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WAGES AND HOURS OF LABOR SERIES

HOURS AND EARNINGS IN ANTHRACITE
AND BITUMINOUS COAL MINING

ANTHRACITE—JANUARY, 1922
BITUMINOUS—WINTER OF 1921-22



JULY, 1922

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HOURS AND EARNINGS IN ANTHRACITE COAL MINING IN JANUARY, 1922, AND IN BITUMINOUS COAL MINING IN WINTER OF 1921-22.

INTRODUCTION.

The earnings and hours of labor of coal-mine employees presented in this bulletin were compiled from data obtained from the records of 29 anthracite collieries in Pennsylvania for the half-month pay-roll period ending January 31, 1922, and from the records of 192 bituminous mines for a half-month pay-roll period late in 1921, and of eight bituminous mines for a half-month pay-roll period early in 1922. The 200 bituminous mines here covered are in 11 States; namely, Alabama, Colorado, Illinois, Indiana, Kentucky, Ohio, Pennsylvania, Utah, Washington, West Virginia, and Wyoming.

Arrangements were made to obtain data for employees of bituminous mines in Kansas for a half-month pay-roll period in October or November, 1921, but no data were obtained for any Kansas mines because of the strike of coal-mine employees in that State, which began October 1, 1921, and continued throughout the remainder of that year.

All data were taken directly from the mine records by agents of the Bureau of Labor Statistics except that for a few companies which preferred to make the copy of the wage data for the bureau from their records. Such companies were furnished a complete set of instructions as to what was desired and all necessary forms or blank schedules. The data furnished by such companies were carefully inspected at the mines or offices of the companies by agents of the bureau.

The pay rolls of bituminous mines are, as shown in Table 15 (pp. 52 to 59), for half months within the period beginning October 1, 1921, and ending February 15, 1922. The half-month pay rolls for 14 mines ended October 15, 1921; for 134 mines, October 31; for 40 mines, November 15; for 2 mines, November 30; for 2 mines, December 15; and for 8 mines, February 15, 1922. No mine was scheduled that was not in operation at least two days per week in the pay-roll period.

Figures are given separately for anthracite employees and for bituminous employees by occupations and by States, with employees who work underground grouped under "inside work," and those who work on the surface grouped under "outside work." Approximately 78 per cent of the 21,999 anthracite and 89 per cent of the 52,748 bituminous employees covered by this report work underground.

CONTRACT MINERS.

"Contract miners" is the basic occupation of anthracite coal mining. Employees of this occupation are paid a tonnage or other piece rate, the unit of quantity being a ton of 2,240 pounds, a mine car of specified capacity, or a yard. More than half of them have one or more helpers, generally known as "contract miners' laborers." The wages or earnings of these helpers or laborers are paid principally from the gross earnings of the contract miners, a small part of the increase granted by the 1920 award of the United States Anthracite Coal Commission being paid by the company.

The contract miner may, by providing work for one or more helpers or contract miners' laborers, increase his own net earnings. To illustrate, the records of a company showed a contract miner as having worked 63½ hours and as having net earnings of \$274.65 for the half-month pay-roll period taken. As the earnings were unusually large, the company was asked for an explanation. The company stated that the hours and earnings were correct, but that the contract miner had two helpers or contract miners' laborers. Many contract miners do not have helpers. The data for the 29 anthracite collieries, as shown in Table 11 (p. 35), shows 6,209 contract miners and only 3,383 contract miners' laborers.

PICK OR HAND MINERS.

Pick (hand) miners, machine miners, and loaders are the basic occupations in bituminous coal mining. The 200 bituminous mines covered in this report, as shown in Table 12 (p. 36), employed during the pay-roll periods taken 8,429 pick or hand miners, 2,371 machine miners, and 22,560 loaders, making a total of 33,360, or 63 per cent of all employees of the 200 mines. Employees in these three occupations, except in a very few mines in which these employees are paid time rates, are paid tonnage or other piece rates, as shown in Table 14 (pp. 44 to 50), the unit of quantity in practically all mines being a ton of 2,000 pounds. They are also paid for yardage; that is, a rate per cubic yard for stone, slate, dirt, etc., cut and moved from the mine. The hours and earnings for yardage were included as a part of the data concerning hours and earnings obtained for employees in these occupations. The amount of yardage varies not only from mine to mine but in the same mine, and affects the earnings of employees to some extent and the cost of mining coal to a very considerable extent.

METHOD OF STUDY.

The main purpose of this study was to determine the average earnings per hour of employees in each occupation. All contract miners and the great majority of contract miners' laborers in anthracite coal mining, and all except a very few pick or hand miners, machine miners, and loaders in bituminous coal mining are tonnage or piece workers, and as record is very seldom kept of the hours worked by employees in these occupations it was necessary for the Bureau of Labor Statistics, through its agents, first to arrange with the selected coal-mining companies to keep a special record of hours for each employee for a sample pay-roll period.

The agents were instructed to ask the companies to keep a day-by-day record of time (hours) in the mine of each tonnage or piece worker. The companies did keep a record of time (hours) worked, but not in all cases, as requested. Three methods of keeping a record of time (hours) were used by the companies. One group of mines kept a record of time in the mine, a second group kept a record of time at the face including time for lunch, and a third group kept a record of time at the face not including time for lunch. The majority of the companies no doubt kept the record of the time by the method that seemed to them the most accurate or that was most convenient. A few companies may have been in doubt as to what was wanted; some preferred to furnish time at the face; some objected to reporting time other than time at the face not including time for lunch, and some were unable to keep an accurate record of any time other than the time at the face.

After the special record of the time of the tonnage or piece workers had been kept by the companies for the selected half-month pay-roll period, agents again visited the companies and made a copy of the time and earnings of tonnage or piece workers, also of time-workers for the selected pay-roll period, and obtained other information concerning hours, earnings, and working conditions, including the average time (minutes) required to travel from the shaft or other entrance of the mine to the face or place of work in the mine and return, and the time taken for lunch.

Owing to the fact that the recorded time of employees of all mines was not on the same basis, as stated above, it was necessary to revise the recorded time of employees of the mines to establish common bases before computing average earnings per hour. Using the information relating to travel time and lunch time, the time at the face including time for lunch and the total time in the mine have been determined for all piece-work employees of the mines.

As many tonnage or piece workers have no stated length of time for lunch, or eat while at work or during waits for mine cars, etc., their hours of work at the face exclusive of lunch time could not be determined in many mines with any exactness, hence no averages are shown for face time with lunch time excluded.

Time at the face, including time for lunch, means the actual hours at the face or place of work in the mine, from the time (hour and minute) of arrival at the face or place of work in the morning to the time (hour and minute) of leaving the face or place of work on the completion of the day's work.

Time in the mine, as shown in this report, means the actual hours in the mine from the time (hour and minute) of entrance into the shaft or other opening of the mine in the morning to the time (hour and minute) of exit from the shaft or other opening of the mine in the afternoon after the completion of the day's work, thus including the hours worked, the average travel time inside the mine, and such time as may be taken for lunch.

The average time of travel from the entrance to the face and return in the 29 anthracite collieries, as shown in Table 9 (p. 29), ranged in the different mines from 20 minutes to 1½ hours, and in the 200 bituminous mines, as shown in Table 15 (p. 52 to 59), ranged from less than 5 minutes to 2 hours.

The time averages for time-workers, that is, for employees who are paid rates per day or hour, are for the time at the face, not including

time for lunch; in other words, for the actual hours worked. The time of all time-workers is always recorded on the pay rolls of the companies.

Many bituminous mines were not in operation, and employees of many other mines worked less than three days, during any of the half-month pay-roll periods from October 1, 1921, to February 15, 1922, and yet the best available production figures show that bituminous production was greater during the month of October, 1921, than for any other month from December, 1920, to March, 1922. The figures shown in this report for 134 of the 200 bituminous mines are for half-month pay rolls in October, 1921. For these reasons the averages, which as before stated excluded mines unless in operation at least two days per week during the half-month period, tend to overstate the amount of work obtainable in bituminous coal mining during the period covered by this report or in any month during the period from January 1, 1920, to March, 1922.

Hourly earnings of tonnage workers may be increased or decreased by lessened days of operation or of opportunity to work. An employee who has but two or three days' work per week will generally work at a speed he could not stand, and would not attempt, if he had opportunity for full-time employment, but in a few cases it has been stated that he lessened his regular speed, thereby decreasing his hourly earnings.

IMPORTANCE OF COAL INDUSTRY.

Table 1, compiled from "Coal in 1918" and from preliminary statistics for 1919 and 1920 published by the United States Geological Survey, indicates the importance of the industry in number of employees, in number of tons of coal produced, in the value of the total production, and in the value per ton at the mines in each of the years 1914 to 1920. Index numbers (percentages) based on these figures, with the 1914 figures taken as the base, or 100 per cent, are also shown in the table.

TABLE 1.—NUMBER AND INDEX OF EMPLOYEES, AVERAGE NUMBER OF DAYS OF OPERATION, NET TONS MINED, VALUE OF PRODUCTION AT MINES, AND VALUE PER TON AT MINE, OF ANTHRACITE AND BITUMINOUS COAL MINES, BY YEARS, 1914 TO 1920.

Year.	Number of employees.			Average number of days mines were in operation.	Number of net tons produced.	Value of production at mines.	Value per ton at mine.
	Inside work.	Outside work.	Total.				
ANTHRACITE.							
1914.....	(1)	(1)	179,679	245	90,821,507	\$188,181,399	\$2.07
1915.....	(1)	(1)	176,552	230	88,995,061	184,653,498	2.07
1916.....	116,705	43,164	159,869	253	87,578,493	202,009,561	2.31
1917.....	109,989	44,185	154,174	285	99,611,811	283,650,723	2.85
1918.....	101,671	45,450	147,121	293	98,826,084	336,480,347	3.40
1919.....	107,829	46,742	154,571	266	88,092,201	364,926,950	4.14
1920.....	101,040	44,015	145,055	271	89,598,249	434,252,000	4.85
BITUMINOUS.							
1914.....	(1)	(1)	583,506	195	422,703,970	493,309,244	1.17
1915.....	(1)	(1)	557,456	203	442,624,426	502,087,688	1.13
1916.....	474,244	86,858	561,102	230	502,519,682	665,116,077	1.32
1917.....	498,185	104,958	603,143	243	551,790,583	1,249,272,837	2.26
1918.....	496,252	119,053	615,305	249	579,385,820	1,491,809,940	2.57
1919.....	508,801	113,197	621,998	195	465,800,058	1,160,616,013	2.49
1920.....	529,812	109,735	639,547	220	568,666,683	2,129,933,000	3.75

¹ Not available.

TABLE 1.—NUMBER AND INDEX OF EMPLOYEES, AVERAGE NUMBER OF DAYS OF OPERATION, NET TONS MINED, VALUE OF PRODUCTION AT MINES, AND VALUE PER TON AT MINE, OF ANTHRACITE AND BITUMINOUS COAL MINES, BY YEARS, 1914 TO 1920—Concluded.

INDEX NUMBERS.

[1914=100.]

Year.	Number of employees.			Average number of days mines were in operation.	Number of net tons produced.	Value of production at mines.	Value per ton at mine.
	Inside work.	Outside work.	Total.				
ANTHRACITE.							
1914.....			100	100	100	100	100
1915.....			98	94	98	92	100
1916.....			89	103	96	107	112
1917.....			86	116	110	151	138
1918.....			82	120	109	179	164
1919.....			92	109	97	194	200
1920.....			81	111	99	231	234
BITUMINOUS.							
1914.....			100	100	100	100	100
1915.....			95	104	105	102	96
1916.....			96	118	119	135	113
1917.....			103	125	131	253	193
1918.....			105	128	142	302	220
1919.....			107	100	110	235	213
1920.....			110	113	135	432	321

This table shows a decrease of 34,624, or 19 per cent, in the number of anthracite employees as between 1914 and 1920; practically the same number of tons of production in 1914 and 1920; an increase of 26 days, or 11 per cent, in the average number of days of operation in 1920 over 1914; an increase in the total value of the coal at the collieries from \$188,181,399 to \$434,252,000, or 131 per cent; and an increase in value per ton at the colliery from \$2.07 to \$4.85, or 134 per cent. This table also shows an increase of 56,041, or 10 per cent, in the number of bituminous employees in 1920 over 1914; an increase of 25 days, or 13 per cent, in the average number of days of operation in 1920 over 1914; an increase in the number of tons of coal produced from 422,703,970 in 1914 to 568,666,683 in 1920, or 35 per cent; an increase in the total value of the coal at the mines from \$493,309,244 in 1914 to \$2,129,933,000 in 1920, or 332 per cent; and an increase in the value per ton at the mines from \$1.17 in 1914 to \$3.75 in 1920, or 221 per cent.

Table 2, compiled in part from a weekly report on the production of coal issued by the United States Geological Survey, shows for each State, in the year 1920, the number of employees in the coal industry, the average number of days of operation, the number of net tons of coal produced, and the value of the coal at the mines. The States are arranged in the order of number of employees.

The last two columns of the table show for each State the number of mines and the number of employees for which the bureau presents information in this report. It will be observed from these two columns that several States were not visited. It was necessary, on account of the large and extensive coal fields of the country and the limited force and funds of the bureau, to limit the study to a few States. The conditions of employment in Virginia were approximately the same as in northeastern Kentucky and southern West Virginia, which fields are included in this report. In Iowa, Kansas, Missouri,

and Oklahoma the conditions of employment and the wage basis are similar and arrangements were made for data from mines in Kansas, but on account of the strike in Kansas no data were obtained for this group. The conditions of employment and the wage basis in these four States were, however, similar to those in Illinois, Indiana, and Ohio. The conditions of employment and the wage basis in Tennessee were practically the same as those in southeastern and western Kentucky, which are included in this report. The conditions of employment and the wage basis in Maryland were similar to those in western Pennsylvania and northern West Virginia. Data were not obtained from several States because of their relative unimportance in the production of coal in 1920.

Data were obtained and are presented for Colorado, Wyoming, Utah, and Washington because of their location, the size of the coal fields, and the increased production in recent years, and because it was deemed necessary that the far Western and Northwestern States be represented in the report.

TABLE 2.—NUMBER OF EMPLOYEES, AVERAGE NUMBER OF DAYS OF OPERATION, NET TONS MINED, AND VALUE OF PRODUCTION AT MINES, OF COAL MINES IN THE UNITED STATES IN 1920, AND NUMBER OF MINES AND EMPLOYEES COVERED BY THIS STUDY, BY STATES.

State.	Coal mines in United States, 1920. ¹				Coal mines covered by this study. ²	
	Number of employees.	Average number of days mines were in operation.	Number of net tons produced.	Value of production at mines.	Number of mines.	Number of employees.
ANTHRACITE COAL.						
Pennsylvania.....	145,055	271	89,598,249	\$434,252,000	29	21,999
BITUMINOUS COAL.						
Pennsylvania.....	173,970	244	170,607,847	642,630,000	44	14,500
West Virginia.....	102,950	198	89,970,707	390,045,000	47	7,450
Illinois.....	87,996	213	38,724,393	278,508,000	32	9,586
Ohio.....	59,557	188	45,878,104	175,631,000	25	5,190
Kentucky.....	49,452	182	35,690,732	149,576,000	26	4,951
Indiana.....	31,155	192	20,350,585	92,867,000	12	3,178
Alabama.....	25,540	247	16,294,099	59,410,000	10	3,987
Virginia.....	14,010	262	11,378,604	45,449,000	.....	.....
Colorado.....	13,711	255	12,278,225	42,829,000	.....	.....
Iowa.....	11,905	250	7,813,916	39,794,000	8	1,702
Tennessee.....	11,353	234	6,662,428	25,778,000	.....	.....
Kansas.....	8,984	204	5,926,408	22,923,000	.....	.....
Missouri.....	8,838	233	5,369,586	22,238,000	.....	.....
Oklahoma.....	8,234	217	4,849,288	23,294,000	.....	.....
Wyoming.....	7,779	264	9,630,271	28,741,000	4	629
Maryland.....	5,548	207	4,965,299	18,815,000	.....	.....
Washington.....	4,994	260	3,757,693	14,560,000	4	639
Utah.....	4,504	252	6,005,196	19,350,000	4	816
Montana.....	4,204	250	4,413,866	13,923,000	.....	.....
Arkansas.....	3,966	176	2,108,596	9,592,000	.....	.....
New Mexico.....	3,738	302	3,683,440	13,568,000	.....	.....
Texas.....	2,950	242	1,615,015	6,082,000	.....	.....
Michigan.....	2,154	261	1,489,785	7,348,000	.....	.....
North Dakota.....	1,110	218	948,625	2,724,000	.....	.....
Alaska.....	207	240	61,111	356,000	.....	.....
Georgia.....	148	204	50,156	251,000	.....	.....
Oregon.....	85	307	20,717	93,000	.....	.....
North Carolina.....	50	286	11,540	81,000	.....	.....
South Dakota.....	47	133	12,777	48,900	.....	.....
California and Idaho.....	10	181	2,783	12,000	.....	.....
Total, bituminous coal....	639,547	220	568,666,683	2,129,933,000	200	52,748

¹ From the June 3, 1922, weekly report on production of coal of the United States Geological Survey, Department of Interior.

² The anthracite data are for the last half of January, 1922. The bituminous data are for 192 mines for a pay-roll period late in 1921 and for 8 mines for a pay-roll period in February, 1922.

OCCUPATIONS IN COAL INDUSTRY.

The occupations for which data are presented in this bulletin are listed below. For definitions see pages 60 to 63.

ANTHRACITE COAL.

Inside work:

Blacksmiths.
 Cagers.
 Car runners.
 Door tenders (boys).
 Drivers.
 Engineers.
 Laborers.
 Laborers, company miners'.
 Laborers, consideration miners'.
 Laborers, contract miners'.
 Machinists.
 Masons.
 Miners, company.
 Miners, consideration.
 Miners, contract.
 Motormen.
 Motor brakemen.
 Pump men.
 Timbermen.
 Trackmen.
 Other employees.

Outside work:

Ash men.
 Blacksmiths.
 Cagers.
 Carpenters.
 Car runners.
 Dumpers.
 Engineers.
 Firemen.
 Jig runners.
 Laborers.

Outside work—Concluded.

Loaders.
 Machinists.
 Oilers.
 Plate men.
 Repair men.
 Slaters (boys).
 Timber cutters.
 Trackmen.
 Other employees.

BITUMINOUS COAL.

Inside work:

Brakemen.
 Brattice men and timber men.
 Cagers.
 Drivers.
 Laborers.
 Loaders.
 Miners, pick.
 Miners, machine.
 Motormen.
 Pump men.
 Trackmen.
 Trappers (boys).
 Other employees.

Outside work:

Blacksmiths.
 Carpenters.
 Engineers.
 Firemen.
 Laborers.
 Other employees.

STARTS, DAYS OF OPERATION, AND POSSIBLE EARNINGS.

Table 3 shows for each State the number of mines studied; the number of employees who actually mine the coal (in anthracite mines these comprise contract miners, consideration miners, company miners, and their laborers combined; in bituminous mines they comprise pick miners, machine miners, and loaders combined); the average number of starts (days) made in the half month studied; average and classified number of days of operation during the 12 months ending October 31, 1921, and an estimate of the amount that would have been earned during the 12 months, or year, had all of these employees worked every day of operation during the 12 months at the average earnings for the half month covered by this study.

TABLE 3.—NUMBER OF MINES, NUMBER OF EMPLOYEES WHO ACTUALLY MINE THE COAL, AVERAGE NUMBER OF STARTS (DAYS) IN HALF MONTH, AVERAGE AND CLASSIFIED DAYS OF OPERATION DURING YEAR ENDING OCTOBER 31, 1921, AND ESTIMATED AVERAGE POSSIBLE EARNINGS DURING YEAR IN COAL MINES STUDIED, BY STATES.

State.	Number of—		Average number of—		Estimated average earnings during year ² based on days of opportunity for work.	Number of mines in operation ¹ each classified number of days during year. ²							
	Mines.	Em- ployees who actual-ly mine the coal.	Starts (days) made in half-month pay-roll period.	Days of opera- tion dur- ing year. ³		70 and under 100.	100 and under 130.	130 and under 160.	160 and under 190.	190 and under 220.	220 and under 250.	250 and under 280.	280 and under 310.
ANTHRACITE.													
Pennsylvania.....	29	12,106	11.0	287.7	\$1,893	.....	.....	.....	.....	1	.....	6	22
BITUMINOUS.													
Alabama.....	10	2,466	8.6	223.0	941	.....	1	2	.....	5	³ 1	.....	³ 1
Colorado.....	8	1,094	9.7	199.9	1,560	.....	.....	.....	2	4	2	.....	.....
Illinois.....	22	6,490	9.3	194.3	1,705	.....	1	2	5	9	4	1	.....
Indiana.....	12	2,114	8.2	170.4	1,393	.....	1	.....	5	4	1	.....	.....
Kentucky.....	20	3,031	8.7	205.1	1,202	.....	2	1	3	3	4	3	.....
Ohio.....	25	3,520	8.8	185.0	1,417	.....	1	3	6	5	3	2	.....
Pennsylvania.....	44	9,251	8.9	196.9	1,196	.....	1	.....	7	16	12	1	3
Utah.....	4	483	5.4	177.7	1,342	.....	.....	1	.....	1	1	.....	.....
Washington.....	4	319	10.5	188.4	1,688	.....	.....	1	1	.....	1	.....	.....
West Virginia.....	47	4,222	8.5	⁶ 193.3	⁶ 1,301	.....	2	6	12	5	10	7	2
Wyoming.....	4	370	10.1	226.2	2,211	.....	.....	.....	.....	2	1	.....	1
Total bituminous.....	200	33,360	8.9	⁶ 195.7	⁶ 1,356	7	15	33	42	57	26	11	8

¹ Not including 1 mine which did not report.

² 12 months ending Oct. 31, 1921.

³ And nights.

⁴ Including 1 mine in operation 310 days.

⁶ Average does not include figures for 124 employees in 1 mine for which days of operation were not reported.

The average number of days of operation of the anthracite collieries covered in this report was 287.7 for the year ending October 31, 1921, as shown in the table above. In 1920 the average days of operation for all anthracite collieries in Pennsylvania as reported by the United States Geological Survey was 271; the survey figures for 1921 are also 271. At the time of this inquiry the average earnings of anthracite contract miners, consideration miners, and company miners and their laborers, taken as a collective group, were \$6.58 per start, which with the 287.7 days of operation shown in the table gives possible yearly earnings of \$1,893; on the same basis with the 271 days of operation for 1920 as given by the survey the possible yearly earnings would be \$1,783.

In the bituminous mines covered the average number of days of operation in the year ending October 31, 1921, was 195.7. The United States Geological Survey has estimated that the bituminous mines of the country were in operation 169 days in 1921. In the bituminous mines covered by the inquiry the pick miners, machine miners, and loaders as a group had average earnings of \$6.93 per start, which for the 195.7 days shown in the table gives a possible year's earnings of \$1,356; for the 169 days in 1921, as estimated by the survey, the possible year's earnings at the same rate would be \$1,171.

AVERAGE AND CLASSIFIED HOURLY EARNINGS.

Table 4 shows the average earnings per hour of contract miners and contract miners' laborers in anthracite coal mining for Pennsylvania, and of pick miners, machine miners, and loaders in bituminous coal mining for each of the States for which data are presented and also a classification of these employees according to earnings per hour. These averages and classifications are made on two bases—one, the time (hours) at the face, including time for lunch, and the other, the time in the mine. The classification of these employees according to earnings per hour is given also by percentages.

TABLE 4.—NUMBER AND PER CENT OF EMPLOYEES, IN SELECTED OCCUPATIONS IN ANTHRACITE AND BITUMINOUS COAL MINES, EARNING EACH CLASSIFIED AMOUNT PER HOUR.

ANTHRACITE COLLIERIES IN PENNSYLVANIA.

Occupation and State.	Number of—		Average earnings per hour.	Number of employees whose average earnings per hour in a half-month pay-roll period were—													Per cent of employees whose average earnings per hour in a half-month pay-roll period were—													
	Mines.	Em- ploy- ees.		Un- der 30 cts.	30 and under 40 cts.	40 and under 50 cts.	50 and under 60 cts.	60 and under 70 cts.	70 and under 80 cts.	80 and under 90 cts.	90 cts. and under \$1.	\$1 and under \$1.25.	\$1.25 and under \$1.50.	\$1.50 and under \$1.75.	\$1.75 and under \$2.	-\$2 and over.	Un- der 30 cts.	30 and under 40 cts.	40 and under 50 cts.	50 and under 60 cts.	60 and under 70 cts.	70 and under 80 cts.	80 and under 90 cts.	90 cts. and under \$1.	\$1 and under \$1.25.	\$1.25 and under \$1.50.	\$1.50 and under \$1.75.	\$1.75 and under \$2.	-\$2 and over.	
Based on time at face.																														
Miners, contract.....	29	6,209	\$1.088	15	43	87	177	357	612	832	801	1,483	871	452	211	268	(1)	1	2	3	6	10	13	13	24	14	7	3	4	
Laborers, contract miners'.....	29	3,383	.773	13	37	116	252	695	1,033	645	290	237	45	15	1	4	(1)	1	3	7	21	31	19	9	7	1	(1)	(1)	(1)	
Based on time in colliery.																														
Miners, contract.....	29	6,209	\$0.991	21	73	117	309	572	833	900	759	1,326	698	316	124	161	(1)	1	2	5	9	13	14	12	21	11	5	2	3	
Laborers, contract miners'.....	29	3,383	.711	22	52	184	406	1,067	964	340	160	153	29	3	1	2	1	2	6	12	32	28	10	5	5	1	(1)	(1)	(1)	

BITUMINOUS COAL MINES.

