266	\$2,596	\$14,799
Cost of ore purchased.....	\$150,000	\$150,000		\$156,000					
Fuel and rent of power.....	\$458,047	\$439,993	\$132,155	\$213,523	\$36,903	\$45,299	\$6,494	\$1,259	\$22,054
Royalties and rent of mines.....	\$445,180	\$443,146	\$269,872	\$160,484	\$7,929	\$3,286	\$1,575		\$40
Taxes.....	\$63,691	\$62,735	\$49,710	\$4,308	\$6,225	\$3,804	\$1,078	\$570	\$936
Contract work.....	\$45,361	\$40,957	\$20,600	\$14,530	\$4,218	\$1,405	\$204		\$4,404
Rent of offices and other sundry expenses.....	\$310,332	\$300,144	\$77,733	\$81,270	\$31,543	\$49,786	\$12,478	\$3,334	\$4,188
Value of products.....	\$7,459,404	\$7,459,404	\$2,972,584	\$1,989,907	\$1,433,105	\$842,116	\$200,236	\$21,456	.....
Persons engaged in industry.....	6,786	6,567	1,517	1,906	1,499	1,268	348	28	219
Proprietors and officials.....	416	386	18	138	39	137	48	6	30
Proprietors and firm members.....	232	216		50	14	111	36	5	16
Number performing manual labor.....	197	104		24	6	55	18	1	3
Salaried officers of corporations.....	57	54	2	28	9	9	0		3
Superintendents and managers.....	127	116	16	60	16	17	6	1	11
Clerks and other salaried employees.....	105	98	44	15	12	20	4	3	7
Wage earners, Dec. 15, 1909, or nearest representative day.....	6,265	6,083	1,455	1,753	1,448	1,111	297	19	182
Above ground.....	3,602	3,532	412	550	1,448	1,111	297	14	70
Below ground.....	2,363	2,251	1,043	1,203				5	112
Men 16 years of age and over.....	6,259	6,077	1,455	1,753	1,448	1,105	297	19	182
Engineers, firemen, mechanics, etc.....	674	610	150	293	79	69	18	1	64
Above ground.....	634	585	132	286	79	69	18	1	49
Below ground.....	40	25	18	7					15
Miners, miners' helpers, quarrymen, and stonecutters.....	3,972	3,872	871	1,215	775	793	211	7	100
Above ground.....	1,931	1,914	70	63	775	793	211	2	17
Below ground.....	2,041	1,958	801	1,152				5	83
All other employees.....	1,613	1,595	434	245	594	243	68	11	18
Above ground.....	1,331	1,327	210	201	594	243	68	11	4
Below ground.....	282	268	224	44					14
Boys under 16 years of age (all above ground).....	6	6				6			
Number of wage earners employed on the 15th day of each month:									
January.....	3,245	3,194	1,039	967	822	306	53	7	51
February.....	3,428	3,374	1,266	990	837	220	62	9	54
March.....	3,901	3,837	1,244	956	1,130	405	85	7	64
April.....	4,546	4,482	1,149	998	1,359	805	159	12	64
May.....	4,932	4,860	1,188	1,032	1,443	972	212	13	72
June.....	5,104	4,994	1,142	1,080	1,436	1,082	237	17	110
July.....	5,540	5,413	1,263	1,153	1,559	1,152	265	14	127
August.....	5,465	5,373	1,304	1,125	1,565	1,102	264	18	117
September.....	5,664	5,597	1,410	1,283	1,595	1,057	233	19	97
October.....	5,646	5,556	1,369	1,427	1,521	1,007	212	20	90
November.....	5,315	5,231	1,446	1,356	1,358	902	151	18	84
December.....	4,659	4,599	1,307	1,436	1,050	660	128	18	90
Land controlled, acres.....	40,657	38,496	20,394	10,669	2,899	2,690	1,800	44	2,161
Owned.....	26,260	25,858	17,623	1,544	2,732	2,579	1,376	4	402
Held under lease.....	14,397	12,638	2,771	9,125		111	424	40	1,759
Mineral land.....	25,057	22,896	8,083	10,445	719	2,133	1,472	44	2,161
Owned.....	11,872	11,470	6,364	1,430	552	2,022	1,048	4	402
Held under lease.....	13,185	11,426	1,719	8,965	167	111	424	40	1,759
Timber land.....	4,313	4,313	4,163	120			30		
Other land.....	11,287	11,287	8,148	104	2,180	557	298		
Primary horsepower.....	26,885	24,864	8,975	8,757	2,512	3,433	636	551	2,021

¹ Includes operators as follows: Clay, 1; graphite, 1; pyrite, 1; quartz, 1.² Includes operators as follows: Granite, 1; graphite, 1; iron, 1; lead and zinc, 19.³ Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.