Based on time at face.																														
Miners, hand or pick:																														
Alabama.....	8	785	\$0.548	40	100	211	201	104	47	30	16	18	3	1	.....	.....	5	14	28	26	13	6	4	2	2	(1)	(1)	.....	.....
Colorado.....	6	564	.993	1	3	12	28	51	61	80	78	173	49	17	.....	7	(1)	1	2	5	9	11	14	14	31	9	3	.....	1
Illinois.....	11	1,864	.865	16	43	99	232	228	260	222	217	360	147	35	5	1	3	5	12	12	14	12	12	19	8	2	(1)
Indiana.....	7	542	.827	4	22	26	55	84	91	86	69	71	22	10	.....	.....	1	4	5	10	15	17	16	13	13	4	2	(1)	.....
Kentucky.....	5	223	.825	1	7	25	14	28	31	35	39	32	7	3	.....	.....	(1)	3	11	6	13	14	16	17	14	3	1	(1)	.....
Ohio.....	3	47	.916	1	.....	5	1	2	6	5	12	1	4	10	.....	.....	2	.....	11	2	4	13	11	26	9	9	21	.....	.....
Pennsylvania.....	42	2,898	.767	23	89	242	387	472	474	412	305	349	110	30	4	1	1	3	9	13	16	16	14	11	12	4	1	(1)	(1)	

Washington ¹	1	76	.893	.....	.....	1	1	30	18	10	13	.....	3	.....	.....	.....	1	1	39	24	13	17	.....	4	.....				
West Virginia.....	42	2,979	.904	2	15	102	228	319	438	430	441	714	229	49	10	2	(1)	(1)	3	8	11	15	14	15	24	8	2	(1)	(1)	
Wyoming.....	3	228	1.158	.....	1	2	6	14	23	18	25	66	33	27	12	1	.....	(1)	.....	3	6	10	8	11	29	14	12	5	(1)
Total.....	176	22,560	.902	350	810	1,409	2,025	2,315	2,663	2,555	2,528	4,702	2,217	725	169	92	2	3	6	9	10	12	11	11	21	10	3	1	(1)	
Based on time in mine.																														
Loaders:																														
Alabama.....	8	1,535	80.464	257	440	407	227	80	52	23	8	26	9	5	1	.....	17	28	27	15	5	3	1	1	2	1	(1)	(1)	.....
Colorado.....	7	445	.837	1	11	17	52	67	58	72	55	86	21	3	2	(1)	3	3	12	15	13	16	12	19	5	1	(1)	(1)
Illinois.....	17	4,257	1.127	11	15	39	96	174	237	342	534	1,481	1,008	238	58	24	(1)	(1)	(1)	2	4	6	8	13	35	24	6	1	(1)	(1)
Indiana.....	8	1,436	1.094	1	3	7	9	29	64	171	281	595	223	39	7	7	(1)	(1)	(1)	1	2	4	12	20	41	16	3	(1)	(1)	(1)
Kentucky.....	20	2,540	.704	78	129	332	377	455	436	310	179	162	54	13	11	4	3	5	13	15	18	17	12	7	6	2	1	(1)	(1)	(1)
Ohio.....	25	3,119	.893	16	35	101	184	323	469	583	468	663	194	63	13	7	1	1	3	6	10	15	19	15	21	6	2	(1)	(1)	(1)
Pennsylvania.....	41	5,650	.672	156	399	749	1,047	1,043	842	601	367	380	46	10	7	3	3	7	13	19	18	15	11	6	7	1	1	(1)	(1)	(1)
Utah.....	4	285	.876	.....	3	19	26	58	68	53	57	9	1	1	.....	.....	.....	1	6	9	20	23	18	19	3	(1)	(1)	(1)	(1)
Washington ²	1	76	.862	.....	.....	1	12	27	14	6	13	.....	3	.....	.....	.....	.....	.....	1	16	36	18	8	17	.....	4	.....	.....	.....
West Virginia.....	42	2,979	.841	2	36	150	295	399	481	495	424	537	133	22	4	1	(1)	1	5	10	13	16	17	14	18	4	1	(1)	(1)	(1)
Wyoming.....	3	228	1.090	.....	2	3	7	16	23	26	28	64	33	23	2	1	.....	1	1	3	7	10	11	12	28	14	10	.....	.....
Total.....	176	22,560	.836	522	1,070	1,808	2,314	2,624	2,747	2,705	2,403	4,064	1,730	420	104	49	2	5	9	10	12	12	12	11	18	8	2	(1)	(1)	

¹ Less than 1 per cent.
² Also do machine mining.

The percentages of Table 4 are shown in Table 5 in the form of cumulative percentages. For instance, it will be observed in Table 5 that 33 per cent of the contract miners' laborers earned "under 70 cents" per hour, based on time at the face including time for lunch, while 51 per cent of them earned "under 70 cents" based on time in the mine; that no contract miners' laborers earned as much as \$1.75 per hour; that 4 per cent of the contract miners earned \$2 or over per hour based on time at the face including time for lunch, and that 3 per cent earned \$2 or over per hour based on time in the mine.

TABLE 5.—CUMULATIVE PER CENT OF EMPLOYEES, IN SELECTED OCCUPATIONS IN ANTHRACITE AND BITUMINOUS COAL MINES, EARNING EACH CLASSIFIED AMOUNT PER HOUR.

ANTHRACITE COLLIERIES IN PENNSYLVANIA.															
Occupation.	Number of—		Average earnings per hour.	Per cent of employees whose average earnings per hour in a half-month pay-roll period were—											
	Mines.	Em- ploy- ees.		Un- der 30 cts.	Un- der 40 cts.	Un- der 50 cts.	Un- der 60 cts.	Un- der 70 cts.	Un- der 80 cts.	Un- der 90 cts.	Un- der \$1.	Un- der \$1.25.	Un- der \$1.50.	Un- der \$1.75.	Un- der \$2.
Based on time at face.															
Miners, contract.....	29	6,209	\$1.088	(¹)	1	2	5	11	21	34	47	71	85	92	96
Laborers, contract miners'.	29	3,383	.773	(¹)	1	5	12	33	63	83	91	98	99	100	100
Based on time in mine.															
Miners, contract.....	29	6,209	.991	(¹)	2	3	8	18	31	45	58	79	90	95	97
Laborers, contract miners'.	29	3,383	.711	1	2	6	20	51	80	90	94	99	100	100	100
BITUMINOUS COAL MINES.															
Based on time at face.															
Loaders.....	176	22,560	\$0.902	2	5	11	20	31	42	54	65	86	96	99	100
Miners, pick or hand.....	127	8,429	.840	1	4	12	23	36	49	62	73	91	97	99	100
Miners, machine.....	161	2,371	1.274	(¹)	(¹)	4	8	11	17	26	34	50	67	84	92
Based on time in mine.															
Loaders.....	176	22,560	.836	2	7	15	25	37	49	61	72	90	97	99	100
Miners, pick or hand.....	127	8,429	.769	2	7	18	30	44	58	71	80	94	99	100	100
Miners, machine.....	161	2,371	1.180	(¹)	1	5	9	14	22	32	40	56	74	89	95

¹ Less than 1 per cent.

NUMBER OF STARTS (DAYS) IN HALF MONTH.

Tables 6 and 7 show for each of the occupations in anthracite and bituminous coal mining the number and per cent of employees working each specified number of starts (days or parts of days) during the half-month pay-roll period covered by the study. The actual number of starts (days of operation or days of opportunity to work) in the half month for each mine, as shown in Tables 13 and 14 (p. 42 to 50), were as high as 14 for employees of 13 of the 29

anthracite collieries and as low as 7 for employees of 1 colliery, and as high as 13 for employees of 52 of the 200 bituminous mines, and as low as 3 for employees of 1 mine.

A very large percentage of employees in a few occupations are shown as having made more than 14 starts during the half month. This is because starts were made on Sundays in addition to week days or because starts were made in more than one shift on week days. This was especially true of ashmen, engineers, firemen, and pumpmen, 7-day-week occupations of three 8-hour shifts per day in which some employees in a few collieries or mines worked every day or worked in two or more shifts on one or more days during the half month. Employees who worked in two shifts on any day were counted as having made two starts on that day.

TABLE 6.—NUMBER AND PER CENT OF EMPLOYEES IN REPRESENTATIVE ANTHRA
(DAYS ON WHICH EMPLOYEES WORKED) IN HALF

Occupation.	Number of—		Number of employees whose starts (days on which they worked in half month) were—																
	Mines.	Em- ploy- ees.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Over 16.
<i>Inside work.</i>																			
Miners, contract.....	29	6,209	31	42	30	29	52	78	109	393	297	692	996	864	1252	1311	17	13	3
Laborers, contract miners'	29	3,383	200	138	70	86	94	101	136	143	173	360	432	449	506	478	8	2	2
Total.....	29	9,592	231	180	100	115	146	179	245	541	470	1052	1428	1313	1758	1789	25	15	5
Blacksmiths.....	12	23	...	...	...	...	...	...	2	1	3	2	...	3	7	2	2	1	
Brattice men.....	21	136	...	2	...	...	...	...	2	11	7	9	18	14	35	27	8	3	
Cagers.....	28	196	...	2	1	...	1	1	2	6	7	11	31	34	43	46	8	2	2
Car runners.....	22	402	2	2	1	...	...	2	8	13	16	14	82	35	97	114	7	8	1
Door tenders (boys).....	26	190	2	...	1	2	2	4	2	5	5	12	50	16	43	42	4	...	
Drivers.....	27	539	4	4	5	1	7	12	12	46	14	32	87	47	114	128	12	8	6
Engineers.....	24	152	...	1	...	...	...	...	1	1	10	8	9	29	30	20	29	13	
Laborers.....	29	1,426	18	13	11	9	8	13	26	82	35	106	203	128	332	332	59	38	13
Laborers, company min- ers'	25	774	14	15	2	9	8	15	39	30	32	85	143	61	125	133	31	21	11
Laborers, consideration miners'	11	339	9	11	8	6	7	7	9	9	6	11	23	31	63	125	10	2	2
Machinists.....	15	31	...	...	...	...	...	...	...	1	2	2	4	2	5	9	3	3	
Masons.....	16	51	...	...	...	...	...	...	...	1	1	7	5	17	18	...	2	...	
Miners, company.....	25	775	9	14	13	9	10	18	27	56	61	73	80	64	124	162	28	20	7
Miners, consideration.....	12	626	2	5	1	9	1	3	7	14	24	53	141	315	22	6	5	...	
Motormen.....	27	327	...	...	...	...	...	...	2	9	9	24	44	38	70	79	23	21	7
Motor brakemen.....	27	310	2	4	...	1	1	4	10	9	31	38	47	67	71	16	4	5	
Pump men.....	26	180	...	...	...	...	...	...	1	1	6	1	9	20	100	...	39	...	
Timbermen.....	20	161	4	3	...	3	3	...	6	23	6	20	23	9	17	21	10	8	5
Trackmen.....	27	177	...	...	...	...	...	2	4	4	2	3	22	13	44	57	12	12	2
Other employees.....	29	713	1	6	4	3	2	7	6	23	23	32	86	56	92	181	51	118	22
Total.....	29	7,528	67	80	48	53	52	86	156	342	243	493	974	670	1459	1902	352	407	144
<i>Outside work.</i>																			
Ash men.....	25	67	...	...	...	...	...	1	...	1	...	1	...	3	4	12	37	8	
Blacksmiths.....	29	64	...	...	...	...	...	...	1	3	4	2	13	11	17	4	14	1	
Cagers.....	26	100	...	1	...	1	1	4	3	4	2	13	1	12	34	11	13	...	
Carpenters.....	26	221	1	...	...	...	...	1	6	13	20	40	6	21	51	24	37	...	
Car runners.....	22	87	...	...	...	...	...	...	4	5	3	8	9	8	17	21	6	6	
Dumpers.....	26	85	2	...	1	...	...	1	1	2	8	15	6	10	29	4	5	...	
Engineers.....	29	203	...	1	...	2	1	...	2	2	1	8	5	10	17	24	119	11	
Firemen.....	29	249	...	...	...	2	...	...	1	...	...	2	6	5	12	42	124	55	
Jig-runners.....	23	109	...	...	...	...	...	...	1	...	14	5	10	20	33	10	15	...	
Laborers.....	29	1,349	8	9	16	7	10	26	20	59	70	102	161	129	194	320	104	110	4
Loaders.....	27	187	...	...	1	1	1	3	3	8	5	13	20	37	75	8	12	...	
Machinists.....	27	89	...	...	1	...	...	1	1	2	2	7	10	7	18	8	23	2	
Oilers.....	28	69	...	...	...	...	...	...	1	3	3	...	9	6	11	14	10	12	
Plate men.....	25	181	1	...	...	1	...	...	1	5	3	9	36	25	30	55	8	5	2
Repair men.....	14	94	...	...	3	...	...	2	...	2	1	3	2	8	10	19	9	35	
Slaters (boys).....	26	410	2	2	1	1	2	4	21	7	5	15	61	37	84	159	5	4	...
Timber cutters.....	28	181	1	1	...	...	...	2	4	10	6	9	20	22	37	48	7	13	...
Trackmen.....	22	60	...	1	...	...	...	1	1	4	3	8	4	8	6	12	8	4	...
Other employees.....	29	1,074	1	6	3	5	3	5	18	26	16	37	97	74	126	243	129	255	30
Total.....	29	4,879	14	22	20	23	46	80	142	144	247	508	385	651	1181	433	848	113	

1 Including time for lunch.

CITE COLLIERIES IN PENNSYLVANIA MAKING EACH SPECIFIED NUMBER OF STARTS MONTH, ENDING JANUARY 31, 1922, BY OCCUPATIONS.

Per cent of employees whose starts (days on which they worked in half month) were—																	Average number of starts (days).	Average hours per start (day) based on—	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Over 16.		Time at face. ¹	Time in mine.
(²)	1	(²)	(²)	1	1	2	6	5	11	16	14	20	21	(²)	(²)	(²)	11.5	6.9	7.6
6	4	2	3	3	3	4	4	5	11	13	13	15	14	(²)	(²)	(²)	9.8	7.2	7.8
2	2	1	1	2	2	3	6	5	11	15	14	18	19	(²)	(²)	(²)	10.9	7.0	7.7
								9	4	13	9	13	30	9	9	4	12.7	9.1	
								8	5	7	13	10	26	20	6	2	12.0	8.4	
								3	4	6	16	17	22	23	4	1	12.2	9.8	
(²)	(²)	(²)						2	3	4	3	20	9	24	28	2	12.2	8.7	
1								3	3	6	26	8	23	22	2		11.7	8.2	
								1	1	7	5	6	19	20	13	19	11.6	8.2	
								1	1	7	5	6	19	20	13	19	13.9	8.5	
								2	6	2	7	14	9	23	23	4	11.8	8.4	
								4	4	11	18	8	16	17	4	3	11.2	8.2	
								3	3	2	3	7	9	19	37	3	11.4	7.9	
								3	6	6	13	6	16	29	10	10	14.0	8.6	
								2	2	14	10	33	35	4	4		12.9	8.2	
								7	8	9	10	8	16	21	4	3	11.1	8.2	
								2	1	2	4	8	23	50	4	1	12.9	7.7	
								3	3	7	13	12	21	24	7	6	12.8	9.5	
								3	3	10	12	15	22	23	5	1	12.1	9.1	
								1	1	1	3	1	5	11	56	22	15.9	8.2	
								4	14	4	12	14	6	11	13	6	10.9	8.2	
								2	1	2	12	7	25	32	7	7	13.0	8.5	
								3	3	4	12	8	13	25	7	17	13.0	9.0	
								5	3	7	13	9	19	25	5	5	12.1	8.4	
								1									15.4	8.8	
								2	5	2	13	6	17	27	6	22	13.5	8.9	
								3	4	2	13	1	12	34	11	13	12.8	9.4	
								3	6	9	18	3	10	23	11	17	12.8	8.9	
								6	3	9	10	9	20	24	7	7	12.3	8.6	
								1	2	9	18	7	12	34	5	6	12.2	9.1	
								1	1	(²)	4	2	5	8	12	59	15.0	8.6	
								(²)			2	2	5	17	50	22	15.7	8.1	
								1			13	5	9	18	30	9	13.2	9.4	
								4	5	8	12	10	14	24	8	8	12.1	8.8	
								1	1	2	2	4	3	7	11	20	12.9	8.8	
								2	2	2	8	11	8	20	9	31	13.7	9.3	
								1	4	4	13	9	16	20	14	17	13.2	9.3	
								3	2	5	20	14	17	30	4	3	12.5	8.5	
								2	1	3	2	9	11	20	10	37	13.7	8.5	
								5	2	1	4	15	9	20	39	1	12.2	8.1	
								6	3	5	11	12	20	27	4	7	12.3	8.7	
								7	5	13	7	13	10	20	13	7	12.1	8.2	
								2	2	3	9	7	12	23	12	24	13.5	9.5	
								3	3	5	10	8	13	24	9	17	13.0	8.9	

¹ Less than 1 per cent.

TABLE 7.—NUMBER AND PER CENT OF EMPLOYEES IN REPRESENTATIVE BITU EMPLOYEES WORKED) IN HALF-MONTH PAY-ROLL PERIOD.

Occupation and State.	Number of—		Number of employees whose starts (days on which they worked in half month) were—																
	Mines.	Em- ploy- ees.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Over 16.
<i>Inside work.</i>																			
Loaders:																			
Alabama.....	8	1,535	38	35	39	51	55	82	101	183	377	289	179	76	29	1			
Colorado.....	7	445	8	7	17	16	78	17	8	17	18	54	38	79	99				
Illinois.....	17	4,267	40	65	68	118	336	481	198	576	429	457	468	483	530	8			
Indiana.....	8	1,436	30	16	19	45	70	126	71	286	225	565	4		2				
Kentucky.....	20	2,540	59	72	67	179	114	147	152	257	989	337	294	261	231				
Ohio.....	25	3,119	35	58	125	373	103	139	174	245	350	415	324	430	348				
Pennsylvania.....	41	5,650	84	108	172	472	372	593	221	320	599	413	732	689	833	27	5	1	
Utah.....	4	295	4	12	38	44	85	80	13	4	6	6	3						
Washington ²	1	76	1	4	3	3	2	4	2	1	2	8	13	26	3				
West Virginia.....	42	2,979	44	62	79	91	120	249	391	362	311	313	381	444	126				
Wyoming.....	3	228		4	8	14	5	8	9	11	12	23	22	77	33				
Total.....	176	22,560	323	443	634	1406	1346	1926	1336	2271	2590	2876	2550	2552	2248	40	6	2	
Miners, pick or hand:																			
Alabama.....	8	785	7	8	14	14	24	40	67	81	164	175	146	29	7				
Colorado.....	6	564	1	10	4	12	11	13	15	27	47	189	43	55	137				
Illinois.....	11	1,864	6	12	17	27	47	78	128	168	115	157	361	336	385	12	14	1	
Indiana.....	7	542	14	11	10	15	19	31	77	84	78	202	41						
Kentucky.....	5	223	1	3	8	8	10	18	15	19	32	44	49	15					
Ohio.....	3	47		3	2	2	1	3	2	2	4	4	5	18					
Pennsylvania.....	42	2,898	37	50	60	151	163	322	143	189	332	177	379	336	398	31	17	31	
Utah.....	4	167	4	1	11	26	33	36	16	14	7	1							
Washington.....	3	243	8		6	4	6	5	5		9	17	48	89	40				
West Virginia.....	34	972	14	29	25	38	67	106	106	136	117	114	109	78	37				
Wyoming.....	4	124	3	2		2	2	4	4	3	7	14	29	49	5				
Total.....	127	8,429	95	129	157	368	383	650	577	727	967	1106	1179	1042	1009	48	32	33	
Miners, machine:																			
Alabama.....	6	146		1	2	1	2	9	8	11	34	25	35	11	7				
Colorado.....	6	85	4	3	5		1	2	2	2	10	24	8	13	11				
Illinois.....	15	369	1	1	1	5	14	7	18	52	53	47	43	60	66	1			
Indiana.....	8	136		1		2	3	16	1	24	13	74	2						
Kentucky.....	19	293	4	5	8	9	10	11	19	23	26	19	40	47	48	1			
Ohio.....	25	354	10	6	1	36	19	6	5	14	26	36	29	84	87	3	2		
Pennsylvania.....	41	703	12	9	18	53	31	69	39	38	51	21	64	127	165	5			
Utah.....	3	21				1	3	8	6										
West Virginia.....	35	271	3	5	1	5	12	12	27	47	29	32	21	39	37				
Wyoming.....	3	18				1	4				1			2	8	2			
Total.....	161	2,371	34	31	36	107	92	146	116	211	249	278	250	339	423	10	5		
Grand total¹.....																			
200 33,360 452 663 827 1814 1821 2725 2031 3209 3815 4254 3970 3993 3690 98 43 35																			
Brakemen:																			
Alabama.....	8	139	10	7	4	2	2	16	7	13	28	32	12	5	1				
Colorado.....	6	29						3	1	1		8		3	7	4			
Illinois.....	20	216	2	1	3	2	5	22	17	26	14	39	39	37	6	2	3		
Indiana.....	10	88		1	1	2	2	8	3	19	14	10	9	8	5	1			
Kentucky.....	19	143	6	4	9	7	6	9	5	7	9	24	26	15	13	3	6		
Ohio.....	22	65	5	1	4	3	3	3	4	1	8	6	7	6	7	2	2	3	
Pennsylvania.....	44	319	5	5	7	27	19	16	14	11	34	13	21	49	74	11	3	1	
Utah.....	3	13	1		1	2	4	1	2										
Washington.....	3	13												3	7	2			
West Virginia.....	45	306	3	4	6	4	11	29	21	43	33	41	32	36	32	8	1	2	
Wyoming.....	1	2													2				
Total.....	181	1,333	32	24	27	50	51	90	79	104	146	150	149	165	198	43	17	9	
Brattice men and timbermen:																			
Alabama.....	9	19	1				1	2			1	3	4	5	1				
Colorado.....	7	33			1			1	1	1	2	7	3	2	7			6	2
Illinois.....	21	197	5	3	3	2	4	9	6	4	8	13	34	32	47	15	8	3	1
Indiana.....	11	53				3	5	5	2	2	4	13	3	2	5	3	1		
Kentucky.....	17	58	2		1		1	5	2	4	10	4	13	7	4	2	3		

¹ Including time for lunch.
² Less than 1 per cent.
³ Loaders also do machine mining in this State.

NUMBER OF STARTS (DAYS) IN HALF MONTH.

MINING MINES MAKING EACH SPECIFIED NUMBER OF STARTS (DAYS ON WHICH IN THE WINTER OF 1921-22, BY OCCUPATIONS AND STATES.

Per cent of employees whose starts (days on which they worked in half month) were—																	Average number of starts (days).	Average hours per start (day) based on—		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Over 16.		Time at face. ¹	Time in mine.	
2	2	3	3	4	5	7	12	25	19	12	5	2	(2)	.....	.....	.....	8.4	8.3	8.9
2	2	4	4	18	4	5	4	4	12	9	18	20	.....	.....	.....	.....	9.1	7.7	8.5
1	2	2	3	8	12	5	14	16	11	11	11	12	(2)	.....	.....	.....	8.9	8.0	8.5
1	1	1	3	5	9	5	20	16	30	(2)	.....	(2)	.....	.....	.....	.....	8.3	7.5	7.8
2	3	3	4	4	6	6	10	11	13	16	10	9	.....	(*)	.....	.....	8.6	7.3	7.8
1	2	4	12	3	4	6	8	11	13	10	14	11	.....	.....	.....	.....	8.7	7.5	8.2
1	2	3	8	7	10	4	6	11	7	13	12	15	(2)	(*)	(2)	.....	8.8	7.8	8.6
1	4	13	15	29	27	4	1	2	2	1	.....	.....	.....	.....	.....	.....	5.1	7.7	8.2
1	5	4	4	3	5	3	1	4	4	11	17	34	4	.....	.....	.....	10.1	8.5	8.8
1	2	3	3	4	8	13	12	10	11	13	15	(2)	.....	.....	.....	.....	8.6	7.0	7.5
.....	2	4	6	2	4	4	5	5	10	10	34	14	(2)	.....	(*)	.....	10.0	7.9	8.4
1	2	3	6	6	9	6	10	12	13	11	17	10	(2)	(*)	(2)	.....	8.7	7.7	8.3
1	1	2	2	3	6	9	10	21	22	19	4	1	.....	.....	.....	.....	8.8	7.5	8.5
(2)	2	1	2	2	2	3	5	8	34	8	10	24	.....	.....	.....	.....	10.2	8.0	8.8
(2)	1	1	1	3	4	7	9	6	8	19	18	21	1	1	(2)	.....	10.3	7.8	8.4
3	2	2	3	4	6	14	15	14	37	(2)	.....	.....	.....	.....	.....	.....	8.0	7.0	7.4
(2)	1	1	4	4	6	7	9	14	20	22	7	.....	(2)	.....	.....	.....	8.7	7.4	8.0
.....	6	4	4	2	6	4	2	2	4	9	11	38	.....	.....	.....	.....	9.8	8.1	8.8
1	2	2	5	6	14	16	7	13	6	13	13	13	1	1	1	.....	9.1	8.0	8.8
2	1	7	17	20	22	10	10	10	8	4	1	.....	.....	.....	.....	.....	5.9	7.2	7.8
3	.....	2	2	2	2	2	2	4	7	20	37	16	2	(2)	(2)	.....	10.7	8.5	9.2
1	4	3	4	7	10	11	14	12	12	11	8	4	.....	.....	.....	.....	8.1	6.8	7.3
2	2	.....	2	2	3	3	2	6	11	23	40	4	.....	.....	.....	.....	10.3	8.3	8.7
1	2	2	4	5	8	7	9	11	13	14	12	12	1	(2)	(2)	.....	9.2	7.7	8.4
.....	1	1	1	1	6	5	8	23	17	24	8	5	.....	.....	.....	.....	9.5	8.4	8.8
5	4	6	.....	1	2	2	2	12	28	9	15	13	.....	.....	.....	.....	9.3	7.7	8.5
(2)	(2)	(2)	1	4	2	5	14	14	13	12	16	18	(2)	.....	.....	.....	10.0	7.6	8.1
.....	1	1	2	2	1	1	18	10	54	1	.....	.....	.....	.....	.....	.....	8.8	7.5	7.9
1	2	3	3	4	4	4	9	10	7	17	18	18	(2)	(2)	.....	.....	9.7	7.6	8.1
3	2	(2)	3	3	2	1	4	8	10	8	24	25	1	1	.....	.....	9.9	7.9	8.6
2	1	3	3	4	10	6	5	7	3	9	18	23	1	(2)	.....	.....	9.3	8.2	9.0
.....	.....	.....	5	14	38	29	.....	14	.....	.....	.....	.....	.....	.....	.....	.....	6.5	7.5	8.0
1	2	(2)	2	4	4	10	17	11	12	8	14	14	.....	(2)	.....	.....	9.3	8.1	8.6
.....	.....	.....	6	22	.....	.....	.....	6	.....	11	44	11	.....	.....	.....	.....	9.8	7.8	8.3
1	1	2	5	4	6	5	9	11	12	11	16	18	(2)	(2)	.....	.....	9.5	7.9	8.6
1	2	2	5	5	8	6	10	11	13	12	12	11	(2)	(2)	(2)	.....	8.9	7.7	8.3
7	5	3	1	1	12	5	9	20	23	9	4	1	.....	.....	.....	.....	7.8	8.0	.....
1	1	(2)	1	7	10	3	3	21	.....	.....	10	24	14	7	.....	.....	10.9	8.0	.....
.....	1	1	2	1	2	10	9	9	6	18	18	17	4	1	2	.....	10.4	8.3	.....
4	3	1	2	2	9	3	11	16	16	11	10	9	6	1	.....	.....	9.6	8.0	.....
8	2	2	5	4	6	3	5	6	17	13	10	9	2	4	.....	.....	9.2	8.2	.....
8	2	2	6	5	5	5	2	12	9	11	9	11	3	3	5	.....	8.9	8.0	.....
.....	2	2	9	6	5	5	4	11	4	7	16	24	4	1	(2)	(2)	5.9	8.4	.....
8	.....	8	15	31	8	15	8	.....	.....	8	.....	.....	.....	.....	.....	.....	5.5	7.9	.....
1	1	2	1	4	9	7	14	11	13	10	23	54	15	.....	.....	.....	12.8	8.1	.....
.....	8	23	10	3	(2)	9.3	8.2
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	100	.....	.....	.....	.....	13.0	8.0	.....
2	2	2	4	4	7	6	8	11	11	11	12	14	3	1	1	(2)	9.4	8.2	.....
5	.....	.....	5	11	.....	.....	5	16	21	26	5	.....	5	.....	.....	.....	9.9	8.1	.....
.....	3	3	3	3	3	3	3	6	21	9	6	21	.....	18	.....	.....	11.6	8.0	.....
3	2	2	1	2	5	3	2	4	7	17	16	24	8	4	.....	.....	10.9	8.0	.....
.....	.....	6	9	9	4	4	4	8	34	6	4	9	6	2	.....	.....	9.3	7.7	.....
3	.....	2	2	9	3	7	17	17	22	12	7	3	5	.....	.....	.....	9.8	8.2	.....

¹ Of loaders, pick or hand miners, and machine miners.
² Not including data for 8 employees, starts for whom were not reported.

TABLE 7.—NUMBER AND PER CENT OF EMPLOYEES IN REPRESENTATIVE BITU EMPLOYEES WORKED) IN HALF-MONTH PAY-ROLL PERIOD,

Occupation and State.	Number of—		Number of employees whose starts (days on which they worked in half month) were—																
	Mines.	Em- ployees.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Over 16.
Inside work—Con.																			
Brattice men and timbermen—Continued.																			
Ohio.....	24	139	2	5	4	3	8	9	6	6	11	10	12	15	16	8	10	14	.....
Pennsylvania.....	40	268	1	3	1	5	14	6	2	7	23	8	17	42	43	8	10	.....	.....
Utah.....	4	13	1	1	1	1	1	1	1	1	1	1	1	3	4	12	5	9	.....
Washington.....	4	39	3	1	2	5	12	11	10	9	8	13	18	26	25	6	5	1	.....
West Virginia.....	41	155	3	1	2	5	12	11	10	9	8	13	18	26	25	6	5	1	.....
Wyoming.....	3	12	1	1	1	1	1	1	1	1	1	1	1	4	2	2	1	.....	1
Total.....	181	986	14	13	13	19	46	51	31	38	67	78	109	142	162	49	44	29	2
Cagers:																			
Alabama.....	1	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	1	.....	.....	.....	.....	.....
Colorado.....	5	13	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	2	.....	1	.....	.....	.....
Illinois.....	22	62	1	.....	.....	1	3	4	.....	3	4	2	4	9	21	1	3	1	.....
Indiana.....	12	22	.....	.....	.....	.....	.....	2	.....	1	1	6	2	2	2	3	1	.....	1
Kentucky.....	2	4	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ohio.....	10	27	.....	3	.....	.....	4	3	1	2	1	1	1	2	9	.....	.....	.....	.....
Pennsylvania.....	21	35	1	.....	2	1	1	1	1	3	3	.....	3	8	9	.....	1	.....	.....
Washington.....	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
West Virginia.....	8	12	.....	.....	.....	.....	.....	2	.....	1	2	3	1	2	1	.....	.....	.....	.....
Wyoming.....	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Total.....	83	185	1	4	1	3	8	12	11	11	16	13	13	26	49	3	8	3	1
Drivers:																			
Alabama.....	7	125	4	3	4	1	3	1	4	10	27	39	16	8	1	1	2	1	.....
Colorado.....	8	131	7	3	.....	3	7	7	6	6	5	24	16	8	29	8	7	5	2
Illinois.....	19	408	6	8	8	7	10	20	22	18	26	45	51	73	85	16	9	9	.....
Indiana.....	9	139	6	5	3	2	6	17	10	10	12	26	24	8	6	2	1	1	.....
Kentucky.....	8	174	2	2	3	8	15	11	3	9	11	31	27	19	16	11	5	10	1
Ohio.....	20	281	11	5	9	11	21	15	13	15	12	25	25	44	47	10	8	10	.....
Pennsylvania.....	23	472	7	4	3	24	24	46	13	10	32	21	42	69	74	12	1	1	.....
Utah.....	4	54	.....	2	1	5	15	19	4	3	4	1	.....	.....	.....	.....	.....	.....	.....
Washington.....	1	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
West Virginia.....	22	257	4	3	3	5	14	18	40	28	23	19	31	37	27	2	2	1	.....
Wyoming.....	4	25	1	.....	1	.....	.....	2	.....	1	1	.....	3	5	2	3	5	1	.....
Total.....	125	2,080	42	28	34	67	115	156	115	110	154	234	238	283	287	65	40	20	3
Laborers:																			
Alabama.....	9	354	4	4	10	6	11	11	9	30	51	65	57	52	35	5	3	1	.....
Colorado.....	7	57	1	1	1	1	1	.....	2	1	6	5	6	14	7	9	3	.....	.....
Illinois.....	20	444	1	3	9	13	34	14	24	44	63	72	56	72	24	6	9	.....	.....
Indiana.....	11	145	6	5	4	3	6	4	10	7	19	22	20	16	3	7	5	.....	1
Kentucky.....	20	326	19	11	10	10	11	13	20	31	39	35	47	39	12	13	1	.....	.....
Ohio.....	21	152	4	21	6	9	10	4	5	5	11	13	10	18	19	7	6	4	.....
Pennsylvania.....	42	923	17	10	7	34	27	30	20	23	69	44	43	108	183	35	22	11	3
Utah.....	3	22	.....	2	.....	.....	2	2	1	1	4	4	3	1	2	.....	.....	.....	.....
Washington.....	4	58	.....	2	.....	2	7	4	1	2	.....	2	13	13	1	2	9	.....
West Virginia.....	40	461	14	9	13	9	12	31	27	47	39	55	48	59	76	12	9	1	1
Wyoming.....	4	25	.....	1	.....	.....	1	1	.....	1	.....	1	2	4	3	6	5	1	.....
Total.....	181	2,967	64	65	56	81	92	135	105	160	256	313	300	386	471	117	87	36	6
Motormen:																			
Alabama.....	7	110	.....	.....	2	1	3	2	5	10	20	19	34	11	1	.....	2	.....	.....
Colorado.....	6	17	.....	.....	.....	1	1	.....	1	1	7	2	2	1	1	.....	1	.....	.....
Illinois.....	19	169	3	1	2	2	3	6	16	16	14	8	12	28	37	16	6	1	2
Indiana.....	10	72	1	.....	.....	.....	.....	1	3	2	14	13	16	6	4	5	4	2	.....
Kentucky.....	20	177	9	2	8	4	7	6	5	3	8	20	21	21	33	24	6	5	2
Ohio.....	25	90	1	1	4	4	4	7	2	5	6	8	4	8	10	16	3	2	10
Pennsylvania.....	42	314	4	.....	4	17	18	13	10	14	29	25	35	39	78	14	5	3	.....
Utah.....	3	16	.....	.....	4	3	3	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Washington.....	4	19	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	4	8	.....	2	.....
West Virginia.....	46	307	1	6	7	3	17	16	39	51	32	45	44	51	3	3	1	1	.....
Wyoming.....	1	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	1	2	.....	.....
Total.....	183	1,296	23	5	26	40	44	50	58	97	139	129	173	178	222	53	30	20	3

¹ Less than 1 per cent.

² Not including data for 79 employees, starts for whom were not reported.

³ Not including data for 2 employees, starts for whom were not reported.

HOURS AND EARNINGS IN COAL MINING.

TABLE 7.—NUMBER AND PER CENT OF EMPLOYEES IN REPRESENTATIVE BITUMINOUS COAL MINES (EMPLOYEES WORKED) IN HALF-MONTH PAY-ROLL PERIOD,

Occupation and State.	Number of—		Number of employees whose starts (days on which they worked in half month) were—																
	Mines.	Em- ploy- ees.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Over 16.
<i>Inside work—Con.</i>																			
Pump men:																			
Alabama.....	9	62	1			1	1	2	2	2	7	12	7	7	12	1	4	3	
Colorado.....	7	10												1		1	4	3	
Illinois.....	13	23				1			1			1	1		5	4	6	3	
Indiana.....	9	28								4	2	3	2	2	6	2	2	7	
Kentucky.....	15	39						1	1	1	1	2	7	3	10	3	6	3	1
Ohio.....	21	43		1		1				1	1	1	2	2	9	3	11	9	3
Pennsylvania.....	41	152	1	3	1	2		1	1	2	2	1	2	14	19	15	36	38	14
Utah.....	3	6								1			1			3			
Washington.....	3	5													1			2	3
West Virginia.....	32	79	2	1	1		1	1		6	7	3	7	7	15	9	6	11	2
Wyoming.....	4	5														1	4		
Total.....	157	452	4	5	2	5	2	6	4	16	21	20	31	36	77	39	82	79	23
Trackmen:																			
Alabama.....	10	58			1		1	3	1	2	10	10	11	7	8	4			
Colorado.....	8	38							1		4	3	3	4	9	5	8		
Illinois.....	22	301	2	2	4	4	7	21	7	11	24	23	43	42	71	23	8	8	1
Indiana.....	11	108	2	2	2	2	4	6	4	4	6	13	11	24	7	9	4	4	
Kentucky.....	19	159	6	1	2	2	7	6	4	9	7	11	30	30	23	7	10	4	
Ohio.....	25	111	3	4		4	6	3	2	3	9	7	3	17	27	4	5	9	
Pennsylvania.....	44	287		2	2	5	9	18	12	14	16	15	22	40	59	19	12	3	4
Utah.....	4	20		1		1		2	2	3	2	2	2	2	1	1	1		
Washington.....	4	17					2		2	2	1	2	1	6	3	2	1	1	
West Virginia.....	47	274	3	6	1	6	7	8	16	31	26	35	29	41	49	13	2	1	
Wyoming.....	4	20											3		1	8	8		
Total.....	198	1,393	17	17	11	24	43	67	49	77	104	127	100	216	257	88	58	43	5
Trappers (boys):																			
Alabama.....	5	20	1			4			1	1	14	6	2						
Colorado.....	4	12						1	1	1	1	1		7					
Illinois.....	16	72	1		1	7	7	15		5	3	4	6	12	14				
Indiana.....	9	41	4	5		1	1	4	6	7	4	9							
Kentucky.....	6	15							1	2	2	2	9			1			
Ohio.....	22	84	1	4	1	10	3	3	3	4	6	7	11	14	17	1			
Pennsylvania.....	12	36			1	1	2	3	1	1	3	2	5	2	19				
West Virginia.....	29	194	1	1	1		6	3	11	15	6	10	15	17	18				
Total.....	103	393	8	10	4	23	19	29	23	33	39	41	49	45	69	1			
Other employees:																			
Alabama.....	8	144	1	2		2	1		3	6	17	23	31	29	21	6	2		
Colorado.....	8	54				1	2	2	1	2	1	2	10	17	5	6	5		
Illinois.....	22	376	4	4	4	9	9	21	14	18	18	13	31	32	87	41	45	28	2
Indiana.....	12	105	4	2	5	1	1	5	5	6	8	12	2	9	14	10	5	12	4
Kentucky.....	20	283	10	9	4	14	10	13	7	14	20	21	29	38	49	18	24	5	
Ohio.....	21	169	10	10	4	10	4		4	4	23	17	21	11	25	5	9	12	
Pennsylvania.....	44	791	3	4	8	28	30	32	21	9	45	28	36	96	204	44	25	34	7
Utah.....	4	54	1	2			2	9	5	5	4	4	6	5	3	1	6		
Washington.....	4	32	1		1								1	1	9	5	2	12	
West Virginia.....	41	219	1	4	4	4	3	11	11	16	15	29	18	23	53	9	7	10	
Wyoming.....	4	67		1		1			3		1	2	3	9	9	13	13		3
Total.....	188	2,294	31	39	30	70	62	93	74	80	151	150	181	263	491	151	144	131	16
<i>Outside work.</i>																			
Blacksmiths:																			
Alabama.....	10	18									1	3	3	7	2	2			
Colorado.....	8	14				1							1	1	8	1	2		
Illinois.....	22	56					1	1	2	3	1			6	12	10	12	8	
Indiana.....	12	18								1	3			1	3	4	4	2	
Kentucky.....	18	29		1						1	2	5	5	7	5	2	1		
Ohio.....	25	43		1		1	2			3	2	5	2	5	10	3	5	6	
Pennsylvania.....	41	84	1	2	1	1	3	5	2	3	4	4	5	9	21	3	7	4	
Utah.....	4	5										2	1						

¹ Less than 1 per cent.

² Not including data for 30 employees, starts for whom were not reported.

MINING MINES MAKING EACH SPECIFIED NUMBER OF STARTS (DAYS) ON WHICH IN THE WINTER OF 1921-22, BY OCCUPATIONS AND STATES—Continued.

Per cent of employees whose starts (days on which they worked in half month) were—																	Average number of starts (days).	Average hours per start (day) based on—	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Over 16.		Time at face.	Time in mine.
2			2	2	3	3	3	11	19	11	11	19	2	6	5		10.9	8.5	
									16		10		10	40	30		14.4	8.0	
			4		4			4	4		22	17	26	13			13.0	8.4	
							14	7	11	7	21	7	7	25			12.7	8.5	
					8	8	2	3	5	18	8	26	8	15	8		12.6	8.8	
	2		2					2		7	5	21	7	26	21	7	14.0	8.3	
1	2	1	1		1	1	1	1	1	1	9	13	10	24	25	9	13.9	8.4	
										17		17		50			12.8	8.0	
															40	60	19.2	7.9	
3	1	1		1	1		8	9	4	9	9	19	11	8	14	3	11.9	8.8	
													20	80			14.8	8.3	
1	1	(2)		1	(2)	1	1	4	5	4	7	8	17	9	18	17	5	13.0	8.5
		2		2	5	2	3	17	17	19	12	14	7					10.4	8.1
		3				3		11	8	8	11	24	13	21				12.2	8.0
1	1	1	1	2	7	2	4	8	14	14	14	24	8	3	3	(2)	10.8	8.1	
2	2		2	4	6	4	4	6	18	10	22	6	8	4	4		10.3	8.1	
4	1	1	1	4	4	3	6	4	7	19	19	14	4	6	3		10.5	8.4	
3	4		4	5	3	2	3	8	6	7	15	24	4	5	8		10.7	8.1	
1	1	1	2	4	7	5	5	6	9	16	23	7	5	3	2		11 11.0	11 8.2	
5			5		10	10	15	10	10	10	10	5	5	5			9.1	7.9	
				12						12	6	35	18	12		6	11.5	8.0	
1	2	(2)	2	3	3	6	11	9	13	11	15	18	5	1	(2)	40	10.0	8.2	
											15		5	40			14.9	8.0	
1	1	1	2	3	5	4	6	8	9	12	16	19	6	4	3	(2)	11 10.7	11 8.2	
			14			3	3	48	21	7							8.3	8.1	
					8	8		11	8	8		58					11.2	8.0	
1		1	10	10	21	7	7	4	6	8	17	15					8.6	8.0	
10	12		2	10	15	17	10	22	17	13	18	60		7			6.6	7.9	
																	10.5	7.6	
1	5	1	12	4	4	4	5	7	8	13	17	20					9.2	7.8	
		3	3	6	8		3	8	6	14	6	44					10.5	8.2	
1	1	1		6	3	11	14	6	10	14	16	17					9.7	7.9	
2	3	1	6	5	7	6	8	10	10	12	11	18	(2)				9.1	7.9	
1	1		1		2	4	4	12	16	22	29	15	4	1			10.7	8.2	
			2	4	4	2	4	2	4	19	31	9	11	9			12.3	8.0	
	1	1	2	2	6	4	5	5	3	8	9	23	11	12	7	1	11.5	8.2	
4	2	5	1	1	5	5	5	8	11	2	9	13	19	5	11	4	10.8	8.0	
4	3	1	5	4	5	2	5	7	7	10	13	17	6	8	2		10.1	8.6	
6	6	3	6	2	2	2	14	10	12	7	15	3	5	7			9.6	8.0	
(2)	1	1	4	5	5	3	1	7	4	6	15	31	7	4	5	1	13 11.1	12 8.4	
2	6			4	17	9	9	7	7	11	9	6	2	11			9.1	7.9	
(2)	3		3							3	3	28	16	6	38		13.6	8.1	
(2)	2	2	2	1	5	5	7	7	13	9	11	24	4	3	5		10.6	8.4	
	1		1			4		1	3	4	13	13	13	19	19	4	13.3	8.1	
1	2	1	3	3	4	3	4	7	7	8	12	23	7	7	6	1	13 10.9	12 8.3	
								6	17	17	39	11	11				11.7	8.2	
				7						7	7	57	7	14			12.5	9.2	
					2	2	4	5	2		11	21	18	21	14		13.1	8.9	
								6	17	6	17	22		22	11		12.6	9.0	
	3							3	7	17	24	17	7	3			11.2	8.4	
	2		2	5				12	5	12	23	7	12	14			12.0	8.3	
1	3	1	1	4	7	3	4	5	5	7	12	28	4	9	5		13 11.0	13 8.8	
										40	20						11.4	8.0	

¹² Not including data for 137 employees, starts for whom were not reported.
¹³ Not including data for 9 employees, starts for whom were not reported.

TABLE 7.—NUMBER AND PER CENT OF EMPLOYEES IN REPRESENTATIVE BITU EMPLOYEES WORKED) IN HALF-MONTH PAY-ROLL PERIOD,

Occupation and State.	Number of—		Number of employees whose starts (days on which they worked in halfmonth) were—														Over 16.		
	Mines.	Em- ploy- ees.	1	2	3	4	5	6	7	8	9	10	11	12	13	14		15	16
<i>Outside work—Continued.</i>																			
Blacksmiths—Con.																			
Washington.....	4	6																1	2
West Virginia....	43	61	2			3	2	1	1	1	2	8	8	16	15			2	2
Wyoming.....	4	5												2				1	2
Total.....	191	339	3	4	1	6	8	7	5	12	13	27	26	57	81	21	35	24	
Carpenters:																			
Alabama.....	8	33		1				2	2	5	4	7	4	3	5				
Colorado.....	3	6									1		1	1	2			1	
Illinois.....	20	40		1		2	2	2	2				2	4	13	4	3	7	
Indiana.....	6	12		1	2								2	1	4	1		1	
Kentucky.....	18	40				2	1	1	1	4	4	3	4	11	7	2	2	1	
Ohio.....	17	28	1	1		1			1	1	3	3	5	7	2	2	1		
Pennsylvania...	37	166		4	1	4	11	8	6	11	8	11	11	43	16	6	4		
Utah.....	4	10				1					1		1	3	2	2	4		
Washington....	4	15					2							6	3	1	1		
West Virginia...	38	74		2	1		2	3	3	7	9	7	7	12	27	1			
Wyoming.....	2	3												1	1				
Total.....	157	427	1	3	9	2	10	20	16	16	29	31	34	44	122	37	17	14	
Engineers:																			
Alabama.....	7	11										4	1	2	4				
Colorado.....	8	20											3	10	1	2	4		
Illinois.....	22	68			1			1				2		8		17	37	2	
Indiana.....	8	16											1	1		3	10	1	
Kentucky.....	7	8										1	2	4		1			
Ohio.....	18	23		1	1		1	1	1				3	4	4	7			
Pennsylvania...	32	71	2	2		1		2			2	2	5	12	8	13	12	2	
Utah.....	3	3												1	1	1			
Washington....	4	14														1	13		
West Virginia...	16	28										1		3	4	10	8	2	
Wyoming.....	4	5											1			1	3		
Total.....	129	267	2	2	1	2	1	1	4	1		6	10	15	46	14	53	94	7
Firemen:																			
Alabama.....	6	25								2	1	4	5	1	8	1	1	2	
Colorado.....	5	9					1				1				1		6		
Illinois.....	20	87							2	1	3	4		5	12	20	16	19	5
Indiana.....	5	15		1	1									1	1	4	4	3	
Kentucky.....	2	9										1	2	2	2	1	1	1	
Ohio.....	8	18									1		2	2	3	4	3	1	
Pennsylvania...	18	114	1	1	1							1	2	9	21	29	22	3	
Utah.....	1	1														1			
Washington....	2	9														1	8		
West Virginia...	9	31							1					1	3	8	7	8	3
Wyoming.....	3	9														4	5		
Total.....	79	327	3	2	2	1		3	4	5	11	8	12	37	59	67	77	12	
Laborers:																			
Alabama.....	10	203	6	1	8	6	2	6	11	26	38	37	26	22	8	1	2	3	
Colorado.....	8	97				2	2	3	3	7	18	1	11	30	13	5	2		
Illinois.....	21	337	3	4	3	7	23	35	15	16	25	13	27	40	66	27	21	12	
Indiana.....	12	115	7	4	1	4	2	5	4	12	9	14	16	16	7	7	3	3	1
Kentucky.....	20	198	4	4	5	6	3	7	8	10	22	21	18	23	50	9	7	1	
Ohio.....	24	227	13	8	7	15	12	4	3	11	18	25	22	25	47	12	5		
Pennsylvania...	42	573	8	9	5	20	18	27	21	7	35	17	42	91	156	30	26	10	
Utah.....	4	71			3	1	4	5	3	5	4	10	8	11	13	3	1		
Washington....	4	62	1	2	1	2		2	3	2	3	3	9	25	4	3	1		
West Virginia...	46	498	8	7	9	18	13	23	41	48	42	43	62	99	68	7	4	1	
Wyoming.....	4	26		1	2	1	1	1	3			1		1	1	2	5	8	
Total.....	195	2,407	50	39	43	81	80	117	115	140	201	207	225	348	471	115	82	41	1

* Less than 1 per cent.