WYOMING.

Summary.—Bituminous coal mining was the leading industry in Wyoming in 1909. The value of the products of this industry was \$9,721,134, which represented 92 per cent of the value of products for all mines and quarries (\$10,572,188). In the production of gypsum, the industry next in importance, the value of the products was \$132,719.

In the production of petroleum and natural gas—the expenses of operation and development exceeded the value of the products. This was due in most part to expenditures for development work resulting in permanent improvements to the mining properties.

Character of organization.—Table 1 classifies the producing mining operations of the state under form of organization, distinguishing corporations from individual owners and firms, while Table 2 gives further details for incorporated enterprises distinguished from those which are unincorporated. Out of a total of 66 operators, 44 were corporations. These corporations reported 98.8 per cent of the total value of products and employed 98.4 per cent of all wage earners.

employed over 500 wage earners each. These enterprises reported 49.9 per cent of the wage earners employed in all enterprises.

	Incorporated.	Unincorporated.
Number of operators.....	44	22
Number of mines and quarries.....	67	28
Number of wells.....	21	.....
Proprietors and firm members, total.....	.....	202
Number performing manual labor.....	.....	13
Salaried employees:		
Officers of corporations.....	24	.....
Superintendents and managers.....	77	3
Clerks and other salaried employees.....	176	2
Wage earners, Dec. 15, 1909, or nearest representative day.....	8,366	133
Capital.....	\$9,366,855	\$138,510
Expenses of operation and development.....	8,939,694	113,773
Salaries—		
Officers of corporations.....	114,027	.....
Superintendents and managers.....	135,608	6,000
Clerks and other salaried employees.....	190,422	1,350
Wages.....	6,207,053	59,734
Royalties and rent of mines.....	102,024	5,810
Taxes.....	60,860	549
Supplies and miscellaneous expenses.....	2,129,700	40,330
Value of products.....	10,445,432	126,756

Table 1

INDUSTRY AND CHARACTER OF ORGANIZATION.	Number of operators.	Number of wage earners.	Value of products.		Percent distribution.		
			Total.	Per operator.	Oper-ators.	Wage earn-ers.	Value of prod-ucts.
All industries.....	66	8,499	\$10,572,188	\$160,185	100.0	100.0	100.0
Individual.....	15	40	54,264	3,618	22.7	0.5	0.5
Firm ¹	7	93	72,492	10,356	10.6	1.1	0.7
Corporation.....	44	8,366	10,445,432	237,396	66.7	98.4	98.8
Bituminous coal.....	39	7,839	9,721,134	249,260	100.0	100.0	100.0
Unincorporated ²	10	109	80,924	8,092	25.6	1.4	0.8
Corporation.....	29	7,730	9,640,210	332,421	74.4	98.6	99.2

¹ Includes 1 cooperative association.

² Includes 8 individuals, 1 firm, and 1 cooperative association.

Size of enterprises.—In Table 3 the producing mining enterprises of the state are classified according to the number of wage earners per enterprise or operating unit. In the bituminous coal industry five enterprises

Table 3

INDUSTRY AND WAGE EARNERS PER ENTERPRISE.	Number of enter-prises.	Wage earners.	
		Number.	Per cent distri-bution.
All industries.....	70	8,499	100.0
No wage earners.....	5	.....	.....
Contract work.....	1	.....	.....
1 to 5.....	19	46	0.5
6 to 20.....	17	136	1.6
21 to 50.....	7	244	2.9
51 to 100.....	4	352	4.1
101 to 500.....	12	3,484	41.0
Over 500.....	5	4,237	49.9
Bituminous coal.....	39	7,839	100.0
No wage earners.....	1	.....	.....
1 to 5.....	7	23	0.3
6 to 20.....	7	65	0.8
21 to 50.....	4	148	1.9
51 to 100.....	4	352	4.5
101 to 500.....	11	3,014	38.4
Over 500.....	5	4,237	54.1

Prevailing hours of labor.—In Table 4 all producing enterprises, except those employing no wage earners

and one operated exclusively by contract work, have been classified according to the prevailing hours of labor per day in each enterprise or operating unit. Petroleum and natural gas wells are not included in this table, because the lack of regularity in the number of hours worked per day in a large number of enterprises rendered such classification impracticable.

The table shows the per cent distribution in which each enterprise has been given a weight according to the total number of wage earners employed December 15, 1909, or the nearest representative day. It should be borne in mind that this latter distribution does not show the exact proportion of the total number of wage earners working the specified number of hours per day, since, in some cases, a part of the employees worked a greater or less number of hours than those generally prevailing in the enterprise. A day of eight hours generally prevailed in all the mining enterprises of the state.