† Not including data for 8 employees, starts for whom were not reported.

‡ Not including data for 9 employees, starts for whom were not reported.

§ Not including data for 22 employees, starts for whom were not reported.

MINOUS MINES MAKING EACH SPECIFIED NUMBER OF STARTS (DAYS) ON WHICH IN THE WINTER OF 1921-22, BY OCCUPATIONS AND STATES—Continued.

Per cent of employees whose starts (days on which they worked in half month) were—																	Average number of starts (days).	Average hours per start (day) based on—	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Over 16.		Time at face.	Time in mine.
3			5	3	2	2	2	3	13	13	17	33			17	33	14.2	8.1	
												26	25		3		10.6	8.5	
												40			20	40	14.2	8.8	
1	1	(2)	2	2	2	2	4	4	8	8	17	25	6	11	7		13 11.7	13 8.6	
	3				6	6	15	12	21	12	9	15					9.7	8.5	
		3			5	5	5	17		17	17	33			17		12.2	8.9	
			3		5	5	5			5	10	33	10	8	18		12.3	8.5	
	8	17			5	3	3	3	10	10	8	33	8		8		10.3	8.2	
				4	4	3	3	4	4	11	11	18	25	7	7	4	11.5	8.1	
4	4		3	1	3	8	6	4	8	6	8	30	11	4	3		11.2	8.2	
					10				10		13	40	20	20			14 10.9	14 8.5	
						13						30	20	20	7	7	12.2	8.5	
		3	1		3	4	4	9	12	9	16	36	1				12.9	7.8	
											33	33	33				10.9	8.3	
																	13.0	8.2	
(2)	1	2	(2)	2	5	4	4	7	8	8	11	30	9	4	3		14 11.1	14 8.4	
									36	9	18	36					11.5	8.4	
										15		50	5	10	20		13.6	8.6	
				1			1			3		12		25	54	3	15.0	8.1	
											6	6		19	63	6	15.4	8.8	
										13	25	50		13			12.8	8.5	
			4	4		4	4	4			13	17		17	30		12.5	8.9	
				2	4	3	4			3	8	19	13	21	19	3	6 12.4	5 8.5	
3	3								3	3	33		33	33			13.7	8.4	
																	15.9	8.2	
										4		11	14	36	29	7	15.0	11.0	
											20			20	60		15.0	9.7	
1	1	(2)	1	(2)	(2)	2	(2)		2	4	6	18	5	20	36	3	6 13.9	6 8.7	
								8	4	16	20	4	32	4	4	8	11.9	9.1	
								11	11				11		67		13.8	10.4	
							2	1	3	5		6	14	23	18	22	14.0	8.0	
		7	7									7	7	27	27	20	13.1	9.4	
										11	22	22	22	11	11		12.6	8.6	
11								6		11		11	17	22	17	16	12.4	9.0	
1		1	1								1	2	10	23	32	24	15 14.2	15 8.2	
															100		15.0	8.5	
														11		89	15.8	8.1	
						3					3	10	26	23	26	10	14.7	9.6	
															44	56	15.6	8.0	
1		1	1	(2)		1	1	2	4	3	4	12	19	22	25	4	16 13.9	15 8.5	
3	(2)	4	3	1	3	5	13	19	18	13	11	4	(2)	1	1		9.1	8.1	
				2	2	3	3	7	19	1	11	31	13	5	2		11.6	8.7	
1	1	1	2	7	10	4	5	7	4	8	12	20	8	6	4		10.3	8.3	
6	3	1	3	2	4	3	10	8	12	14	14	6	6	3	3	1	9.4	8.2	
2	2	3	3	2	4	4	5	11	11	9	12	25	5	4	1		10.2	8.2	
6	4	3	7	5	2	1	5	8	11	10	11	21	5	2			9.3	8.0	
2	2	1	4	3	5	4	1	7	3	8	17	30	6	5	2		16 10.8	16 8.8	
		4	1	6	7	4	7	6	14	11	15	18	4	1			9.9	7.8	
2	3	2	3		3	5	3	2	5	5	15	40	6	5	(2)		11.1	8.1	
2	1	2	4	3	5	8	10	8	10	12	20	14	1	1			9.6	8.4	
		4	8	4	4	12				4		4	4	8	19	31	11.9	8.0	
2	2	2	3	3	5	5	6	9	9	10	15	20	5	3	2	(2)	16 10.1	16 8.4	

¹⁵ Not including data for 24 employees, starts for whom were not reported.

¹⁶ Not including data for 51 employees, starts for whom were not reported.

HOURS AND EARNINGS IN COAL MINING.

TABLE 7.—NUMBER AND PER CENT OF EMPLOYEES IN REPRESENTATIVE BITUMINOUS COAL MINES (EMPLOYEES WORKED) IN HALF-MONTH PAY-ROLL PERIOD,

Occupation and State.	Number of—		Number of employees whose starts (days on which they worked in halfmonth) were—																		
	Mines.	Em- ploy- ees.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Over 16.		
<i>Outside work— Concluded.</i>																					
<i>Other employees:</i>																					
Alabama.....	10	185	1	2	1	6	3	5	6	6	12	27	23	27	35	7	9	14	1		
Colorado.....	7	68								3	3	4	3	7	24	9	9	6			
Illinois.....	21	247	3		2	2	2	8	3	6	6	9	13	41	62	20	37	30	1		
Indiana.....	12	87	3	1					3	1	2	11	5	6	14	6	11	22	2		
Kentucky.....	20	258	5	1	3	2	4	4	8	11	16	38	37	40	50	13	17	9			
Ohio.....	25	160	6	3	2	3	3	2	3		9	13	14	26	28	7	15	25	1		
Pennsylvania.....	42	713	7	3	4	13	30	28	7	15	44	14	23	72	170	44	89	61	9		
Utah.....	4	48		2	3		2	1	1	6	1	5	7	1	7	3	6				
Washington.....	4	60	1			1		1			1		5	9	14	4	6	17	1		
West Virginia.....	44	371	1	2	2	3	5	13	13	20	17	29	35	75	91	21	18	24	2		
Wyoming.....	4	48		1			1				1	1	1	3	3	12	13	11			
Total.....	193	2,242	27	15	17	30	50	63	44	70	112	151	171	307	498	146	230	219	17		
Total:																					
Inside work.....	18	200	13	379	236	210	204	382	482	689	549	726	1093	1255	1409	1740	2273	609	510	370	60
Outside work....		200	6,009	86	63	73	123	150	208	187	243	360	433	474	783	1253	392	434	469	37	

¹ Less than 1 per cent.

¹⁷ Not including data for 75 employees, starts for whom were not reported.

¹⁸ Exclusive of loaders, hand or pick miners, and machine miners.

NUMBER OF STARTS (DAYS) IN HALF MONTH.

MINING MINES MAKING EACH SPECIFIED NUMBER OF STARTS (DAYS ON WHICH IN THE WINTER OF 1921-22, BY OCCUPATIONS AND STATES—Concluded.

Per cent of employees whose starts (days on which they worked in half month) were—																	Average number of starts (days).	Average hours per start (day) based on—	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Over 16.		Time at face.	Time in mine.
1	1	1	3	2	3	3	3	6	15	12	15	19	4	5	8	1	11.1	8.5	
1	1	1	1	1	3	1	4	4	6	4	10	35	13	13	9	.....	12.9	8.9
3	1	1	1	1	3	1	3	2	4	5	17	25	8	15	12	(²)	12.5	8.4	
2	(²)	1	1	2	2	3	1	2	13	6	7	16	7	13	25	.....	12.7	8.4
4	2	1	2	2	1	2	6	8	9	16	18	4	9	16	.....	11.1	8.5	
1	(²)	1	2	5	4	1	2	7	2	4	11	27	7	14	10	1	11.6	8.2	
2	4	7	2	4	2	2	13	2	11	16	2	16	7	13	.....	17 11.9	17 8.8	
(²)	2	1	2	2	2	2	2	2	8	15	23	7	10	28	.....	13.3	8.1	
1	1	1	1	1	4	4	5	5	8	9	20	25	6	5	6	.....	11.5	8.7
2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13.7	8.1
1	1	1	1	2	3	2	3	5	7	8	14	23	7	11	10	1	17 11.6	17 8.5	
2	2	2	3	4	5	4	6	9	10	11	14	18	5	4	3	(²)	19 10.2	19 8.2	
1	1	1	2	3	4	3	4	6	7	8	13	22	7	8	8	1	20 11.3	20 8.5	

¹⁹ Not including data for 588 employees, starts for whom were not reported.

²⁰ Not including data for 189 employees, starts for whom were not reported.

Table 8 presents cumulative percentages for the employees in the basic occupations who made each specified number of starts in the half month covered. "Starts," as here used, means the number of days on which the employee did some work, regardless of whether he worked the whole day or only a part thereof.

It will be observed that only 17 per cent of contract miners and 34 per cent of contract miners' laborers in anthracite coal mining worked on 9 days or less during the half month, while 54 per cent of loaders, 47 per cent of pick or hand miners, and 43 per cent of machine miners in bituminous coal mining worked on 9 days or less. As shown in Tables 13 and 14 (pp. 42 to 50), only 2 of the 29 anthracite collieries for which data are presented were in operation 9 days or less, while 76 of the 200 bituminous mines were in operation 9 days or less. A few (less than 1 per cent) contract miners' laborers, loaders, or machine miners made over 14 starts. One per cent of contract miners and of pick miners made over 14 starts. Six per cent of contract miners' laborers made only 1 start.

TABLE 8.—CUMULATIVE PER CENT OF EMPLOYEES MAKING EACH SPECIFIED NUMBER OF STARTS (DAYS ON WHICH EMPLOYEES WORKED) IN HALF-MONTH PAY-ROLL PERIOD.

Occupation.	Per cent of employees whose starts (days on which they worked) in half month were—															
	1	2 and under.	3 and under.	4 and under.	5 and under.	6 and under.	7 and under.	8 and under.	9 and under.	10 and under.	11 and under.	12 and under.	13 and under.	14 and under.	15 and under.	16 and under.
ANTHRACITE.																
Miners, contract.....	(¹)	1	2	2	3	4	6	12	17	28	44	58	78	99	100	100
Laborers, contract miners.....	6	10	12	15	17	20	24	29	34	45	57	71	86	100	100	100
BITUMINOUS.																
Loaders.....	1	3	6	12	18	27	33	43	54	67	79	90	100	100	100	100
Miners, pick or hand.....	1	3	5	8	13	20	27	36	47	60	74	87	99	99	100	100
Miners, machine.....	1	3	4	9	13	19	23	32	43	55	65	82	99	100	100	100

¹ Less than 1 per cent.

DAILY HOURS OF OPERATION.

All collieries and mines have regular hours of operation per day and per week for their time-workers, that is, employees who are paid rates per day or per hour, but regular hours are not closely followed by tonnage or piece workers.

The hours of time-workers are fixed by a specified hour for actually beginning work in the morning, for the midday lunch or dinner, and for closing in the afternoon. The hours per day for time-workers, therefore, do not include time for lunch.

The hours of tonnage or piece workers are usually indefinite, due to the fact that some employees enter the colliery or mine at an early hour in the morning, begin work immediately on arrival at the face of the seam of coal, and work throughout the day without taking any time for lunch other than the time of waits for mine cars or for material; some may quit work at or near noon while others may enter later in the morning, take as much or as little time for the midday lunch as they desire, and often quit work before the regular or customary time in the afternoon at which the mine as a whole closes operation.

TONNAGE OR PIECE WORKERS.

Table 9 shows for each anthracite colliery covered the time at which tonnage or piece workers (contract miners and contract miners' laborers) usually enter the shaft or other opening of the colliery in the morning; the average round-trip time (minutes) of travel from the shaft to the face and return; the hour employees are expected to begin work; the usual time spent at the face or place of work per day, including as much or as little time as may be taken for lunch; the time (minutes) taken for lunch when specified; the hour at which employees are expected to leave the shaft or other opening of the colliery after the completion of the day's work; and the usual time (hours) in the mine from the time of entry into the shaft in the morning to the time of exit from the shaft in the afternoon after the completion of the day's work.

TABLE 9.—DAILY TIME SCHEDULE OF CONTRACT MINERS AND CONTRACT MINERS' LABORERS IN REPRESENTATIVE ANTHRACITE COLLIERIES IN PENNSYLVANIA, FOR THE SECOND HALF OF JANUARY, 1922.

No. of colliery.	Enter shaft or other opening of mine in morning at—	Average travel time (minutes) from shaft to face and return.	Expected to begin work.	Usual time (hours) at face per day, including time for lunch.	Time (minutes) for lunch.	Leave shaft or other opening of mine in afternoon at—	Usual time (hours) in mine per day.
1	6.00 to 7.00	30	(1)	7½	(2)	1.00 to 3.00, or after loading 4 to 6 mine cars, depending on thickness of vein	8
2	7.00 to 7.30	30	(1)	8¼	(2)	3.00 to 4.00	8½
3	6.45	30	(1)	7½	30	2.45	8
4	6.00 to 7.00	20	(1)	7½	30	2.00 to 3.00, or after loading 5 mine cars	7½-8¼
5	6.00	50	(3)	8¼	(2)	4.10	9½
6	6.00 to 7.00	30	(1)	7½	(2)	1.00 to 3.00, or when 10 men desire to leave	8
7	6.00 to 7.00	40	(1)	7½	(2)	1.00 to 3.00 or when 10 men desire to leave	8
8	6.00 to 6.50	90	(1)	6½	(2)	Usually after loading 4 to 6 mine cars, depending on thickness of vein	8
9	6.30 to 7.00	30	(1)	7½	(2)	1.00 to 3.00, or after loading 5 mine cars	8
10	6.00 to 6.50	60	(1)	7	(2)	Usually after loading 4 to 6 mine cars, depending on thickness of vein	8
11	7.00 to 7.30	30	(1)	8¼	45	3.00 to 4.00	8
12	6.00 to 6.50	60	(1)	7	(2)	Usually after loading 4 to 6 mine cars, depending on thickness of vein	8½
13	6.00 to 6.50	60	(1)	7	(2)	Usually after loading 4 to 6 mine cars, depending on thickness of vein	8
14	6.30	60	(1)	7	(2)	2.30	8
15	6.00 to 6.50	70	(1)	6½	(2)	1.00 to 3.00	8
16	6.45	30	(1)	7½	(2)	2.45	8
17	6.30	60	(1)	8	(2)	3.30	9
18	6.00 to 7.00	60	(1)	8½	(2)	4.00, or when 5 men desire to leave	9½
19	6.40	40	(1)	8½	30	3.50	9½
20	6.30 to 7.00	20	(4)	(5)	(5)	4.10, Monday to Friday; 12 m., Saturday	(5)
21	6.45	30	(1)	7½	(2)	2.45	8
22	6.50	20	(1)	(1)	(2)	2.00, Monday to Friday; 11.30 a. m., Saturday	(5)
23	6.45	30	(1)	7¼	(2)	2.45	8
24	6.00 to 7.00	20	(1)	7½	(2)	No regular time	7½
25	6.30	60	(1)	6½	(2)	2.00	7½
26	6.30	60	(1)	6½	(2)	2.00	7½
27	6.40	40	(1)	8¼	30	3.50	9½
28	6.45	30	(1)	8½	(2)	3.45	9
29	6.45	30	(1)	7½	(2)	2.45	8

1 On arrival at face.
 2 No regular time or specified number of minutes.
 3 Not later than 7.15 a. m.
 4 Not later than 7 a. m.

5 Monday to Friday, inclusive, 9; Saturday, 5.
 6 Monday to Friday, inclusive, 9½; Saturday, 5.
 7 Monday to Friday, inclusive, 8; Saturday, 5.
 8 Monday to Friday, inclusive, 8½; Saturday, 5

Taking all the collieries into consideration, it will be observed that employees entered the shaft as early as 6 and as late as 7.30 a. m.; that the average time of travel from the shaft to the face and return was as low as 20 and as high as 90 minutes; that employees began work "on arrival at face," "not later than 7 a. m.," or "not later than 7.15 a. m."; that the usual time at the face, including time for lunch, was as low as $6\frac{1}{2}$ and as high as $8\frac{1}{2}$ hours per day; that only 5 collieries had a regular time or specified number of minutes for lunch, 4 of the 5 having had 30 minutes and one 45 minutes; that employees left the shaft or other opening of the colliery as early as 1 p. m. and as late as 4.10 p. m. or after loading a specified number of mine cars; and that the usual time in the mine from the time of entrance into the shaft in the morning to the time of exit from the shaft in the afternoon after the completion of the day's work was as low as $7\frac{1}{2}$ and as high as $9\frac{1}{2}$ hours.

Like data as to the hour of entering and leaving the mine were not collected for bituminous mines.

TIME WORKERS.

Table 10 shows for each time-work occupation the number of mines and the regular or customary hours of operation, Monday to Friday, Saturday, Sunday, and the total per week. In practically all mines the rates paid were for an 8-hour day, even in those mines in which employees worked more than 8 hours per day. A very few employees were paid rates per hour rather than per day. The time worked in excess of 8 hours was in all cases paid for at the regular rate.

In some mines it was necessary for some of the cagers, car runners, drivers, motormen, brakemen, or motor brakemen to make one or more extra trips per day in order to take employees from the shaft to the face before the time of beginning work in the morning or from the face to the shaft in the afternoon after the completion of the day's work. These trips are called "man trips" because men instead of coal are taken to and from the face on these trips. The time of the "man trips" is not included as part of the regular or customary hours of these occupations, because the trips were worked by only a part of the employees in these occupations. The hours and earnings for the "man trips," however, are included in the averages for these employees.

TABLE 10.—NUMBER OF COAL MINES HAVING TIME-WORK EMPLOYEES WORKING NUMBER OF REGULAR OR CUSTOMARY HOURS PER DAY AND PER WEEK, BY OCCUPATIONS.

ANTHRACITE (PENNSYLVANIA).

Occupation.	Number of mines.	Regular or customary hours—				Occupation.	Number of mines.	Regular or customary hours—			
		Monday to Friday.	Saturday.	Sunday.	Per week.			Monday to Friday.	Saturday.	Sunday.	Per week.
<i>Inside work.</i>					<i>Outside work—Con.</i>						
Blacksmith.....	10	8	8	.....	48	Cagers.....	18	8	8	.....	48
	1	8½	5½	.....	48		1	8½	5½	.....	48
	1	9	9	.....	54		6	9	9	.....	54
Brattice men.....	19	8	8	.....	48		1	12	12	.....	84
	1	8½	5½	.....	48	Carpenters.....	22	8	8	.....	48
	1	9	9	.....	54		2	8½	5½	.....	48
Cagers.....	23	8	8	.....	48		2	10	10	.....	60
	2	8½	5½	.....	48	Car runners.....	18	8	8	.....	48
	2	9	9	.....	54		2	8½	5½	.....	44
	1	10	10	.....	60	Dumpers.....	22	8	8	.....	48
Car runners.....	20	8	8	.....	48		2	8½	5½	.....	48
	2	8½	5½	.....	48		2	10	10	.....	60
	2	9	9	.....	54	Engineers.....	19	8	8	.....	56
Door tenders (boys)	22	8	8	.....	48		4	8	8	.....	48
	2	8½	5½	.....	48		2	8	8	.....	56
	2	9	9	.....	54		2	8	8	.....	56
Drivers.....	24	8	8	.....	48	Firemen.....	27	8	8	.....	56
	2	8½	5½	.....	48		1	8	8	.....	56
	1	8½	8½	.....	51		1	8	8	.....	56
Engineers.....	18	8	8	.....	48		2	12	12	.....	84
	3	8	8	.....	56		8	8	.....	56	
	1	9	9	.....	54		1	8	8	.....	56
	1	10	10	.....	60	Jig runners.....	17	8	8	.....	48
	1	13	13	.....	78		2	8½	5½	.....	48
Laborers.....	27	8	8	.....	48		3	10	10	.....	60
	2	8½	5½	.....	48		1	10	10	.....	70
Machinists.....	11	8	8	.....	48	Laborers.....	26	8	8	.....	48
	2	8	8	.....	56		2	8½	5½	.....	48
	1	8½	5½	.....	48		1	9	9	.....	54
	1	9	9	.....	54	Machinists.....	23	8	8	.....	48
Masons.....	14	8	8	.....	48		2	8	8	.....	56
Motormen.....	22	8	8	.....	48		2	8½	5½	.....	48
	2	8½	5½	.....	48	Oilers.....	22	8	8	.....	48
	1	9	9	.....	54		2	8½	5½	.....	48
	2	10	10	.....	60		1	9	9	.....	54
Motor brakemen.....	22	8	8	.....	48	Plate men.....	21	8	8	.....	48
	2	8½	5½	.....	48		2	8½	5½	.....	48
	1	9	9	.....	54	Repair men.....	13	8	8	.....	48
	2	10	10	.....	60		1	10	10	.....	60
Pumpmen.....	25	8	8	.....	56	Slaters (boys).....	23	8	8	.....	48
	1	8	8	.....	48		2	8½	5½	.....	48
Timbermen.....	1	7½	7½	.....	45	Timber cutters.....	25	8	8	.....	48
	20	8	8	.....	48		1	8½	5½	.....	48
	1	9	9	.....	54		2	10	10	.....	60
Trackmen.....	25	8	8	.....	48	Trackmen.....	20	8	8	.....	48
	2	8½	5½	.....	48		2	8½	5½	.....	48
Other employees.....	27	8	8	.....	48	Other employees.....	23	8	8	.....	48
	2	8½	5½	.....	48		2	8½	5½	.....	48
<i>Outside work.</i>											
Ash men.....	18	8	8	.....	56		1	10	10	.....	60
	1	8	8	.....	48		2	8	8	.....	48
	4	9	9	.....	63		2	8	8	.....	48
	1	10	10	.....	70		2	9	9	.....	54
	1	13	13	.....	91		2	9	9	.....	54
Blacksmiths.....	21	8	8	.....	48		1	10	10	.....	60
	2	8½	5½	.....	48						
	5	9	9	.....	54						
	1	9	9	.....	63						

BITUMINOUS.

<i>Inside work.</i>					<i>Inside work—Con.</i>						
Brakemen:					Brakemen—Con.						
Alabama.....	5	8	8	.....	48	Colorado.....	6	8	8	.....	48
	2	9	9	.....	54	Illinois.....	21	8	8	.....	48
	1	10	10	.....	60	Indiana.....	10	8	8	.....	48

¹ Every other Sunday off.
² Every third Sunday off.

³ One Sunday each pay-roll period off.

TABLE 10.—NUMBER OF COAL MINES HAVING TIME-WORK EMPLOYEES WORKING NUMBER OF REGULAR OR CUSTOMARY HOURS PER DAY AND PER WEEK, BY OCCUPATIONS—Continued.

BITUMINOUS—Continued.

Occupation.	Number of mines.	Regular or customary hours—				Occupation.	Number of mines.	Regular or customary hours—			
		Monday to Friday.	Saturday.	Sunday.	Per week.			Monday to Friday.	Saturday.	Sunday.	Per week.
<i>Inside work—Con.</i>					<i>Inside work—Con.</i>						
Brakemen—Con.					Laborers—Con.						
Kentucky.....	16	8	8	.....	48	Ohio.....	21	8	8	.....	48
Ohio.....	3	9	9	.....	54	Pennsylvania..	37	8	8	.....	48
Pennsylvania..	22	8	8	.....	48	Utah.....	1	9	9	.....	54
Utah.....	34	8	8	.....	48	Washington....	3	8	8	.....	48
Washington....	1	8½	8½	.....	51	West Virginia..	4	8	8	.....	48
West Virginia..	5	9	9	.....	54	Wyoming.....	37	8	8	.....	48
Wyoming.....	3	8	8	.....	48	Wyoming.....	4	8	8	.....	48
Wyoming.....	2	8	8	.....	48	Motormen:	1	8	8	.....	48
Wyoming.....	37	8	8	.....	48	Alabama.....	5	8	8	.....	48
Wyoming.....	4	9	9	.....	54	Alabama.....	1	9	9	.....	54
Wyoming.....	1	8	8	.....	48	Alabama.....	1	10	10	.....	60
Bratticemen and timbermen:						Colorado.....	6	8	8	.....	48
Alabama.....	6	8	8	.....	48	Illinois.....	19	8	8	.....	48
Colorado.....	3	9	9	.....	54	Indiana.....	10	8	8	.....	48
Illinois.....	7	8	8	.....	48	Kentucky.....	16	8	8	.....	48
Indiana.....	21	8	8	.....	48	Kentucky.....	4	9	9	.....	54
Kentucky.....	11	8	8	.....	48	Ohio.....	25	8	8	.....	48
Ohio.....	14	8	8	.....	48	Pennsylvania..	33	8	8	.....	48
Pennsylvania..	3	9	9	.....	54	Pennsylvania..	2	8½	8½	.....	51
Utah.....	24	8	8	.....	48	Utah.....	3	9	9	.....	54
Utah.....	36	8	8	.....	48	Utah.....	2	8	8	.....	48
Washington....	4	8	8	.....	48	Washington....	1	9	9	.....	54
Washington....	4	8	8	.....	48	West Virginia..	4	8	8	.....	48
West Virginia..	37	8	8	.....	48	West Virginia..	38	8	8	.....	48
Wyoming.....	3	8	8	.....	48	Wyoming.....	4	9	9	.....	54
Wyoming.....	3	8	8	.....	48	Wyoming.....	1	8	8	.....	48
Cagers:						Pumpmen:					
Alabama.....	1	10	10	.....	60	Alabama.....	5	8	8	.....	48
Colorado.....	5	8	8	.....	48	Alabama.....	1	8	8	.....	48
Illinois.....	20	8	8	.....	48	Colorado.....	1	9	9	.....	54
Illinois.....	1	9	9	.....	54	Illinois.....	1	9	9	.....	54
Illinois.....	1	10	10	.....	60	Illinois.....	1	12	12	.....	84
Indiana.....	7	8	8	.....	48	Illinois.....	7	8	8	.....	48
Indiana.....	4	9	9	.....	54	Illinois.....	5	8	8	.....	48
Indiana.....	1	10	10	.....	60	Illinois.....	7	8	8	.....	48
Kentucky.....	1	10	10	.....	60	Illinois.....	7	8	8	.....	48
Kentucky.....	1	8	8	.....	48	Illinois.....	4	8	8	.....	48
Kentucky.....	1	9½	9½	.....	57	Illinois.....	4	8	8	.....	48
Ohio.....	10	8	8	.....	48	Illinois.....	1	10	10	.....	70
Ohio.....	1	8	8	.....	48	Illinois.....	3	8	8	.....	48
Pennsylvania..	20	8	8	.....	48	Illinois.....	4	8	8	.....	48
Pennsylvania..	1	8	8	.....	48	Illinois.....	1	8	8	.....	48
Washington....	4	8	8	.....	48	Illinois.....	1	8	8	.....	48
Washington....	2	9	9	.....	54	Illinois.....	1	9	9	.....	54
West Virginia..	4	8	8	.....	48	Illinois.....	2	9	9	.....	54
West Virginia..	2	9	9	.....	54	Illinois.....	2	9	9	.....	54
Wyoming.....	1	8	8	.....	48	Illinois.....	2	9	9	.....	54
Wyoming.....	1	8	8	.....	48	Illinois.....	2	9	9	.....	54
Drivers:						Illinois.....	2	9	9	.....	54
Alabama.....	4	8	8	.....	48	Illinois.....	2	9	9	.....	54
Alabama.....	3	9	9	.....	54	Illinois.....	2	9	9	.....	54
Colorado.....	8	8	8	.....	48	Illinois.....	2	9	9	.....	54
Colorado.....	8	8	8	.....	48	Illinois.....	2	9	9	.....	54
Illinois.....	19	8	8	.....	48	Illinois.....	2	9	9	.....	54
Illinois.....	9	8	8	.....	48	Illinois.....	2	9	9	.....	54
Indiana.....	7	8	8	.....	48	Illinois.....	2	9	9	.....	54
Indiana.....	1	9	9	.....	54	Illinois.....	2	9	9	.....	54
Kentucky.....	7	8	8	.....	48	Illinois.....	2	9	9	.....	54
Kentucky.....	1	9	9	.....	54	Illinois.....	2	9	9	.....	54
Ohio.....	20	8	8	.....	48	Illinois.....	2	9	9	.....	54
Ohio.....	19	8	8	.....	48	Illinois.....	2	9	9	.....	54
Pennsylvania..	19	8	8	.....	48	Illinois.....	2	9	9	.....	54
Pennsylvania..	1	8½	8½	.....	51	Illinois.....	2	9	9	.....	54
Utah.....	4	8	8	.....	48	Illinois.....	2	9	9	.....	54
Utah.....	1	8	8	.....	48	Illinois.....	2	9	9	.....	54
Washington....	1	8	8	.....	48	Illinois.....	2	9	9	.....	54
Washington....	4	8	8	.....	48	Illinois.....	2	9	9	.....	54
Wyoming.....	4	8	8	.....	48	Illinois.....	2	9	9	.....	54
Wyoming.....	4	8	8	.....	48	Illinois.....	2	9	9	.....	54
Laborers:						Illinois.....	2	9	9	.....	54
Alabama.....	6	8	8	.....	48	Illinois.....	2	9	9	.....	54
Alabama.....	3	9	9	.....	54	Illinois.....	2	9	9	.....	54
Colorado.....	7	8	8	.....	48	Illinois.....	2	9	9	.....	54
Colorado.....	7	8	8	.....	48	Illinois.....	2	9	9	.....	54
Illinois.....	20	8	8	.....	48	Illinois.....	2	9	9	.....	54
Illinois.....	7	8	8	.....	48	Illinois.....	2	9	9	.....	54
Indiana.....	11	8	8	.....	48	Illinois.....	2	9	9	.....	54
Indiana.....	17	8	8	.....	48	Illinois.....	2	9	9	.....	54
Kentucky.....	17	8	8	.....	48	Illinois.....	2	9	9	.....	54
Kentucky.....	3	9	9	.....	54	Illinois.....	2	9	9	.....	54

⁴ Day shift.

⁵ Night shift.

TABLE 10.—NUMBER OF COAL MINES HAVING TIME-WORK EMPLOYEES WORKING NUMBER OF REGULAR OR CUSTOMARY HOURS PER DAY AND PER WEEK, BY OCCUPATIONS—Continued.

BITUMINOUS.—Continued.

Occupation.	Number of mines.	Regular or customary hours—				Occupation.	Number of mines.	Regular or customary hours—			
		Monday to Friday.	Saturday.	Sunday.	Per week.			Monday to Friday.	Saturday.	Sunday.	Per week.
<i>Inside work—Con.</i>					<i>Outside work—Con.</i>						
Trackmen—Con.					Carpenters—Con.						
Illinois.....	22	8	8		48	Illinois.....	20	8	8		48
Indiana.....	17	8	8		48	Indiana.....	4	8	8		48
Kentucky.....	17	8	8		48	Kentucky.....	2	9	9		54
Ohio.....	2	9	9		54	Ohio.....	16	8	8		48
Pennsylvania..	25	8	8		48	Pennsylvania..	2	9	9		54
Utah.....	40	8	8		48	Utah.....	17	8	8		48
Washington....	4	8	8		48	Washington....	18	8	8		48
West Virginia..	4	8	8		48	West Virginia..	15	9	9		54
Wyoming.....	43	8	8		48	Wyoming.....	4	8	8		48
	4	8	8		48	West Virginia..	31	8	8		48
Trappers (boys):					Wyoming.....						
Alabama.....	3	8	8		48	Alabama.....	2	9	9		54
Colorado.....	2	9	9		54	Colorado.....	1	10	10		60
Illinois.....	4	8	8		48	Illinois.....	2	8	8		48
Indiana.....	17	8	8		48	Engineers:					
Kentucky.....	9	8	8		48	Alabama.....	3	8	8		48
Ohio.....	9	8	8		48	Colorado.....	2	9	9		54
Pennsylvania..	5	8	8		48	Indiana.....	2	10	10		60
West Virginia..	1	9	9		54	Illinois.....	3	8	8		48
	22	8	8		48	Indiana.....	5	9	9		54
Other employees:					Kentucky.....						
Alabama.....	5	8	8		48	Ohio.....	19	8	8	8	56
Colorado.....	3	9	9		54	Indiana.....	1	8	8	8	48
Illinois.....	7	8	8		48	Alabama.....	6	8	8	8	56
Indiana.....	1	9	9		54	Kentucky.....	1	4 8	4 8	4 8	4 56
Kentucky.....	22	8	8		48	Ohio.....	12	12	12		72
Ohio.....	8	8	8		48	Pennsylvania..	1	10	10		60
Pennsylvania..	4	8	8	8	56	Indiana.....	2	12	12	12	84
West Virginia..	16	8	8		48	Ohio.....	19	8	8		48
	1	8	8	18	148	Utah.....	3	8	8	8	56
					156	Washington....	2	8	8		48
Ohio.....	3	9	9		54	West Virginia..	1	10	10		60
Pennsylvania..	21	8	8		48	Wyoming.....	2	12	12		72
Utah.....	40	8	8		48	Alabama.....	1	12	12		72
Washington....	4	8	8		48	Colorado.....	8	12	12	12	84
West Virginia..	4	8	8		48	Illinois.....	3	9	9		54
Wyoming.....	1	10	10		60	Indiana.....	2	8	8		48
	4	8	8		48	Ohio.....	2	9	9		54
<i>Outside work.</i>					<i>Outside work.</i>						
Blacksmiths:					Blacksmiths:						
Alabama.....	7	8	8		48	Alabama.....	1	10	10		60
Colorado.....	3	9	9		54	Colorado.....	1	10	10		60
Illinois.....	1	8	8		48	Illinois.....	1	8	8		48
Indiana.....	7	9	9		54	Indiana.....	2	9	9		54
Kentucky.....	22	8	8		48	Kentucky.....	1	10	10		60
Ohio.....	2	9	9		54	Ohio.....	1	8	8		48
Pennsylvania..	10	9	9	9	63	Pennsylvania..	2	9	9		54
Utah.....	2	9	9		54	Utah.....	1	10	10		60
Washington....	14	8	8		48	Washington....	2	12	12	12	84
West Virginia..	4	8	8		48	West Virginia..	2	8	8		48
	1	9	9		54	Wyoming.....	1	8	8		48
	23	8	8		48	Alabama.....	1	8	8		48
Pennsylvania..	1	9	9		54	Colorado.....	1	9	9		54
Utah.....	19	8	8		48	Illinois.....	2	12	12		72
Washington....	18	8	8		48	Indiana.....	5	8	8		48
West Virginia..	4	8	8		48	Ohio.....	16	8	8		48
Wyoming.....	34	8	8		48	Indiana.....	1	8	8		48
	6	9	9		54	Ohio.....	2	10	10	10	70
	4	8	8		48	Kentucky.....	1	10	10	8	68
Carpenters:					Carpenters:						
Alabama.....	5	8	8		48	Alabama.....	1	12	12	12	84
Colorado.....	3	9	9		54	Colorado.....	3	8	8		48
	3	9	9		54	Ohio.....	1	8	8		48

¹ Every other Sunday off.
⁴ Day shift.

⁶ Night shift.

TABLE 10.—NUMBER OF COAL MINES HAVING TIME-WORK EMPLOYEES WORKING NUMBER OF REGULAR OR CUSTOMARY HOURS PER DAY AND PER WEEK, BY OCCUPATIONS—Concluded.

BITUMINOUS—Concluded.

Occupation.	Number of mines.	Regular or customary hours—				Occupation.	Number of mines.	Regular or customary hours—			
		Monday to Friday.	Saturday.	Sunday.	Per week.			Monday to Friday.	Saturday.	Sunday.	Per week.
<i>Outside work—Con.</i>						<i>Outside work—Con.</i>					
Firemen—Con.						Laborers—Con.					
Ohio.....	1	10	10		60	Utah.....	4	8	8		48
	1	10	10	10	70	Washington.....	4	8	8		48
	1	12	12	12	84	West Virginia..	39	8	8		48
Pennsylvania..	6	8	8		48		4	9	9		54
	10	8	8	8	56	Wyoming.....	4	8	8		48
	1	12	12		72	Other employees:					
Utah.....	2	8	8		48	Alabama.....	7	8	8		48
Washington.....	2	8	8		48	Colorado.....	3	9	9		54
West Virginia..	2	8	8	18	148	Illinois.....	7	9	9		54
	4	12	12	12	84	Indiana.....	20	8	8		48
Wyoming.....	3	8	8	8	56		1	8	8	8	56
Laborers:						Kentucky.....	7	8	8	8	48
Alabama.....	7	8	8		48	Ohio.....	5	8	8	8	56
	3	9	9		54	Pennsylvania..	17	8	8		48
Colorado.....	2	8	8		48		3	9	9		54
	6	9	9		54	Utah.....	22	8	8		48
Illinois.....	20	8	8		48		1	8	8	8	56
	1	8	8	8	56	West Virginia..	26	8	8		48
Indiana.....	12	8	8		48		3	8	8	8	56
Kentucky.....	17	8	8		48	Wyoming.....	9	9	9		54
	2	9	9		54		1	12	12	12	84
Ohio.....	24	8	8		48	Utah.....	4	8	8		48
Pennsylvania..	29	8	8		48	Washington.....	4	8	8		48
	7	9	9		54	West Virginia..	36	8	8		48
	1	9	9		54		3	9	9		54
					54	Wyoming.....	4	8	8		48

¹ Every other Sunday off.

AVERAGE STARTS, HOURS, AND EARNINGS.

Tables 11 and 12 show average starts, average hours, and average earnings for all occupations in the period covered. Table 11 relates to anthracite workers and Table 12 to bituminous workers. Tonnage workers and time workers appear in separate sections.

The average hours and the average earnings of tonnage workers are presented in two forms—average hours at the face, including time for lunch, if any, and average hours in the mine.

TABLE 11.—NUMBER OF MINES AND EMPLOYEES, AVERAGE NUMBER OF STARTS (DAYS), AND AVERAGE HOURS AND EARNINGS IN REPRESENTATIVE ANTHRACITE COLLIERIES IN PENNSYLVANIA, FOR SECOND HALF OF JANUARY, 1922, BY OCCUPATIONS.

TONNAGE WORKERS.

Occupation.	Number of—		Average number of starts (days) made in half-month pay-roll period.	Average hours worked.				Average earnings.				
				In half-month pay-roll period, based on—		Per start, based on—		Per hour, based on—				
	Mines.	Emplo-ees.	Time at face. ¹	Time in mine.	Time at face. ¹	Time in mine.	In half-month pay-roll period.	Per start (day).	Time at face. ¹	Time in mine.		
<i>Inside work.</i>												
Miners, contract.....	29	6,209	11.5	79.6	87.4	6.9	7.6	\$86.60	\$7.53	\$1.088	\$0.991	
Laborers, contract miners'.....	29	3,383	9.8	70.0	76.2	7.2	7.8	54.15	5.55	.773	.711	

TIME WORKERS.

Occupation.	Number of—		Average number of starts (days) made in half-month pay-roll period.	Average hours worked.		Average earnings.		
	Mines.	Emplo-ees.		In half-month pay-roll period.	Per start (day).	In half-month pay-roll period.	Per start (day).	Per hour.
<i>Inside work.</i>								
Blacksmiths.....	12	23	12.7	115.5	9.1	\$79.08	\$6.21	\$0.685
Bratticemen.....	21	136	12.0	100.6	8.4	66.06	5.53	.657
Cagers.....	28	196	12.2	119.3	9.8	72.04	5.90	.604
Car runners.....	22	402	12.2	105.4	8.7	62.35	5.12	.592
Door tenders (boys).....	26	190	11.7	95.2	8.2	32.56	2.79	.342
Drivers.....	27	539	11.6	95.5	8.2	55.39	4.78	.580
Engineers.....	54	152	13.9	117.7	8.5	76.14	5.49	.647
Laborers.....	29	1,426	11.8	99.3	8.4	60.39	5.10	.608
Laborers, company miners'	25	774	11.2	91.7	8.2	57.66	5.15	.629
Laborers, consideration miners'	11	339	11.4	90.0	7.9	58.87	5.16	.654
Machinists.....	15	31	14.0	120.9	8.6	82.03	5.85	.678
Masons.....	16	51	12.9	105.8	8.2	71.65	5.54	.677
Miners, company.....	25	775	11.1	90.6	8.2	63.17	5.71	.697
Miners, consideration.....	12	626	12.9	98.5	7.7	87.04	6.76	.833
Motormen.....	27	327	12.8	120.9	9.5	78.37	6.14	.643
Motor brakemen.....	27	310	12.1	110.6	9.1	64.64	5.33	.585
Pumpmen.....	26	180	15.9	129.6	8.2	81.29	5.12	.627
Timbermen.....	20	161	10.9	89.1	8.2	60.31	5.52	.677
Trackmen.....	27	177	13.0	110.1	8.5	74.29	5.71	.675
Other employees.....	29	713	13.0	116.7	9.0	69.60	5.37	.596
<i>Outside work.</i>								
Ashmen.....	25	67	15.4	135.7	8.8	71.25	4.63	.525
Blacksmiths.....	29	64	13.5	120.5	8.9	80.38	5.96	.667
Cagers.....	26	100	12.8	120.3	9.4	64.48	5.05	.536
Carpenters.....	26	221	12.8	113.9	8.9	75.29	5.88	.661
Car runners.....	22	87	12.3	106.5	8.6	56.36	4.57	.529
Dumpers.....	26	85	12.2	111.0	9.1	58.82	4.82	.530
Engineers.....	29	203	15.0	129.1	8.6	83.39	5.58	.646
Firemen.....	29	249	15.7	127.8	8.1	76.05	4.84	.595
Jig runners.....	23	109	13.2	124.1	9.4	62.96	4.77	.507
Laborers.....	29	1,349	12.1	105.9	8.8	55.77	4.62	.527
Loaders.....	27	187	12.9	113.8	8.8	60.37	4.69	.531
Machinists.....	27	89	13.7	127.1	9.3	83.20	6.09	.655
Oilers.....	28	69	13.2	122.9	9.3	64.58	4.90	.525
Platenmen.....	25	181	12.5	106.0	8.5	56.15	4.49	.530
Repairmen.....	14	94	13.7	116.7	8.5	68.26	4.98	.585
Slaters (boys).....	26	410	12.2	98.7	8.1	32.91	2.69	.333
Timber cutters.....	28	181	12.3	106.3	8.7	57.10	4.66	.537
Trackmen.....	22	60	12.1	98.6	8.2	54.13	4.49	.540
Other employees.....	29	1,074	13.5	127.7	9.5	67.30	5.00	.527

¹ Including time for lunch.

TABLE 12.—NUMBER OF MINES AND EMPLOYEES, AVERAGE NUMBER OF STARTS (DAYS), AND AVERAGE HOURS AND EARNINGS IN REPRESENTATIVE BITUMINOUS MINES, WINTER OF 1921-22, BY OCCUPATION AND STATES.

TONNAGE WORKERS.

Occupation and State.	Number of—		Average number of starts (days) made in half-month pay-roll period.	Average hours worked.				Average earnings.			
				In half-month pay-roll period, based on—		Per start, based on—		Per hour based on—			
	Mines.	Em- ploy- ees.		Time at face. ¹	Time in mine.	Time at face. ¹	Time in mine.	In half-month pay-roll period.	Per start (day).	Time at face. ¹	Time in mine.
<i>Inside work.</i>											
Miners, hand or pick:											
Alabama.....	8	785	8.8	66.2	74.8	7.5	8.5	\$36.28	\$4.11	\$0.548	\$0.485
Colorado.....	6	564	10.2	81.3	90.1	8.0	8.8	80.69	7.90	.993	.896
Illinois.....	11	1,864	10.3	80.3	86.2	7.8	8.4	69.45	6.77	.865	.806
Indiana.....	7	542	8.0	55.8	59.3	7.0	7.4	46.19	5.75	.827	.779
Kentucky.....	5	223	8.7	64.5	69.3	7.4	8.0	53.21	6.12	.825	.768
Ohio.....	3	47	9.8	79.9	86.7	8.1	8.8	73.18	7.46	.916	.844
Pennsylvania.....	42	2,898	9.1	72.2	79.7	8.0	8.8	55.38	6.10	.767	.695
Utah.....	4	167	5.9	41.9	45.6	7.2	7.8	42.92	7.33	1.023	.941
Washington.....	3	243	10.7	90.2	97.9	8.5	9.2	96.31	9.03	1.068	.984
West Virginia.....	34	972	8.1	55.4	59.4	6.8	7.3	56.45	6.95	1.019	.950
Wyoming.....	4	124	10.3	85.1	89.9	8.3	8.7	103.38	10.05	1.215	1.150
Total.....	127	8,429	9.2	71.0	77.5	7.7	8.4	59.62	6.47	.840	.769
Miners, machine:											
Alabama.....	6	146	9.5	79.6	83.8	8.4	8.8	48.64	5.13	.611	.580
Colorado.....	6	85	9.3	71.4	79.3	7.7	8.5	106.59	11.48	1.493	1.344
Illinois.....	15	369	10.0	76.4	81.5	7.6	8.1	114.68	11.46	1.500	1.407
Indiana.....	8	136	8.8	66.1	69.3	7.5	7.9	121.06	13.73	1.832	1.748
Kentucky.....	19	268	9.7	73.6	78.7	7.6	8.1	85.83	8.88	1.166	1.091
Ohio.....	25	354	9.9	78.2	85.1	7.9	8.6	109.12	10.99	1.395	1.282
Pennsylvania.....	41	703	9.3	76.7	84.3	8.2	9.0	83.55	8.94	1.090	.991
Utah.....	3	21	6.5	48.3	51.9	7.5	8.0	84.19	13.00	1.745	1.621
Washington.....	(²)	(²)	(²)	(²)	(²)	(²)	(²)	(²)	(²)	(²)	(²)
West Virginia.....	35	271	9.3	74.7	80.1	8.1	8.6	103.06	11.12	1.379	1.287
Wyoming.....	3	18	9.8	76.5	81.4	7.8	8.3	163.76	16.65	2.142	2.013
Total.....	161	2,371	9.5	75.4	81.5	7.9	8.6	96.14	10.10	1.274	1.180
Loaders:											
Alabama.....	8	1,535	8.4	69.8	74.9	8.3	8.9	34.73	4.12	.497	.464
Colorado.....	7	445	9.1	69.9	77.5	7.7	8.5	64.84	7.13	.927	.837
Illinois.....	17	4,257	8.9	70.7	75.1	8.0	8.5	84.58	9.53	1.197	1.127
Indiana.....	8	1,436	8.3	61.7	64.6	7.5	7.8	70.65	8.54	1.146	1.094
Kentucky.....	20	2,540	8.6	63.4	67.7	7.3	7.8	47.64	5.51	.752	.704
Ohio.....	25	3,119	8.7	65.0	70.9	7.5	8.2	63.32	7.29	.973	.893
Pennsylvania.....	41	5,650	8.3	68.5	75.4	7.8	8.6	50.64	5.79	.739	.672
Utah.....	4	295	5.1	38.8	41.6	7.7	8.2	36.42	7.20	.939	.876
Washington ³	1	76	10.1	85.9	89.0	8.5	8.8	78.68	7.60	.893	.862
West Virginia.....	42	2,979	8.6	60.2	64.7	7.0	7.5	54.40	6.33	.904	.841
Wyoming.....	3	228	10.0	79.3	84.2	7.9	8.4	91.80	9.20	1.158	1.090
Total.....	176	22,560	8.7	66.2	71.5	7.7	8.3	59.75	6.90	.902	.836

¹ Including time for lunch.

² Machine mining is done by loaders.

³ Loaders also do machine mining in this State.

TABLE 12.—NUMBER OF MINES AND EMPLOYEES, AVERAGE NUMBER OF STARTS (DAYS), AND AVERAGE HOURS AND EARNINGS IN REPRESENTATIVE BITUMINOUS MINES, WINTER OF 1921-22, BY OCCUPATION AND STATES—Continued.

TIME WORKERS.