INDUSTRY AND HOURS PER DAY.	PRODUCING ENTERPRISES: 1909	
	Number of enterprises.	Per cent distribution of enterprises weighted according to number of wage earners.
All industries ¹	58	100.0
8 hours.....	43	93.2
9 hours.....	3	0.1
10 hours.....	11	6.3
12 hours.....	1	0.4
Bituminous coal	38	100.0
8 hours.....	33	99.5
9 hours.....	2	0.1
10 hours.....	3	0.5

¹ Exclusive of petroleum and natural gas.

Engines and power.—As shown by Table 5, the aggregate horsepower employed in the producing enterprises in 1909 was 30,338, of which 29,713 was developed by engines and water wheels owned by enterprises using them and 625 by electric motors operated by purchased current.

CHARACTER OF POWER.	PRODUCING ENTERPRISES: 1909				
	Total.	Bituminous coal.	Petroleum and natural gas.	Gypsum.	All other.
Primary power:					
Aggregate horsepower.....	30,338	28,071	285	325	1,657
Owned.....	29,713	27,446	285	325	1,657
Steam engines—					
Number.....	202	172	10	2	18
Horsepower.....	29,600	27,356	273	325	1,046
Gas or gasoline engines—					
Number.....	7	2	3		2
Horsepower.....	113	90	12		11
Electric motors operated by purchased current—					
Number.....	8	8			
Horsepower.....	625	625			
Electric motors run by current generated by enterprise using:					
Number.....	87	79			8
Horsepower.....	2,474	2,461			13

Comparison of mining industries: 1902-1909.—Table 6 presents for 1909 and 1902 such data as are comparable for the two years.

	PRODUCING ENTERPRISES.		
	1909	1902 ¹	Per cent of increase.
Wages and salaries.....	\$6,714,194	\$3,620,675	85.4
Supplies and materials.....	\$1,701,781	\$818,496	115.2
Royalties and rent of mines.....	\$107,834	\$95,222	13.2
Contract work.....	² \$48,151	\$15,547	209.7
Value of products.....	\$10,572,188	\$5,684,286	86.0
Primary horsepower.....	30,338	18,096	67.7

¹ Includes statistics for the production of lime, which are omitted from the figures for 1909.

² Exclusive of the wages of part-time employees for the petroleum and natural gas industry, which are included under "Contract work," in Table 7.

Duplication between manufactures and mining.—In the sandstone and gypsum industries some of the operators subjected the products obtained to certain manufacturing processes on the premises before marketing. These enterprises have been included in the statistics both for manufactures and for mining. As a result of this fact the combined value of products for the manufacturing and mining industries in Wyoming involves a duplication of \$135,239.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 7	Aggregate.	PRODUCING MINES, QUARRIES, AND WELLS.							Non-producing mines, quarries, and wells. ¹
		Total.	Bituminous coal.	Petroleum and natural gas.	Gypsum.	Sandstone.	Limestone.	All other. ²	
Number of operators.....	126	66	35	7	3	6	3	12	60
Number of mines, quarries, and wells.....	405	116	65	21	3	7	3	17	259
Capital ³	\$12,663,868	\$9,505,365	\$7,609,229	\$548,000	\$218,652	\$15,050	\$5,310	\$1,108,524	\$3,158,503
Expenses of operation and development.....	\$9,448,025	\$9,053,467	\$8,146,526	\$156,661	\$114,919	\$16,461	\$16,724	\$602,176	\$394,558
Services—									
Salaried officers of corporations, superintendents, and managers.....	\$329,140	\$255,635	\$230,615	\$1,800	\$4,900	-----	-----	\$18,320	\$73,505
Clerks and other salaried employees.....	\$197,923	\$191,772	\$180,954	\$1,500	\$3,638	-----	-----	\$5,650	\$6,151
Wage earners.....	\$6,427,266	\$6,266,787	\$5,808,248	\$11,150	\$40,053	\$13,576	\$60	\$393,400	\$160,479
Miscellaneous—									
Supplies.....	\$1,465,331	\$1,385,594	\$1,127,634	\$108,246	\$21,309	\$1,920	\$9	\$126,476	\$79,737
Fuel and rent of power.....	\$396,444	\$376,187	\$307,831	\$3,265	\$23,378	\$50	-----	\$41,663	\$20,257
Royalties and rent of mines.....	\$108,334	\$107,834	\$104,908	\$331	-----	\$140	\$2,455	-----	\$500
Taxes.....	\$63,701	\$61,409	\$55,969	\$284	\$258	\$245	-----	\$4,653	\$2,292
Contract work.....	\$80,967	\$61,542	\$10,644	\$28,391	\$438	-----	\$14,000	\$8,069	\$19,425
Rent of offices and other sundry expenses.....	\$378,919	\$346,707	\$319,723	\$1,694	\$20,945	\$230	\$200	\$3,915	\$32,212
Value of products.....	\$10,572,188	\$10,572,188	\$9,721,134	\$18,929	\$132,719	\$22,855	\$21,700	\$654,851	-----
Persons engaged in industry.....	9,357	8,983	8,267	31	52	29	6	598	374
Proprietors and officials.....	374	306	272	3	4	7	4	16	68
Proprietors and firm members.....	229	202	185	-----	-----	7	4	6	27
Number performing manual labor.....	26	13	4	-----	-----	2	2	5	13
Salaried officers of corporations.....	39	24	24	-----	-----	-----	-----	-----	15
Superintendents and managers.....	106	80	63	3	4	-----	-----	10	29
Clerks and other salaried employees.....	189	178	156	4	5	-----	-----	13	11
Wage earners, Dec. 15, 1909, or nearest representative day.....	8,794	8,499	7,839	24	43	22	2	569	295
Above ground.....	1,841	1,726	1,278	24	43	22	2	357	115
Below ground.....	6,953	6,773	6,561	-----	-----	-----	-----	212	180
Men 16 years of age and over.....	8,789	8,494	7,834	24	43	22	2	569	295
Engineers, firemen, mechanics, etc.....	596	541	455	17	-----	-----	-----	69	55
Above ground.....	539	457	407	17	-----	-----	-----	63	52
Below ground.....	57	54	48	-----	-----	-----	-----	6	3
Miners, miners' helpers, and quarrymen.....	5,650	5,482	5,054	-----	-----	14	2	412	198
Above ground.....	260	230	-----	-----	-----	14	2	214	30
Below ground.....	5,420	5,252	5,054	-----	-----	-----	-----	198	168
All other employees.....	2,513	2,471	2,325	7	43	8	-----	88	42
Above ground.....	1,039	1,006	898	7	43	8	-----	80	33
Below ground.....	1,474	1,465	1,427	-----	-----	-----	-----	8	9
Boys under 16 years of age ⁴	5	5	5	-----	-----	-----	-----	-----	-----
Number of wage earners employed on the 15th day of each month:									
January.....	8,360	8,249	7,726	8	28	21	1	465	111
February.....	8,301	8,188	7,620	11	39	25	-----	493	113
March.....	7,931	7,833	7,265	11	34	24	-----	490	93
April.....	7,673	7,559	6,956	18	46	27	1	511	114
May.....	7,495	7,357	6,764	17	55	25	-----	496	141
June.....	7,481	7,315	6,099	24	59	28	1	504	166
July.....	7,385	7,191	6,563	25	53	25	-----	525	197
August.....	7,420	7,223	6,593	10	61	8	-----	551	207
September.....	7,751	7,529	6,895	7	66	25	-----	533	222
October.....	8,060	7,852	7,200	7	67	18	-----	560	208
November.....	8,323	8,163	7,504	7	60	15	-----	577	160
December.....	8,601	8,445	7,825	9	43	-----	-----	568	156
Land controlled, acres.....	260,844	85,550	70,908	6,150	313	1,447	130	8,802	175,294
Owned.....	82,497	64,973	55,744	3,230	50	467	80	5,402	17,524
Held under lease.....	178,347	20,577	15,164	2,920	263	980	50	1,200	157,770
Mineral and oil land.....	254,153	79,159	64,783	6,150	182	1,427	130	6,487	174,994
Owned.....	76,342	59,118	50,024	3,230	50	447	80	5,287	17,224
Held under lease.....	177,811	20,041	14,759	2,920	132	980	50	1,200	157,770
Timber land.....	220	-----	-----	-----	-----	-----	-----	-----	220
Other land.....	6,471	6,391	6,125	-----	131	20	-----	115	80
Primary horsepower.....	31,476	30,338	28,071	285	325	50	-----	1,607	1,188

¹ Includes operators as follows: Asbestos, 2; chromite, 1; clay, 1; copper, 2; gold and silver, deep mines, 1; iron, 1; marble, 1; mica, 1; phosphate rock, 1; sulphur, 1.
² Includes operators as follows: Asbestos, 3; gold and silver, deep mines, 48; petroleum and natural gas, 7; placer gold, 1; precious stones, 1.
³ Exclusive of capital which could not be distributed by states because it was reported in one lump sum by operators having mining investments in two or more states.
⁴ In the bituminous coal industry 2 boys were employed below ground.