Occupation and State.	Number of—		Average number of starts (days) made in half-month pay-roll period.	Average hours worked.		Average earnings.		
	Mines.	Em- ployees.		In half-month pay-roll period.	Per start (day).	In half-month pay-roll period.	Per start (day).	Per hour.
<i>Inside work.</i>								
Brakemen:								
Alabama.....	8	139	7.8	61.8	8.0	\$22.89	\$2.95	\$0.370
Colorado.....	6	29	10.9	87.6	8.0	53.32	7.65	.952
Illinois.....	20	216	10.4	85.8	8.3	80.04	7.76	.937
Indiana.....	10	88	9.6	76.9	8.0	72.24	7.52	.939
Kentucky.....	19	143	9.2	75.0	8.2	49.04	5.34	.654
Ohio.....	22	65	8.9	71.3	8.0	66.79	7.51	.936
Pennsylvania.....	44	319	9.5	81.0	8.4	65.24	6.84	.806
Utah.....	3	13	5.5	43.3	7.9	43.08	7.89	.995
Washington.....	3	13	12.8	103.7	8.1	93.38	7.31	.901
West Virginia.....	45	306	9.3	76.0	8.2	54.71	5.91	.720
Wyoming.....	1	2	13.0	104.0	8.0	101.35	7.80	.975
Total.....	181	1,333	9.4	77.3	8.2	60.18	6.41	.779
Bratticemen:								
Alabama.....	9	19	9.9	80.5	8.1	34.16	3.43	.424
Colorado.....	7	33	11.6	92.7	8.0	91.09	7.87	.983
Illinois.....	21	197	10.9	87.7	8.0	82.23	7.54	.938
Indiana.....	11	53	9.3	71.4	7.7	67.31	7.25	.942
Kentucky.....	17	58	9.8	79.9	8.2	55.33	5.65	.693
Ohio.....	24	139	10.3	82.1	8.0	76.87	7.50	.937
Pennsylvania.....	40	268	10.6	91.3	8.4	64.05	6.13	.701
Utah.....	4	13	7.5	58.9	7.8	59.47	7.89	1.010
Washington.....	4	39	12.6	101.1	8.0	87.20	6.91	.863
West Virginia.....	41	155	9.8	80.5	8.2	61.12	6.25	.759
Wyoming.....	3	12	12.1	96.8	8.0	95.83	7.93	.990
Total.....	181	986	10.4	85.7	8.1	70.26	6.81	.820
Cagers:								
Alabama.....	1	6	10.2	101.7	10.0	31.38	3.09	.309
Colorado.....	5	13	11.8	91.4	7.7	90.97	7.68	.995
Illinois.....	22	62	10.6	94.7	8.9	88.71	8.35	.937
Indiana.....	12	22	10.5	88.9	8.4	82.81	7.85	.931
Kentucky.....	2	4	8.5	72.9	8.6	67.14	7.19	.839
Ohio.....	10	27	8.8	71.9	8.2	67.11	7.61	.933
Pennsylvania.....	21	35	10.3	92.4	8.9	70.29	6.82	.761
Washington.....	1	2	14.0	112.5	8.0	77.35	5.53	.688
West Virginia.....	8	12	9.7	80.9	8.4	65.54	6.78	.810
Wyoming.....	1	2	15.5	124.5	8.0	123.26	7.95	.990
Total.....	83	185	10.3	89.4	8.6	77.82	7.53	.871
Drivers:								
Alabama.....	7	125	9.1	75.7	8.4	29.15	3.22	.385
Colorado.....	8	131	10.5	83.0	7.9	79.37	7.59	.956
Illinois.....	19	403	10.4	86.7	8.3	83.17	8.00	.960
Indiana.....	9	139	8.3	65.2	7.8	61.40	7.37	.942
Kentucky.....	8	174	9.6	80.1	8.3	57.48	5.99	.718
Ohio.....	20	281	9.6	75.6	7.9	70.86	7.40	.938
Pennsylvania.....	23	472	9.5	82.5	8.3	58.10	6.04	.704
Utah.....	4	54	5.8	44.2	7.7	45.14	7.84	1.021
Washington.....	1	19	11.4	91.1	8.0	88.21	7.76	.969
West Virginia.....	22	257	9.1	73.4	8.1	58.83	6.49	.801
Wyoming.....	4	25	11.3	90.2	8.0	88.68	7.83	.984
Total.....	125	2,080	9.5	78.7	8.2	64.84	6.82	.824
Laborers:								
Alabama.....	9	354	9.7	78.5	8.1	28.49	2.94	.363
Colorado.....	7	57	12.1	96.3	8.0	90.98	7.53	.945
Illinois.....	20	444	10.4	85.1	8.2	77.33	7.45	.909
Indiana.....	11	145	9.7	78.7	8.1	73.72	7.59	.937

⁴ Not including data for 8 employees, starts for whom were not reported.

⁵ Not including data for 79 employees, starts for whom were not reported.

⁶ Not including data for 2 employees, starts for whom were not reported.

⁷ Not including data for 89 employees, starts for whom were not reported.

TABLE 12.—NUMBER OF MINES AND EMPLOYEES, AVERAGE NUMBER OF STARTS (DAYS), AND AVERAGE HOURS AND EARNINGS IN REPRESENTATIVE BITUMINOUS MINES, WINTER OF 1921-22, BY OCCUPATIONS AND STATES—Continued.

TIME WORKERS—Continued.

Occupation and State.	Number of—		Average number of starts (days) made in half-month pay-roll period.	Average hours worked.		Average earnings.		
	Mines.	Em- ployees.		In half-month pay-roll period.	Per start (day).	In half-month pay-roll period.	Per start (day).	Per hour.
<i>Inside work—Contd.</i>								
Laborers—Concluded.								
Kentucky.....	20	326	9.4	66.4	7.1	\$48.59	\$5.18	\$0.731
Ohio.....	21	152	8.6	68.3	8.0	62.81	7.33	.919
Pennsylvania.....	42	923	⁸ 10.3	87.5	⁸ 8.2	56.18	⁸ 5.63	.642
Utah.....	3	22	9.5	73.7	7.8	71.66	7.58	.973
Washington.....	4	58	10.7	85.1	8.0	59.19	5.55	.695
West Virginia.....	40	461	9.4	76.8	8.1	47.91	5.08	.624
Wyoming.....	4	25	12.4	98.5	8.0	96.23	7.79	.977
Total.....	181	2,967	⁸ 9.9	80.8	⁸ 8.0	56.30	⁸ 5.73	.697
Motormen:								
Alabama.....	7	110	9.7	77.6	8.0	33.31	3.42	.429
Colorado.....	6	17	10.2	81.9	8.0	79.73	7.79	.973
Illinois.....	19	169	10.5	89.5	8.5	90.20	8.59	1.008
Indiana.....	10	72	10.8	86.7	8.0	87.67	8.09	1.012
Kentucky.....	20	177	9.7	81.2	8.4	56.04	5.77	.690
Ohio.....	25	90	⁹ 10.1	84.2	⁸ 8.3	79.11	7.80	.940
Pennsylvania.....	42	314	⁹ 10.0	86.3	⁹ 8.4	71.48	⁹ 7.03	.829
Utah.....	3	16	6.8	52.6	7.8	53.25	7.89	1.013
Washington.....	4	19	12.8	103.7	8.1	85.53	6.66	.825
West Virginia.....	46	307	9.8	82.8	8.5	64.68	6.62	.781
Wyoming.....	1	5	13.8	110.4	8.0	109.13	7.91	.988
Total.....	183	1,296	⁹ 10.1	84.2	⁹ 8.4	68.62	⁹ 6.82	.815
Pumpmen:								
Alabama.....	9	62	10.9	92.5	8.5	32.70	3.91	.353
Colorado.....	7	10	14.4	114.6	8.0	111.66	7.75	.974
Illinois.....	13	23	13.0	109.0	8.4	101.46	7.80	.931
Indiana.....	9	28	12.7	107.8	8.5	102.07	8.05	.947
Kentucky.....	15	39	12.6	110.9	8.8	73.59	5.86	.663
Ohio.....	21	43	14.0	115.7	8.3	106.27	7.62	.919
Pennsylvania.....	41	152	13.9	117.1	8.4	86.70	6.23	.740
Utah.....	3	6	12.8	102.2	8.0	99.17	7.73	.971
Washington.....	3	5	19.2	152.0	7.9	115.42	6.01	.759
West Virginia.....	32	79	11.9	105.3	8.8	73.92	6.21	.702
Wyoming.....	4	5	14.8	122.2	8.3	120.42	8.14	.985
Total.....	157	452	13.0	110.2	8.5	80.90	6.24	.734
Trackmen:								
Alabama.....	10	58	10.4	84.5	8.1	39.55	3.80	.468
Colorado.....	8	38	12.2	97.2	8.0	94.51	7.76	.972
Illinois.....	22	301	10.8	87.8	8.1	82.36	7.62	.938
Indiana.....	11	108	10.3	82.9	8.1	77.89	7.58	.939
Kentucky.....	19	159	10.5	87.7	8.4	62.30	5.94	.710
Ohio.....	25	111	10.7	86.8	8.1	81.20	7.57	.935
Pennsylvania.....	44	287	¹⁰ 11.0	91.2	¹⁰ 8.2	68.34	¹⁰ 6.29	.749
Utah.....	4	20	9.1	71.8	7.9	72.22	7.98	1.007
Washington.....	4	17	11.5	92.1	8.0	85.92	7.45	.933
West Virginia.....	47	274	10.0	81.2	8.2	63.31	6.38	.780
Wyoming.....	4	20	14.9	119.5	8.0	118.13	7.93	.989
Total.....	198	1,393	¹⁰ 10.7	87.3	¹⁰ 8.2	72.05	¹⁰ 6.77	.826
Trappers (boys):								
Alabama.....	5	29	8.3	66.9	8.1	15.44	1.87	.231
Colorado.....	4	12	11.2	89.3	8.0	50.65	4.54	.567
Illinois.....	16	72	8.6	68.3	8.0	34.45	4.02	.504
Indiana.....	9	41	6.6	52.4	7.9	26.34	3.98	.503
Kentucky.....	6	15	10.5	79.6	7.6	37.75	3.58	.474
Ohio.....	22	84	9.2	72.1	7.8	36.96	4.02	.512
Pennsylvania.....	12	36	10.5	85.5	8.2	34.44	3.29	.403
West Virginia.....	29	104	9.7	76.8	7.9	37.24	3.84	.485
Total.....	103	393	9.1	72.3	7.9	34.09	3.75	.472

⁸ Not including data for 237 employees, starts for whom were not reported.⁹ Not including data for 6 employees, starts for whom were not reported.¹⁰ Not including data for 30 employees, starts for whom were not reported.

TABLE 12.—NUMBER OF MINES AND EMPLOYEES, AVERAGE NUMBER OF STARTS (DAYS), AND AVERAGE HOURS AND EARNINGS IN REPRESENTATIVE BITUMINOUS MINES, WINTER OF 1921-22, BY OCCUPATIONS AND STATES—Continued.

TIME WORKERS—Continued.

Occupation and State.	Number of—		Average number of starts (days) made in half-month pay-roll period.	Average hours worked.		Average earnings.		
	Mines.	Em- ployees.		In half-month pay-roll period.	Per start (day).	In half-month pay-roll period.	Per start (day).	Per hour.
<i>Inside work—Concd.</i>								
Other employees:								
Alabama.....	8	144	10.7	87.8	8.2	\$38.81	\$3.61	\$0.442
Colorado.....	8	54	12.3	98.6	8.0	95.22	7.77	.966
Illinois.....	22	376	11.5	94.7	8.2	95.93	8.33	1.063
Indiana.....	12	105	10.8	86.5	8.0	88.42	8.21	1.022
Kentucky.....	20	283	10.1	87.1	8.6	61.86	6.14	.710
Ohio.....	21	169	9.6	77.1	8.0	71.00	7.39	.921
Pennsylvania.....	44	791	¹¹ 11.1	95.3	¹¹ 8.4	72.36	¹¹ 6.64	.759
Utah.....	4	54	9.1	71.8	7.9	71.29	7.84	.993
Washington.....	4	32	13.6	110.4	8.1	108.89	7.99	.987
West Virginia.....	41	219	10.6	88.3	8.4	72.18	6.83	.813
Wyoming.....	4	67	13.3	107.3	8.1	107.61	8.11	1.003
Total.....	188	2,294	¹¹ 10.9	91.4	¹¹ 8.3	75.49	¹¹ 6.97	.826
<i>Outside work.</i>								
Blacksmiths:								
Alabama.....	10	18	11.7	95.1	8.2	51.90	4.45	.546
Colorado.....	8	14	12.5	114.8	9.2	104.66	8.37	.912
Illinois.....	22	56	13.1	116.2	8.9	112.38	8.57	.967
Indiana.....	12	18	12.6	113.4	9.0	99.93	7.96	.881
Kentucky.....	18	29	11.2	94.4	8.4	72.18	6.44	.765
Ohio.....	25	43	12.0	100.0	8.3	96.00	8.02	.960
Pennsylvania.....	41	84	¹² 11.0	100.2	¹² 8.8	78.73	¹² 7.16	.786
Utah.....	4	5	11.4	91.4	8.0	92.41	8.11	1.011
Washington.....	4	6	14.2	115.2	8.1	95.13	6.72	.826
West Virginia.....	43	61	10.6	90.0	8.5	76.12	7.17	.846
Wyoming.....	4	5	14.2	125.4	8.8	126.55	8.91	1.009
Total.....	191	339	¹² 11.7	102.0	¹² 8.6	87.42	¹² 7.47	.857
Carpenters:								
Alabama.....	8	33	9.7	81.7	8.5	33.98	3.52	.416
Colorado.....	3	6	12.2	108.0	8.9	99.07	8.14	.917
Illinois.....	20	40	12.3	104.1	8.5	98.14	7.99	.943
Indiana.....	6	12	10.3	85.2	8.2	75.72	7.33	.889
Kentucky.....	18	40	11.5	93.3	8.1	64.67	5.64	.693
Ohio.....	17	28	11.2	91.3	8.2	83.75	7.49	.917
Pennsylvania.....	37	166	¹³ 10.9	96.7	¹³ 8.5	67.15	¹³ 6.18	.694
Utah.....	4	10	12.2	104.3	8.5	107.53	8.80	1.029
Washington.....	4	15	12.9	100.1	7.8	81.98	6.37	.819
West Virginia.....	38	74	10.9	90.7	8.3	69.77	6.41	.769
Wyoming.....	2	3	13.0	107.0	8.2	107.00	8.23	1.000
Total.....	157	427	¹³ 11.1	94.7	¹³ 8.4	71.23	¹³ 6.42	.752
Engineers:								
Alabama.....	7	11	11.5	96.8	8.4	47.87	4.15	.495
Colorado.....	8	20	13.6	117.5	8.6	107.02	7.90	.914
Illinois.....	22	68	15.0	122.1	8.1	116.63	7.75	.955
Indiana.....	8	16	15.4	135.5	8.8	121.34	7.86	.885
Kentucky.....	7	8	12.8	108.2	8.5	84.24	6.61	.779
Ohio.....	18	23	12.5	111.3	8.9	95.29	7.61	.856
Pennsylvania.....	32	71	⁴ 12.4	106.6	⁴ 8.5	80.35	⁴ 6.50	.754
Utah.....	3	3	13.7	114.7	8.4	111.30	8.14	.971
Washington.....	4	14	15.9	129.9	8.2	113.42	7.12	.873
West Virginia.....	16	28	15.0	165.1	11.0	100.88	6.71	.611
Wyoming.....	4	5	15.0	145.5	9.7	142.09	9.47	.977
Total.....	129	267	⁴ 13.9	121.3	⁴ 8.7	99.50	⁴ 7.21	.820

⁴ Not including data for 8 employees, starts for whom were not reported.

¹¹ Not including data for 137 employees, starts for whom were not reported.

¹² Not including data for 9 employees, starts for whom were not reported.

¹³ Not including data for 22 employees, starts for whom were not reported.

TABLE 12.—NUMBER OF MINES AND EMPLOYEES, AVERAGE NUMBER OF STARTS (DAYS), AND AVERAGE HOURS AND EARNINGS IN REPRESENTATIVE BITUMINOUS MINES, WINTER OF 1921-22, BY OCCUPATIONS AND STATES—Concluded.

TIME WORKERS—Concluded.

Occupation and State.	Number of—		Average number of starts (days) made in half-month pay-roll period.	Average hours worked.		Average earnings.		
	Mines.	Em- ployees.		In half- month pay-roll period.	Per start (day).	In half- month pay-roll period.	Per start (day).	Per hour.
<i>Outside work—Concl'd.</i>								
Firemen:								
Alabama.....	6	25	11.9	108.6	9.1	\$33.73	\$2.83	\$0.311
Colorado.....	5	9	13.8	143.0	10.4	107.94	7.83	.755
Illinois.....	20	87	14.0	112.5	8.0	101.53	7.25	.902
Indiana.....	5	15	13.1	122.7	9.4	96.67	7.40	.788
Kentucky.....	2	9	12.6	108.2	8.6	82.65	6.58	.764
Ohio.....	8	18	12.4	111.4	9.0	95.82	7.70	.860
Pennsylvania.....	18	114	¹⁴ 14.2	113.2	¹⁴ 8.2	82.50	¹⁴ 6.34	.729
Utah.....	1	1	15.0	128.0	8.5	112.00	7.47	.875
Washington.....	2	9	15.8	128.0	8.1	95.11	6.03	.743
West Virginia.....	9	31	14.7	141.6	9.6	82.27	5.61	.581
Wyoming.....	3	9	15.6	124.3	8.0	115.35	7.42	.928
Total.....	79	327	¹⁴ 13.9	117.1	¹⁴ 8.5	87.24	¹⁴ 6.48	.745
Laborers:								
Alabama.....	10	203	9.1	73.9	8.1	24.21	2.66	.323
Colorado.....	8	97	11.6	101.0	8.7	77.40	6.64	.766
Illinois.....	21	337	10.3	85.8	8.3	73.69	7.13	.859
Indiana.....	12	115	9.4	77.6	8.2	65.88	6.98	.849
Kentucky.....	20	198	10.2	83.5	8.2	43.82	4.29	.525
Ohio.....	24	227	9.3	74.1	8.0	63.24	6.80	.853
Pennsylvania.....	42	573	¹⁵ 10.8	95.5	¹⁵ 8.8	54.03	¹⁵ 5.17	.566
Utah.....	4	71	9.9	77.7	7.8	68.11	6.85	.876
Washington.....	4	62	11.1	89.3	8.1	60.19	5.43	.674
West Virginia.....	46	498	9.6	80.0	8.4	46.16	4.82	.577
Wyoming.....	4	26	11.9	95.1	8.0	82.69	6.96	.870
Total.....	195	2,407	¹⁵ 10.1	84.8	¹⁵ 8.4	55.06	¹⁵ 5.49	.649
Other employees:								
Alabama.....	10	185	11.1	93.7	8.5	36.85	3.32	.393
Colorado.....	7	68	12.9	115.2	8.9	97.53	7.56	.847
Illinois.....	21	247	12.5	104.5	8.4	90.15	7.24	.863
Indiana.....	12	87	12.7	106.7	8.4	93.16	7.32	.873
Kentucky.....	20	258	11.1	93.7	8.5	59.49	5.38	.635
Ohio.....	25	160	11.6	95.1	8.2	73.94	6.36	.777
Pennsylvania.....	42	713	¹⁶ 11.9	104.9	¹⁶ 8.8	66.26	¹⁶ 5.65	.631
Utah.....	4	45	10.1	78.5	7.8	68.68	6.79	.875
Washington.....	4	60	13.3	108.4	8.1	79.77	5.98	.736
West Virginia.....	44	371	11.5	100.5	8.7	70.70	6.14	.703
Wyoming.....	4	48	13.7	110.5	8.1	96.73	7.07	.876
Total.....	193	2,242	¹⁶ 11.8	101.3	¹⁶ 8.5	70.02	¹⁶ 5.96	.691

¹⁴ Not including data for 24 employees, starts for whom were not reported.

¹⁵ Not including data for 51 employees, starts for whom were not reported.

¹⁶ Not including data for 75 employees, starts for whom were not reported.

RATES AND EARNINGS, DAYS OF OPERATION, AND DAYS CLOSED IN EACH MINE.

Tables 13 and 14 show for each mine covered the rates and earnings of the several classes of miners and loaders, days and hours of operation, and days closed.

It will be observed from these tables that some collieries do not have consideration miners and others do not have company miners; also that some bituminous mines do not have both pick miners and machine miners. Some of the collieries, however, have both con-

sideration and company miners and some bituminous mines have both pick (hand) and machine miners. As pick, or hand, miners generally cut the coal and load it into mine cars, data for loaders are not shown except for mines having machine miners. The company miner is paid a regular daily rate; the consideration miner is a man usually employed as a contract miner, but who for a time is receiving a guaranteed minimum rate because of the fact that a tonnage rate would not produce earnings per day equal to the guaranteed rate. The pay rolls show that a few contract miners during a small part of the pay-roll period were on a consideration or day basis, but it was not practicable to divide their data and such employees have been considered as contract miners during the entire period so far as time and earnings are concerned. Likewise, a few of the consideration miners were on a contract basis during a minor part of the pay-roll period covered, thereby causing their average earnings to be higher than they would have been had they worked exclusively as consideration miners.

The daily rate for consideration and company miners and their laborers is for a day of eight hours of actual work, not including a lunch period. In the part of the table relating to earnings per hour are given the average earnings of consideration and company miners and their laborers. In these figures the time at the face includes the time (hours) worked and time taken for lunch so as to put them on a comparable basis with the contract miners.

An effort was made to obtain the tonnage rates of contract miners and such figures were obtained in part. It was found that tonnage rates differed within a mine and as between the several mines because of difference in the thickness of the coal seam or for other reasons. In one mine there was a rate as low as 32 cents per ton and also a rate as high as 69 cents per ton. In one mine there was a rate of \$1.58 per ton. The rates obtained at other mines fell within these limits.

An attempt was also made to get the wage rate of the contract miners' laborer and figures were obtained at several of the mines. The rates of this occupation, likewise, may differ within the mine and as between different mines. The contract miners' laborer is paid a wage rate per shift, the term "shift" meaning what is accepted as a day's work, which may differ as to actual hours of labor. A shift usually means the loading of a certain number of mine cars, which number may vary in a mine; thus the rate of the contract miners' laborer partakes to some extent of the nature of a car rate or, in effect, a tonnage rate, as distinct from a strictly time rate.

HOURS AND EARNINGS IN COAL MINING.

TABLE 13.—DAYS AND HOURS OF OPERATION, TONS PRODUCED PER MAN, AND OCCUPATIONS, FOR SECOND HALF OF JANUARY, 1922; ALSO DAYS OF OPERATION REPRESENTATIVE ANTHRACITE COLLIERY IN PENNSYLVANIA COVERED BY

Number of mine.	Time of operation in half-month payroll period.		Average tons produced per man by contract miners, consideration miners, company miners, and their laborers.				Number of days during year ending Oct. 31, 1921, mines were—							
	Days (tippie time).	Hours (tippie time).	In half-month payroll period.	Per start (day).	Per hour.		In operation.	Closed on account of—						Total.
					Time at face. ¹	Time in mine.		Transportation disability.	Labor shortage.	Strikes.	Mine disability.	No market.	Sundays, holidays, and other causes.	
1.....	14	112	40.3	3.6	0.45	0.41	291			4	1		69	74
2.....	14	113	63.5	4.9	.63	.60	260			28	5	3	69	105
3.....	12	96	27.7	2.6	.37	.35	300				1		64	65
4.....	14	112	31.7	2.9	.45	.42	300			1			64	65
5.....	13	104	49.9	4.5	.63	.59	298						67	67
6.....	13	104	47.5	4.3	.57	.55	296				1		62	69
7.....	14	117	28.7	2.2	.28	.26	308						57	57
8.....	14	95½	41.6	3.1	.43	.41	199	3				100	59	166
9.....	14	101½	41.7	3.3	.42	.39	298					4	61	67
10.....	14	97½	48.8	3.7	.53	.49	288					14	63	77
11.....	14	87½	42.6	3.4	.46	.43	291					11	63	74
12.....	11	66	21.0	2.0	.24	.23	300			6			59	65
13.....	10	75	26.7	2.6	.36	.34	253				27	20	5	112
14.....	10	80	31.2	3.3	.46	.43	295						70	70
15.....	12	96	28.4	3.0	.41	.39	290					8	67	75
16.....	13	104	35.0	3.0	.39	.35	290				3		72	75
17.....	13	104	33.8	3.2	.46	.40	291			4			70	74
18.....	44	86	31.6	2.6	.35	.33	293		8			6	63	72
19.....	13	104	43.0	3.9	.58	.57	296						69	69
20.....	7	49	13.4	1.6	.29	.19	273				1	27	44	92
21.....	8	64	39.3	5.1	.91	.77	277			1		20	67	88
22.....	14	107	36.9	3.9	.57	.49	298						67	67
23.....	14	112	36.5	3.3	.41	.38	279			14	1		71	86
24.....	14	113	60.6	4.7	.61	.58	274			22		2	67	91
25.....	14	112	39.9	3.3	.39	.36	287					10	68	78
26.....	11	75	39.3	3.7	.55	.48	296						69	69
27.....	11	88	39.4	4.0	.58	.49	298						67	67
28.....	11	86½	34.3	3.3	.54	.46	282				3		70	73
29.....	11	84½	48.9	5.2	.73	.64	293			6			66	72

¹ Including time for lunch.

DAILY RATES AND AVERAGE EARNINGS PER HOUR FOR EMPLOYEES IN SELECTED AND DAYS CLOSED DURING THE 12 MONTHS ENDING OCTOBER 31, 1921, FOR EACH STUDY.

Rate per day of 8 hours.				Average earnings per hour of—											
Con- sider- ation min- ers.	Con- sider- ation min- ers' labor- ers.	Com- pany min- ers.	Com- pany min- ers' labor- ers.	Contract miners.		Contract miners' laborers.		Considera- tion miners.		Considera- tion miners' laborers.		Company miners.		Company miners' laborers.	
				Time at face. ¹	Time in mine.	Time at face. ¹	Time in mine.	Time at face. ¹	Time in mine.	Time at face. ¹	Time in mine.	Time at face. ¹	Time in mine.	Time at face. ¹	Time in mine.
\$6.14	\$5.66	\$5.62	\$5.07	\$0.880	\$0.812	\$0.654	\$0.603	\$0.730	\$0.677	\$0.676	\$0.627	\$0.676	\$0.628	\$0.601	\$0.558
6.44	5.94	5.40	4.96	1.646	1.568	.649	.628	.941	.903	.616	.593	.646	.622	.589	.568
6.14	5.19	5.59	5.15	1.195	1.113	.816	.762	.....	.....	.....	.....	.659	.624	.609	.577
.....	.....	5.59	5.15	1.367	1.266	.953	.884	.....	.....	.....	.....	.654	.618	.609	.575
6.14	4.78	5.59	4.78	1.059	.986	.686	.641	.744	.702	.562	.531	.676	.641	.608	.576
6.14	4.94	5.59	5.15	1.075	1.005	.805	.732	.722	.681	.585	.552	.674	.637	.613	.580
5.26	4.73	5.26	4.67	.869	.818	.702	.661	.635	.601	.541	.512	.608	.579	.539	.514
.....	.....	6.43	5.61	1.192	1.137	.965	.921	.....	.....	.....	.....	.745	.720	.650	.628
.....	.....	6.08	5.17	1.050	.983	.914	.855	.....	.....	.....	.....	.722	.687	.611	.579
6.14	5.18	.....	.....	1.072	.976	.773	.709	.719	.667	.610	.566	.....	.....	.....	.....
.....	.....	6.19	5.16	1.020	.951	.766	.717	.....	.....	.....	.....	.736	.701	.611	.580
.....	.....	5.14	4.79	.978	.923	.805	.759	.....	.....	.....	.....	.588	.556	.547	.517
.....	.....	5.94	4.92	1.090	1.017	.864	.806	.....	.....	.....	.....	.699	.660	.579	.548
.....	.....	5.41	5.23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	5.70	4.99	1.207	1.124	.787	.733	.....	.....	.....	.....	.719	.679	.633	.598
.....	.....	5.42	4.96	.961	.898	.725	.679	.....	.....	.....	.....	.644	.609	.593	.561
.....	.....	5.42	4.95	1.013	.895	.731	.642	.....	.....	.....	.....	.638	.571	.582	.521
.....	.....	5.42	4.95	1.056	.917	.753	.659	.....	.....	.....	.....	.638	.570	.583	.521
5.26	4.69	.....	.....	1.023	.977	.610	.583	.615	.589	.548	.525	.....	.....	.....	.....
.....	.....	5.42	4.95	1.268	1.095	.781	.677	.....	.....	.....	.....	.640	.576	.582	.521
.....	.....	5.29	4.68	.706	.629	.636	.566	.....	.....	.....	.....	.644	.576	.549	.491
5.30	.....	5.26	4.82	1.752	1.449	.723	.633	.613	.548	.....	.....	.643	.574	.589	.527
6.28	5.85	.....	.....	.962	.818	.900	.766	.763	.669	.679	.599	.....	.....	.....	.....
6.14	5.66	5.62	5.07	.890	.818	.769	.708	.732	.679	.683	.633	.675	.627	.600	.557
6.14	5.94	5.40	4.96	1.303	1.240	.651	.626	.944	.906	.616	.593	.646	.622	.589	.567
6.32	5.22	.....	.....	.850	.771	.572	.520	.722	.659	.598	.546	.....	.....	.....	.....
.....	.....	4.42	4.20	.....	.....	.....	.....	.....	.....	.....	.....	.627	.560	.547	.487
.....	.....	5.42	4.85	1.162	1.004	.818	.706	.....	.....	.....	.....	.628	.534	.574	.489
.....	.....	5.23	4.88	1.304	1.053	.865	.701	.....	.....	.....	.....	.662	.595	.616	.554
.....	.....	5.61	5.22	1.008	.860	.756	.657	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	4.41	4.20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	5.30	4.61	1.069	.923	.682	.603	.....	.....	.....	.....	.655	.590	.530	.475
.....	.....	5.50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

TABLE 14.—DAYS AND HOURS OF OPERATION, TONS PRODUCED PER MAN, TONNAGE RATES, AND AVERAGE EARNINGS PER HOUR FOR EMPLOYEES IN SELECTED OCCUPATIONS FOR A HALF-MONTH PAY-ROLL PERIOD IN THE WINTER OF 1921-22; ALSO DAYS OF OPERATION AND DAYS CLOSED DURING THE 12 MONTHS ENDING OCTOBER 31, 1921, FOR EACH REPRESENTATIVE BITUMINOUS MINE COVERED BY STUDY.

State, and number of mine.	Time of operation in half-month pay-roll period.		Average tons produced per man by pick miners, machine miners, and loaders.				Number of days during year ending Oct. 31, 1921, mines were—										Tonnage rate for—			Average earnings per hour of—						
	Days (triple time).	Hours (triple time).	In half-month pay-roll period.	Per start (day).	Per hour.		In operation.	Closed on account of—						Machine miners.	Loaders.	Pick or hand miners.	Machine miners.		Loaders.		Pick miners.					
					Time in mine.	Time at face. ¹		Transportation disability.	Labor shortage.	Strikes.	Mine disability.	No market.	Other causes.				Total.	Time at face. ¹	Time in mine.	Time at face. ¹	Time in mine.	Time at face. ¹	Time in mine.			
Alabama:																										
101.....	10	90	66.0	7.7	0.84	1.08	146						165	54	219	\$0.050	\$0.440	\$0.64	\$0.563	\$0.458	\$0.446	\$0.350	\$0.585	\$0.440		
102.....	9	72	34.1	4.2	.47	.53	207						104	54	158	.220	.800	.85	1.699	1.511	.589	.523	.672	.617		
103.....	7	53	40.4	6.7	.82	.89	152						158	55	213											
104.....	9	72	34.6	4.2	.47	.53	207						104	54	158	.270	.800		1.832	1.624	.805	.714				
105.....	9	54	29.3	3.6	.52	.61	128						182	55	237			.72								
106.....	11	84	54.9	7.0	.82	.93	217			12	4	77	55	148	(²)	(²)	.64	(²)	(²)	.507	.448	.636	.562			
107.....	10	90	73.9	10.3	1.05	1.14	213					1	97	54	152	(²)	(²)	.60	(²)	(²)	.497	.455	.698	.651		
108.....	11	88	61.3	6.4	.72	.76	209					6	96	54	156	(²)	.530	.72	.514	.486	.482	.455	.458	.432		
109.....	(⁴)	(⁸)	48.5	5.4	.59	.64	(⁸)						75	53	128	(³)	.530	.72	.509	.472	.385	.357	.503	.466		
110.....	(⁷)	(⁸)	58.7	6.4	.75	.77	(⁹)						29	56	85	(³)	.530	.72	.504	.495	.483	.473	.592	.581		
Colorado:																										
201.....	10	90	62.8	6.9	.74	.87	192	4					104	65	173	.175	.730	1.02	1.653	1.417	.907	.777	.984	.843		
202.....	13	117	64.1	5.7	.67	.71	161		3				144	57	204	{ ^{10, 200} ^{10, 250}	.830	1.17	(¹¹)	(¹¹)	¹² 1.635	¹² 1.540	.956	.899		
203.....	13	117	52.5	4.7	.53	.56	208			1	5	68	83	157	.173	1.000	1.33	1.759	1.661	.705	.665	.918	.866			
204.....	13	104	170.6	13.1	1.60	1.64	232						77	56	133		.92						1.512	1.475		
205.....	5	38	28.4	5.6	.73	.77	166	4		5		134	56	199	¹³ 106	{ ^{10, 200} ^{10, 250}	.780	1.03	1.243	1.171	1.032	.980	(¹⁴)	(¹⁴)		
206.....	13	117	69.9	6.4	.77	.82	214	1				95	55	151	.200	.770	1.07	1.482	1.399	.933	.878	.933	.875			
207.....	13	117	58.2	5.2	.61	.69	219	30				52	64	146	.180	.850	1.37	1.400	1.243	.919	.811	(¹⁴)	(¹⁴)			
208.....	12	108	35.7	3.5	.41	.48	222	11				70	62	143	.360	.920	1.42	1.666	1.439	.820	.716	.790	.681			
Illinois:																										
301.....	8	64.0	62.1	8.2	.94	1.01	161				10	136	58	204	.150	.860	1.080	1.157	1.071	1.293	1.194	1.095	1.011			
302.....	8	54.5	55.5	7.3	.99	1.06	164	10	2		3	127	59	201	.105	.865		1.604	1.477	1.088	1.016					
303.....	11	88.0	64.2	6.7	.78	.83	196	9	7		4	89	60	169			1.087						.925	.871		
304.....	13	104.0	66.4	5.8	.65	.73	249					58	58	116	.165	.805	1.040	.907	.801	.739	.657	.896	.793			
305.....	12	94.0	89.7	8.9	1.03	1.12	172	2			1	129	61	193	.135	.835		1.398	1.292	1.235	1.139					
306.....	13	104.0	(²)	(²)	(²)	(²)	237					65	63	128			1.420						.666	.618		
307.....	13	104.0	61.3	5.4	.63	.66	265					49	61	110			1.370						.550	.518		

DAYS OF OPERATION AND DAYS CLOSED.

706	12	96.0	55.1	5.6	.65	.71	214	32				5	3	53	58	151	.150	.790		.886	.811	.609	.556				
707	9	71.0	46.2	6.8	.79	.90	261	16					9	18	61	104	.150	.790	1.116	1.329	1.177	.952	.841	1.429	1.284		
708	9	72.0	55.8	7.1	1.02	1.10	149	24					7	124	58	216	.159	.790		1.364	1.284	.989	.917				
709	12	96.0	65.7	7.4	.84	.89	87	16	10			3	2	198	52	278	.140	.800	1.116	1.624	1.539	.896	.845	(14)	(15)		
710	4	32.0	27.9	7.1	.88	.94	126	19	21				12	135	52	239	.140	.800	1.116	1.649	1.514	.940	.883	(14)	(15)		
711	12	88.0	88.1	7.9	.92	1.04	141	14	3			4	4	129	79	224	.156	.790		1.544	1.367	1.266	1.119				
712	9	69.0	40.0	5.5	.88	.96	164						8	134	52	201	.140	.800		1.201	1.123	1.205	1.106				
713	10	78.0	61.6	6.6	.79	.86	108	4	12			7	2	114	65	197	.140	.800		1.473	1.367	.972	.893				
714	13	97.0	78.0	7.1	.84	.94	198	12	1			2	89	62	167	.159	.790	1.116	1.271	1.145	.959	.864	(14)	(15)			
715	9	72.0	96.0	12.0	1.33	1.44	135						2	172	58	220	.172	.745		1.375	1.284	1.166	1.078				
716	13	104.0	67.4	6.0	.75	.82	199	19		21		10	56	60	166	.158	.790		1.536	1.431	1.015	.830					
717	13	104.0	90.7	8.4	.95	1.03	274	11				4	11	65	91	.150	.790	1.116	1.519	1.408	.973	.900	.902	.835			
718	12	89.0	76.3	7.5	.96	1.03	173					26	5	114	52	192	.140	.800		1.536	1.427	1.056	.988				
719	12	72.0	57.0	7.0	.88	.92	138	20	16			2	5	118	66	227	.140	.800		1.428	1.370	.907	.869				
720	13	104.0	89.6	7.7	.81	.86	162						145	58	208	.190	.790		1.373	1.301	.733	.695					
721	13	96.0	104.0	9.5	1.24	1.32	151						162	52	214	.140	.800		1.856	1.738	1.316	1.230					
722	10	80.0	43.5	5.6	.74	.80	108	4	2	29	45		115	62	257	.140	.800	1.116	.651	1.611	.829	.773	(14)	(15)			
723	13	104.0	113.6	10.0	1.29	1.48	190	22	5			2	84	62	175	.150	.790	1.116	.999	.877	.798	.694	.736		629		
724	11	80.0	64.8	7.0	1.05	1.24	223	8				5	34	28	97	142	.187	.788		1.102	.968	1.195	1.007				
725	8	57.0	44.4	7.3	1.02	1.19	237	25				8	8	26	61	128	.150	.790		1.706	1.486	1.222	1.046				
Pennsylvania:																											
801	4	32	21.28.3	21.7.1	21.78	21.86	156	10					141	58	209	.109	.771	1.116	1.065	.968	.798	.722	.917			829	
802	11	91	21.67.5	21.6.6	21.70	21.84	189	2	1				1	114	58	176	.157	.713	1.200	.632	.573	.491	.412	.589			495
803	6	48	21.28.1	21.4.7	21.60	21.65	177						2	128	58	188	.169	.771	1.116	1.236	1.121	.605	.554	.713			671
804	9	72	21.67.2	21.8.2	21.1.00	21.1.04	193						114	58	172	.176	.700	1.060	1.200	1.150	.749	.719	.929			862	
805	13	104	21.107.4	21.9.8	21.1.26	21.1.38	95	4				2	206	58	270	.143	.717	1.000	1.547	1.431	1.036	.944	1.178			1.080	
806	9	72	21.39.9	21.5.8	21.68	21.76	197					110	58	168	.149	.734	1.031	1.220	1.100	.762	.687	.669				603	
807	4	32	21.25.3	21.6.9	21.80	21.85	152						135	58	213	{ ²³ .149	{ ²³ .734	1.116	1.037	.976	.837	.788	.978			.920	
808	11	88	21.66.9	21.6.6	21.79	21.84	180						126	59	185	.169	.771	1.116	1.623	1.529	.806	.758	.888			834	
809	5	40	21.48.6	21.6.2	21.77	21.82	175						132	58	190	.176	.700	1.060	.997	.935	.404	.436	.674			.630	
810	12	96	21.98.4	21.9.7	21.1.06	21.1.27	170					2	135	58	195	.104	.409	.578	.947	.797	.632	.528	.779			.651	
811	13	104	21.149.5	21.13.5	21.1.49	21.1.67	307					3		55	58	(1)	(2)	1.124	.997	.677	.803	.709				.631	
812	13	104	21.103.5	21.9.0	21.96	21.1.12	185	1					122	57	180	.103	.733	1.163	1.063	1.425	.879	.754	.955			.819	
813	13	92	21.40.3	21.4.9	21.70	21.72	209					10	86	60	156	.167	.771	1.116	.917	.902	.756	.736	.965			.971	
814	12	96	21.116.1	21.11.2	21.1.25	21.1.32	145	10					152	58	220	.149	.771		1.026	.977	.845	.797					
815	13	104	21.118.5	21.10.6	21.1.25	21.1.42	196					7	105	55	169	.130	.375	.595	1.544	1.397	.790	.694	.733			.691	
816	13	104	21.129.5	21.12.3	21.1.35	21.1.52	310							55	55	(2)	(2)	.973	.863	.687	.612	.678				.584	
817	5	40	21.49.5	21.6.3	21.75	21.80	175						132	58	190	.176	.700	1.060	.839	.787	.556	.522	.657			.618	
818	13	104	21.112.4	21.10.3	21.1.19	21.1.32	200	1				4	102	58	165	.135	.450	.570	.819	.743	.682	.616	.733			.663	
819	13	103	21.104.6	21.9.1	21.1.20	21.1.31	236	4				8	58	59	129	.143	.717	1.000	1.625	1.508	1.078	.980	1.197			1.099	
820	13	104	21.106.8	21.8.5	21.88	21.93	277						30	58	88												
821	12	96	21.62.6	21.6.1	21.76	21.85	285					2	19	58	79	.149	.734	1.031	1.394	1.270	.770	.688	.854			.765	

² Not reported.

¹⁴ No employees in this occupation during pay-roll period scheduled.

¹⁷ Per hour.

²¹ Gross tons, 2,240 pounds.

²² Net tons, 2,000 pounds.

²³ Thick vein.

²⁴ Thin vein.

WAGE PEAK AND WAGE REDUCTIONS.

Table 15 shows for each bituminous mine the date of the ending of the half-month pay-roll period scheduled; the date of the beginning of the wage peak for employees who are paid tonnage rates and for those who are paid rates per hour or day; the date and amount of reduction of wages of employees of mines in which reductions have been made; the overtime rate paid for work in excess of the regular hours per day; whether a bonus in addition to the regular wage rates was paid during the wage peak or during the pay-roll period; whether deductions are made from the earnings of contract miners, loaders, and pick miners for powder, fuses, caps, and squibs used in blasting coal from the face or seam, and for blacksmithing; the regular full-time hours per day of tonnage workers at the face, including time for lunch; the average time of travel from the shaft or other opening at the entrance of the mine to the face and return; and the total time in the mine, which includes time of work at face, time, if any, for lunch, and average time of travel from shaft or other opening at the entrance of the mine to the face and return.

No data covering the above conditions are presented in tabular form for anthracite collieries because—

(a) The data for all anthracite collieries are for the half-month ending January 31, 1922.

(b) The peak of wages of anthracite mine employees under the award of the United States Anthracite Coal Commission, began with April 1, 1920, and continued under that award until March 31, 1922. During that period no bonus was paid in addition to regular wage rates.

(c) Overtime, or time worked in excess of the basic or regular hours of the colliery or of the occupation, was paid for at the regular rate.

(d) Deductions for powder, fuses, caps, or squibs used in blasting anthracite coal from the seams were made from earnings of tonnage employees of all collieries and for blacksmithing from the earnings of tonnage employees of 24 of the 29 collieries.

Time at the face, including time for lunch, average time of travel, and the total time in the mine for each anthracite colliery is shown in Table 9 (p. 29).

TABLE 15.—DATE OF PAY-ROLL PERIOD, DATE OF BEGINNING OF WAGE PEAK, DATE AND AMOUNT OF REDUCTION OF WAGES, OVERTIME RATE, BONUS, DEDUCTIONS FROM EARNINGS, AND REGULAR OR CUSTOMARY HOURS PER DAY FOR EACH REPRESENTATIVE BITUMINOUS MINE, WINTER OF 1921-22, BY STATES.

State, and mine number.	Pay-roll period: Half month ending—	Date of beginning of wage peak for—		Reduction of wages.				Overtime rate.		Bonus.		Deductions from earnings for—		Regular or customary hours per day of tonnage workers.		
		Tonnage workers.	Day workers.	Tonnage workers.		Day workers.		During wage peak.	During half-month pay-roll period.	During wage peak.	During half-month pay-roll period.	Powder, fuses, caps, and squibs.	Blacksmithing.	Time at face. ¹	Average time of travel from shaft to face and return.	Total time in mine.
				Date.	Amount.	Date.	Amount.									
Alabama:	1921.	1920.	1920.	1921.		1921.								Hrs.	H. m.	Hrs.
101.....	Oct. 31	Apr. 1	Apr. 1	July 1	No reduction.....	July 1	(²)	1	1	No....	No....	Yes..	Yes..	9		9½
102.....	Nov. 30	do.....	do.....	July 1	24.2 per cent. ³	do.....	16½ per cent.....	1	1	No....	No....	Yes..	Yes..	9	2 0	11
103.....	Oct. 31	do.....	do.....	Oct. 1	(⁴)	Oct. 1	15 per cent.....	1	1	No....	No....	Yes..	Yes..	8	1 0	9
104.....	do.....	do.....	do.....	June 1	20 per cent.....	June 1	20 per cent.....	1	1	No....	No....	Yes..	Yes..	8	1 0	9
				July 1	\$1.09 to 85 cents per ton.	July 1	do.....	1	1	No....	No....	Yes..	Yes..	8	40	8½
105.....	do.....	do.....	do.....	June 1	20 per cent.....	June 1	do.....	1	1	No....	No....	Yes..	Yes..	8	1 0	9
106.....	do.....	do.....	do.....	July 1	do.....	July 1	do.....	1	1	No....	No....	Yes..	Yes..	8	1 0	9
107.....	do.....	do.....	do.....	Oct. 1	15 per cent.....	Oct. 1	15 per cent.....	1	1	No....	No....	Yes..	Yes..	8	1 0	9
108.....	do.....	do.....	do.....	July 1	27½ per cent.....	July 1	20 per cent.....	1	1	No....	No....	Yes..	Yes..	8	1 0	9
109.....	Nov. 15	do.....	do.....	July 16	20.8 per cent.....	July 16	20.8 per cent.....	1	1	No....	No....	Yes..	Yes..	8½	10	8½
				Aug. 29	15 per cent.....	Aug. 29	15 per cent.....	1	1	No....	No....	Yes..	Yes..	8½	30	9
110.....	do.....	do.....	do.....	July 16	20.5 per cent.....	July 16	20.5 per cent.....	1	1	No....	No....	Yes..	Yes..	8½	30	9
				Aug. 29	15 per cent.....	Aug. 29	15 per cent.....	1	1	No....	No....	Yes..	Yes..	8½	40	9½
				Aug. 29	20.7 per cent.....	July 16	20.7 per cent.....	1	1	No....	No....	Yes..	Yes..	8½	40	9½
				Aug. 29	15.2 per cent.....	Aug. 29	15.2 per cent.....	1	1	No....	No....	Yes..	Yes..	8½	40	9½
Colorado:	Oct. 31	do.....	Sept. 1	Nov. —	30 per cent.....	Nov. —	30 per cent.....	1	1	No....	No....	Yes..	Yes..	8½	30	9
201.....	do.....	do.....	do.....	Nov. —	No reduction.....	Nov. —	No reduction.....	1	1	No....	No....	Yes..	Yes..	8	1 10	9½
202.....	do.....	do.....	do.....	Nov. —	do.....	Nov. —	do.....	1	1	No....	No....	Yes..	Yes..	8	30	8½
203.....	do.....	do.....	do.....	Nov. —	30 per cent.....	Nov. —	30 per cent.....	1	1	No....	No....	Yes..	Yes..	8½	30	9
204.....	do.....	do.....	do.....	Nov. —	No reduction.....	Nov. —	No reduction.....	1	1	No....	No....	Yes..	Yes..	8	12	9½
205.....	do.....	do.....	do.....	Nov. —	do.....	Nov. —	do.....	1	1	No....	No....	Yes..	Yes..	8	40	8½
206.....	do.....	do.....	do.....	Nov. —	do.....	Nov. —	do.....	1	1	No....	No....	Yes..	Yes..	8	40	8½
207.....	Sept. 15	Sept. 15	Sept. 15	Nov. —	do.....	Nov. —	do.....	1	1	No....	No....	Yes..	Yes..	8	1 20	9½
208.....	Apr. 1	Sept. 1	Sept. 1	Nov. —	do.....	Nov. —	do.....	1	1	No....	No....	Yes..	Yes..	8	1 0	9
	do.....	do.....	do.....	Nov. —	do.....	Nov. —	do.....	1	1	No....	No....	Yes..	Yes..	8	1 0	9

TABLE 15.—DATE OF PAY-ROLL PERIOD, DATE OF BEGINNING OF WAGE PEAK, DATE AND AMOUNT OF REDUCTION OF WAGES, OVERTIME RATE, BONUS, DEDUCTIONS FROM EARNINGS, AND REGULAR OR CUSTOMARY HOURS PER DAY FOR EACH REPRESENTATIVE BITUMINOUS MINE, WINTER OF 1921-22, BY STATES—Continued.

State and mine number.	Pay-roll period: Half month ending—	Date of beginning of wage peak for—		Reduction of wages.				Overtime rate.		Bonus.		Deductions from earnings for—		Regular or customary hours per day of tonnage workers.		
		Tonnage workers.	Day workers.	Tonnage workers.		Day workers.		During wage peak.	During half-month pay-roll period.	During wage peak.	During half-month pay-roll period.	Powder, fuses, caps, and squibs.	Blacksmithing.	Time at face.	Average time of travel from shaft to face and return.	Total time in mine.
				Date.	Amount.	Date.	Amount.									
Kentucky—Concl'd.																
	1921.	1920.	1920.	1921.		1921.										
610.....	Oct. 31	Apr. 1	Aug. 16	May 16 Oct. 1	14.4 cents per ton 7 cents per ton	May 16 Oct. 1	\$1.50 per day	1	1	No....	No....	Yes..	Yes..	8	20	8½
611.....	Nov. 15	Sept. —	Aug. —		No reduction		No reduction	1	1	No....	No....	Yes..	Yes..	8½	30	9
612.....	Oct. 31	Aug. 16	Sept. 16	May 16	20 per cent	May 16	20 per cent	1	1	No....	No....	Yes..	Yes..	8	30	8½
613.....	Nov. 15	Sept. 16	Sept. 16	June 1	22.8 per cent	June 1	22.8 per cent	1	1	No....	No....	Yes..	Yes..	9½	40	10½
614.....	do.....	do.....	do.....	June 1	No reduction		No reduction	1	1	No....	No....	Yes..	Yes..	9	50	8½
		1921.	1921.	June 1	7 per cent											
615.....	Oct. 31	Jan. 1	Jan. 1	Aug. 1 Dec. 1	18 per cent 15 per cent	Aug. 1 Dec. 1	18 per cent 15 per cent	1	1	No....	No....	Yes..	Yes..	8	10	8½
		1920.	1920.	June 1	20 per cent	June 1	20 per cent	1	1	No....	No....	Yes..	Yes..	8½	30	9
616.....	do.....	Aug. 16	Aug. 16	June 1	No reduction	June 1	No reduction	1	1	No....	No....	Yes..	Yes..	8½	30	9
617.....	do.....	Apr. 1	Oct. 1		15 per cent	(?)	15 per cent	1	1	No....	No....	Yes..	Yes..	8	40	8½
618.....	do.....	Oct. 1	do.....	June 1	20 per cent	June 1	20 per cent	1	1	No....	No....	Yes..	Yes..	8½	30	9
619.....	do.....	Aug. 16	Aug. 16	May 16	do.....	May 16	do.....	1	1	No....	No....	Yes..	Yes..	8	30	8½
620.....	do.....	do.....	do.....													
Ohio:																
701.....	Nov. 15	Apr. 1	do.....		No reduction		No reduction	1	1	No....	No....	Yes..	No....	8	40	8½
702.....	Oct. 31	Mar. 30	do.....		do.....		do.....	1	1	No....	No....	Yes..	No....	8½	30	9
703.....	do.....	Apr. 1	do.....		do.....		do.....	1	1	No....	No....	Yes..	No....	8½	20	8½
704.....	Nov. 15	do.....	do.....		do.....		do.....	1	1	No....	No....	Yes..	No....	8½	30	9
705.....	Oct. 31	do.....	do.....		do.....		do.....	1	1	No....	No....	Yes..	No....	8	30	8½
706.....	do.....	do.....	Apr. 1		do.....		do.....	1	1	No....	No....	Yes..	Yes..	8½	1	0
707.....	Nov. 15	do.....	Aug. 16		do.....		do.....	1	1	No....	No....	Yes..	No....	8½	45	9½
708.....	Oct. 31	Mar. 30	do.....		do.....		do.....	1	1	No....	No....	Yes..	No....	8	30	9
709.....	Nov. 15	Aug. 16	do.....		do.....		do.....	1	1	No....	No....	Yes..	No....	8	1	0
710.....	Oct. 31	do.....	do.....		do.....		do.....	1	1	No....	No....	Yes..	No....	8	40	8½

HOURS AND EARNINGS IN COAL MINING.

WAGE PEAK AND WAGE REDUCTIONS.

711	Nov. 15	Apr. 1	do	do	do	1	1	No	No	Yes	No	30	9 1/2
712	Oct. 31	do	do	do	do	1	1	No	No	Yes	No	30	9 1/2
713	do	do	do	do	do	1	1	No	No	Yes	No	30	9 1/2
1920.													
714	Nov. 15	Apr. 1	do	Sept. 16	15 per cent.	Sept. 16	15 per cent.	No	No	Yes	No	40	9 1/2
715	Oct. 31	Apr. 1	do		No reduction		No reduction	No	No	Yes	No	40	9 1/2
716	do	do	do		do		do	No	No	Yes	No	30	9 1/2
717	Nov. 15	do	Apr. 1		do		do	No	No	Yes	Yes	50	9 1/2
718	Oct. 31	do	Aug. 16		do		do	No	No	Yes	No	40	9 1/2
719	do	do	do		do		do	No	No	Yes	No	30	9 1/2
720	do	do	do		do		do	No	No	Yes	No	30	9 1/2
721	do	do	do		do		do	No	No	Yes	No	30	9 1/2
722	do	do	do		do		do	No	No	Yes	No	50	9 1/2
723	do	Mar. 30	do		do		do	No	No	Yes	Yes	30	9 1/2
724	do	do	do		do		do	No	No	Yes	Yes	30	9 1/2
1921.													
725	Nov. 15	Aug. 16	do	June 16	9 per cent.	June 16	9 per cent.	No	No	Yes	No	30	9 1/2
Pennsylvania:													
801	Oct. 31	do	do	May 15	30 per cent.	May 15	30 per cent.	No	No	Yes	Yes	30	9 1/2
802	do	Apr. 1	Apr. 1	Aug. 1	15 per cent.	Aug. 1	15 per cent.	No	No	Yes	No	40	9 1/2
803	Oct. 15	do	do		No reduction		No reduction	No	No	Yes	Yes	10	9 1/2
804	Oct. 31	Nov. 1	Nov. 1	Apr. 1	20 per cent.	Apr. 1	18 per cent.	No	No	Yes	Yes	0	9 1/2
				July 16	10 per cent.	July 16	10 per cent.	No	No	Yes	Yes	0	9 1/2
				Sept. 16	10 per cent. ⁹		No reduction	No	No	Yes	Yes	0	9 1/2
805	Oct. 15	Apr. 1	Apr. 1	Apr. 1	25 per cent.	Apr. 1	25 per cent.	No	No	Yes	Yes	20	8 1/2
				Mar. 1	30 per cent.	Mar. 1	30 per cent.	No	No	Yes	Yes	20	8 1/2
806	Oct. 31	Sept. 1	Sept. 1	Aug. 1	10 per cent.	Aug. 1	10 per cent.	No	No	Yes	Yes	40	10
				Sept. 15	10 per cent. ⁹	Sept. 15	10 per cent. ⁹	No	No	Yes	Yes	40	10
				May 16	25 per cent.	May 16	25 per cent.	No	No	Yes	Yes	0	9 1/2
807	do	do	do	Aug. 1	10 per cent.	Aug. 1	10 per cent.	No	No	Yes	Yes	0	9 1/2
808	Oct. 15	Apr. 1	Apr. 1	Apr. 1	24.65 per cent.	Apr. 1	24.65 per cent.	No	No	Yes	Yes	30	9 1/2
809	Oct. 31	do	Aug. 15		No reduction		No reduction	No	No	Yes	Yes	50	9 1/2
810	do	do	Apr. 1	Apr. 1	15 per cent.	Apr. 1	15 per cent.	No	No	Yes	Yes	20	10
				Aug. 1	10 per cent.	Aug. 1	10 per cent.	No	No	Yes	Yes	20	10
				May 16	20 per cent.	May 16	20 per cent.	No	No	Yes	Yes	30	9 1/2
811	do	Sept. 1	Sept. 1	Aug. 1	10 per cent.	Aug. 1	10 per cent.	No	No	Yes	Yes	30	9 1/2
812	Oct. 15	Apr. 1	Apr. 1	Apr. 1	24.65 per cent.	Apr. 1	24.65 per cent.	No	No	Yes	Yes	30	9 1/2
813	do	do	Aug. 1		No reduction		No reduction	No	No	Yes	Yes	50	9 1/2
814	do	do	do		do		do	No	No	Yes	Yes	50	9 1/2
815	Oct. 31	Aug. 16	Aug. 16	Aug. 16	22 per cent.	Aug. 16	\$2 per day.	No	No	Yes	Yes	40	9 1/2
816	Oct. 15	Apr. 1	Aug. 1		No reduction		No reduction	No	No	Yes	Yes	40	9 1/2
817	do	do	do		do		do	No	No	Yes	Yes	20	9 1/2
818	Oct. 31	Sept. 1	Sept. 1	May 16	25 per cent.	May 16	25 per cent.	No	No	Yes	Yes	0	9 1/2
				Aug. 1	10 per cent.	Aug. 1	10 per cent.	No	No	Yes	Yes	0	9 1/2
				Mar. 16	17 per cent.	Mar. 16	20 per cent.	No	No	Yes	Yes	0	9 1/2
819	do	Apr. 1	Apr. 1	Apr. 1	14 per cent.	Apr. 1	16 per cent.	No	No	Yes	Yes	30	9 1/2

⁷ Not reported.

⁸ Purchased by men from outside store.

⁹ Increase.

TABLE 15.—DATE OF PAY-ROLL PERIOD, DATE OF BEGINNING OF WAGE PEAK, DATE AND AMOUNT OF REDUCTION OF WAGES, OVERTIME RATE, BONUS, DEDUCTIONS FROM EARNINGS, AND REGULAR OR CUSTOMARY HOURS PER DAY FOR EACH REPRESENTATIVE BITUMINOUS MINE, WINTER OF 1921-22, BY STATES—Continued.

State and mine number.	Pay-roll period: Half month ending—	Date of beginning of wage peak for—		Reduction of wages.				Overtime rate.		Bonus.		Deductions from earnings for—		Regular or customary hours per day of tonnage workers.			
		Tonnage workers.	Day workers.	Tonnage workers.		Day workers.		During wage peak.	During half-month pay-roll period.	During wage peak.	During half-month pay-roll period.	Powder, fuses, caps, and squibs.	Black-smithing.	Time at face.	Average time of travel from shaft to face and return.	Total time in mine.	
				Date.	Amount.	Date.	Amount.										
Pennsylvania—Con.	1921.	1920.	1920.	1921.		1921.								Hrs.	H. m.	Hrs.	
820	Oct. 15	Apr. 1	Aug. —		No reduction...		No reduction...	1	1	No...	No...	Yes..	Yes..	9	30	9½	
821	do.	do.	do.		do.		do.	1	1	No...	No...	Yes..	Yes..	8	40	8½	
822	do.	do.	do.		do.		do.	1	1	No...	No...	Yes..	Yes..	8½	50	9½	
823	Oct. 31	do.	Apr. —	{	10 per cent.	Mar. —	10 per cent.	}	1	1	No...	No...	Yes..	Yes..	8½	1 0	9½
				Mar. —	do.	May —	do.										
				Aug. —	do.	Aug. —	do.										
824	Oct. 15	do.	do.		No reduction.		No reduction.	1	1	No...	No...	Yes.	Yes.	9	30	9½	
825	Oct. 31	do.	do.		10 per cent.	Mar. —	10 per cent.	}	1	1	No...	No...	Yes..	Yes..	8	56	8½
				May —	do.	May —	do.										
				Aug. —	do.	Aug. —	do.										
826	do.	do.	do.		15 per cent.	Apr. —	15 per cent.	}	1	1	No...	No...	Yes.	Yes..	9½	20	10
				Aug. —	10 per cent.	Aug. —	10 per cent.										
827	do.	do.	do.		No reduction.		No reduction.	1	1	No...	No...	Yes..	No..	8½	40	9½	
828	do.	Aug. 16	Aug. 16	{	20 per cent.	Aug. 1	\$1.50 per day.	}	1	1	No...	No...	Yes.	Yes..	8	1 30	9½
				Aug. 16	5 per cent.	Aug. 16	\$1 per day.										
829	Oct. 15	do.	do.		No reduction.		No reduction.	1	1	No...	No...	Yes..	Yes..	8	30	8½	
830	Dec. 15	Sept. 1	Sept. 1	{	16 per cent.	Mar. 16	\$1.50 per day.	}	1	1	No...	No...	Yes..	Yes..	9	1 0	10
				Apr. 1	14 per cent.	Apr. 1	16 per cent.										
				July 1	10 per cent.	July 1	10 per cent.										
				Sept. 12	10 per cent.²	Sept. 12	10 per cent.²										
831	Oct. 31	Apr. —	Apr. —		No reduction.		No reduction.	1	1	No...	No...	Yes..	Yes..	8½	1 0	9½	
832	do.	do.	do.		do.		do.	1	1	No...	No...	Yes.	Yes..	8½	1 0	9½	
833	do.	do.	do.		do.		do.	1	1	No...	No...	Yes..	Yes..	8	20	8½	
834	do.	do.	do.		do.		do.	1	1	No...	No...	Yes..	Yes..	8	20	8½	
835	do.	do.	do.		do.		do.	1	1	No...	No...	Yes..	Yes..	8	10	8½	
836	do.	do.	do.		do.		do.	1	1	No...	No...	Yes..	Yes..	8	40	9½	
837	Nov. 15	do.	do.		do.		do.	1	1	No...	No...	Yes.	Yes..	8½	40	9	

WAGE PEAK AND WAGE REDUCTIONS.

838	Dec. 15	Sept. 1	Sept. 1	(Mar. 16 July 1 Aug. 15 Sept. 12	16 per cent. 10 per cent. 20 per cent. 20 per cent. ⁹	Mar. 16 July 1 Aug. 15 Sept. 12	16 per cent. 50 cents per day. \$1.20 per day. do. ⁹	1	1	No	No	Yes	Yes	84	40	9
839	Oct. 31	Apr. —	Apr. —		No reduction		No reduction	1	1	No	No	Yes	Yes	84	38	9
840	do.	do.	do.		do.		do.	1	1	No	No	Yes	Yes	84	55	9
841	do.	do.	do.		do.		do.	1	1	No	No	Yes	Yes	84	50	9
842	do.	do.	do.		do.		do.	1	1	No	No	Yes ⁸	Yes	9	16	9
843	do.	do.	do.		do.		do.	1	1	No	No	Yes	Yes	84	50	9
844	do.	do.	do.		do.		do.	1	1	No	No	Yes ⁸	Yes	9	20	9
Utah:																
901	Oct. 15	Apr. 1	Sept. 1		No reduction		No reduction	1	1	No	No	Yes	No	84	30	9
902	Nov. 15	do.	do.		do.		do.	1	1	No	No	Yes	Yes	84	30	9
903	do.	do.	do.		do.		do.	1	1	No	No	Yes	No	84	0	9
904	do.	do.	Sept. 16		do.		do.	1	1	No	No	Yes	No	84	30	9
Washington:																
1001	Oct. 31	Sept. 10	Sept. 10	Mar. 15	27 per cent.	Mar. 15	24 to 36 per cent.	¹⁰ 1 11 1/3	¹⁰ 1 11 1/3	No	No	Yes	No	84	20	84
1002	do.	Sept. 1	Sept. 1		No reduction		No reduction	¹⁰ 1 11 1/3	¹⁰ 1 11 1/3	No	No	Yes	No	84	0	94
1003	do.	Aug. 16	Aug. 16		do.		do.	¹⁰ 1 11 1/3	¹⁰ 1 11 1/3	No	No	Yes	No	84	30	9
1004	do.	Sept. 15	Sept. 15	Mar. 15	27 per cent.	Mar. 15	24 to 36 per cent.	¹⁰ 1 11 1/3	¹⁰ 1 11 1/3	No	No	No	No	84	40	94
West Virginia:																
1101	do.	Sept. 16	Sept. 16	Sept. 1	Loaders, 35 cents a car. Machine miners, 4 cents a car. Miners, 30 cents per place.	Sept. 1	22.6 per cent.	1	1	No	No	Yes	Yes	8	30	84
1102	do.	Apr. 1	Aug. 16		No reduction		No reduction	1	1	No	No	Yes	Yes	84	0	94
1103	do.	do.	do.		do.		do.	1	1	No	No	Yes	Yes	84	30	94
1104	do.	do.	do.		do.		do.	1	1	No	No	Yes	Yes	84	0	94
1105	do.	do.	do.		do.		do.	1	1	No	No	Yes	Yes	84	0	94
1106	do.	do.	do.		do.		do.	1	1	No	No	Yes	Yes	84	0	94
1107	do.	do.	do.		do.		do.	1	1	No	No	Yes	Yes	84	30	94
1108	do.	Sept. 1	Sept. 1		do.		do.	1	1	No	No	Yes	Yes	84	30	94
West Virginia:																
1109	do.	do.	do.		No reduction		No reduction	1	1	No	No	Yes	Yes	84	30	84
1110	do.	do.	do.		do.		do.	1	1	No	No	Yes	No	84	30	84
1111	do.	do.	do.		do.		do.	1	1	No	No	Yes	No	84	40	84
1112	do.	Aug. 16	Aug. 16		do.		do.	1	1	No	No	Yes	Yes	84	20	84
1113	do.	Sept. 1	Sept. 1	July 1	20 per cent.	July 1	20 per cent.	1	1	Yes ¹²	Yes ¹²	Yes	Yes	84	30	84

⁸ Purchased by men from outside store.

⁹ Increase.

¹⁰ For week days.

¹¹ For Sundays and holidays.

¹² 2 1/2 per cent on total earnings to employees who had been with the company 3 months or more and 5 per cent to those who had been with the company the entire year.

TABLE 15.—DATE OF PAY-ROLL PERIOD, DATE OF BEGINNING OF WAGE PEAK, DATE AND AMOUNT OF REDUCTION OF WAGES, OVERTIME RATE, BONUS, DEDUCTIONS FROM EARNINGS, AND REGULAR OR CUSTOMARY HOURS PER DAY FOR EACH REPRESENTATIVE BITUMINOUS MINE, WINTER OF 1921-22, BY STATES—Concluded.

State and mine number.	Pay-roll period: Half month ending—	Date of beginning of wage peak for—		Reduction of wages.				Overtime rate.		Bonus.		Deductions from earnings for—		Regular or customary hours per day of tonnage workers.		
		Tonnage workers.	Day workers.	Tonnage workers.		Day workers.		During wage peak.	During half-month pay-roll period.	During wage peak.	During half-month pay-roll period.	Powder, fuses, caps, and squibs.	Blacksmithing.	Time at face.	Average time of travel from shaft to face and return.	Total time in mine.
				Date.	Amount.	Date.	Amount.									
West Virginia—Con.	1921.	1920.	1920.	1921.		1921.								Hrs.	H. m.	Hrs.
1114.....	Oct. 31	Apr. 1	Apr. 1	.....	No reduction.....	.....	No reduction.....	1	1	Yes ¹² .	No....	Yes..	Yes..	8	15	8½
1115.....	do.....	Aug. 15	Aug. 15	.....	do.....	.....	do.....	1	1	No....	No....	Yes..	Yes..	8	20	8½
1116.....	do.....	Apr. 1	Apr. 1	.....	do.....	.....	do.....	1	1	Yes ¹² .	No....	Yes..	Yes..	8	10	8½
1117.....	do.....	Aug. 16	Aug. 16	.....	do.....	.....	do.....	1	1	No....	No....	Yes..	Yes..	8	20	8½
1118.....	do.....	Sept. —	Sept. —	Oct. 1	20 to 25 cents per car.	.....	Oct. 1	1	1	No....	No....	Yes..	Yes..	8	15	8½
1119.....	do.....	Aug. 15	Aug. 15	.....	No reduction.....	.....	No reduction.....	1	1	No....	No....	Yes..	Yes..	8	30	8½
1120.....	do.....	Apr. 1	Apr. 16	Dec. —	(14)	.....	Dec. —	1	1	No....	No....	Yes..	Yes..	8½	30	9
1121.....	do.....	do.....	do.....	.....	No reduction.....	.....	No reduction.....	1	1	No....	No....	Yes..	Yes..	8½	80	9
1122.....	do.....	do.....	do.....	.....	do.....	.....	do.....	1	1	No....	No....	Yes..	Yes..	8½	40	9½
1123.....	do.....	Aug. 15	Aug. 15	Sept. 15	Loaders, 13 cents a car. Pick miners, 15 cents a car. Machine miners, 8 cents a car. Loaders, 13 cents a car.	.....	Sept. 15	1	1	No....	No....	Yes..	No....	8	30	8½
1124.....	do.....	do.....	do.....	do.....	Pick miners, 15 cents a car. Machine miners, 8 cents a car.	.....	do.....	1	1	No....	No....	Yes..	No....	8	30	8½
1125.....	do.....	Apr. 1	Apr. 1	Sept. 1	(15)	.....	Sept. 1	1	1	No....	No....	Yes..	Yes..	8	40	8½
1126.....	do.....	do.....	do.....	do.....	(16)	.....	do.....	1	1	No....	No....	Yes..	Yes..	8	40	8½
1127.....	Nov. 15	Sept. 1	Sept. 1	Oct. 1	10 to 23 per cent.	.....	Oct. 1	1	1	Yes..	No....	No....	Yes..	8	15	8½
1128.....	do.....	do.....	do.....	do.....	do.....	.....	do.....	1	1	Yes..	No....	No....	Yes..	8	30	8½

HOURS AND EARNINGS IN COAL MINING.

WAGE PEAK AND WAGE REDUCTIONS.

1129.	do.	do.	do.	Sept. 1	25 per cent.	Sept. 1	25 per cent.	1	1	No.	No.	Yes.	Yes.	8	30	8	
1130.	do.	do.	do.	do.	do.	do.	do.	1	1	No.	No.	Yes.	Yes.	8	30	8	
1131.	do.	do.	do.	Sept. —	do.	Sept. —	20 per cent.	1	1	No.	No.	Yes.	Yes.	8	30	8	
1132.	do.	Aug. 1	Aug. 1	Sept. 1	16 per cent.	Sept. 1	18 per cent.	1	1	No.	No.	Yes.	Yes.	8	30	8	
1133.	do.	do.	do.	do.	do.	do.	do.	1	1	No.	No.	Yes.	Yes.	8	30	8	
1134.	do.	do.	do.	do.	do.	do.	do.	1	1	No.	No.	Yes.	Yes.	8	30	8	
1135.	do.	do.	do.	do.	do.	do.	do.	1	1	No.	No.	Yes.	Yes.	8	30	8	
1136.	do.	Aug. —	Aug. —	(?)	(?)	(?)	(?)	1	1	(?)	(?)	Yes.	Yes.	8	30	8	
1137.	do.	Sept. 16	Sept. 16	{Nov. 1	26 to 34 per cent.	Nov. 1	14 to 50 per cent.	}	1	1	No.	No.	Yes.	Yes.	8	30	8
				{Dec. 1	12 to 23 per cent.	Dec. 1	8 to 25 per cent.										
				{Dec. 1	20 to 30 per cent.	Nov. 1	14 to 50 per cent.										
1138.	do.	do.	do.	{Dec. 1	19 to 22 per cent.	Dec. 1	8 to 25 per cent.	}	1	1	No.	No.	Yes.	Yes.	8	40	8
1139.	Oct. 31	Apr. 1	Aug. 16		No reduction.		No reduction.										
1140.	Nov. 15	Sept. 16	Sept. 16	Oct. 1	32½ per cent.	Oct. 1	25 to 33 per cent.										
1141.	do.	Nov. 1	Nov. 1	Sept. 1	(¹⁷)	Sept. 1	10 to 30 per cent.	1	1	Yes.	No.	Yes.	Yes.	8	30	8	
1142.	do.	Sept. 1	Sept. 1	{do. 8	33½ per cent.	do. 8	33½ per cent.	}	1	1	Yes.	No.	Yes.	Yes.	8	30	8
				{Dec. 8	20 per cent.	Dec. 8	20 per cent.										
1143.	do.	Sept. 16	Sept. 16	{Sept. 15	20 to 27 per cent.	Sept. 15	20 to 40 per cent.										
				{Dec. 1	17 to 29 per cent.	Dec. 1	10 to 20 per cent.	}	1	1	No.	No.	Yes.	Yes.	8	30	8
1144.	do.	do.	do.	{Sept. 15	20 to 27 per cent.	Sept. 15	20 to 40 per cent.										
				{Dec. 1	17 to 29 per cent.	Dec. 1	10 to 20 per cent.										
1145.	Oct. 31	Apr. 1	Aug. 16		No reduction.		No reduction.	1	1	Yes ¹⁸	No.	Yes.	Yes.	8	30	8	
1146.	do.	do.	do.		do.		do.	1	1	No.	No.	Yes.	Yes.	8	30	8	
1147.	do.	do.	do.		do.		do.	1	1	No.	No.	Yes.	Yes.	8	30	8	
Wyoming:																	
1201.	do.	do.	Sept. 1		do.		do.	1	1	No.	No.	Yes.	Yes.	8	30	8	
1202.	do.	do.	do.		do.		do.	1	1	No.	No.	Yes.	Yes.	8	30	8	
1203.	Nov. 15	do.	do.		do.		do.	1	1	No.	No.	Yes.	Yes.	8	30	8	
1204.	Oct. 31	do.	do.		do.		do.	1	1	No.	No.	Yes.	Yes.	8	30	8	

¹⁰ Less than 5 minutes.

¹¹ Not reported.

¹² Loaders, \$12.50 to \$35 per month for the 5 persons loading the greatest amount of coal; motormen, 3 prizes, \$5 to \$20, and brakemen, 3 prizes, \$5 to \$15. Motormen and brakemen are also subject to a demerit system for various omissions.

¹³ This mine was closed down for several weeks prior to Dec. 1, 1921, when their employees went to work at a reduced scale. The wage paid is the one in effect Sept. 1, 1919.

¹⁴ Machine miners from \$3 to \$4.80 per 8-hour day; loaders, entry, from \$1.06 to 64 cents per 1½-ton car; pick miners, no reduction.

¹⁵ Machine miners from \$8 per day to 14 cents per car of 1½ to 2 tons. Loaders: Room, from \$1.19 to 71 cents, and entry from \$1.10 to 66 cents per 1½-ton car; and room, from \$1.52 to 91 cents, and entry from \$1.43 to 86 cents per 2-ton car.

¹⁶ Loaders only, 12 per cent on 1½-ton cars; 20 per cent on 2 and 2½ ton cars.

¹⁷ 2 cents per car for clean coal; one dirty car eliminated bonus.

DEFINITIONS OF OCCUPATIONS.

Each of the occupations for which figures are presented in this report is briefly defined below.

If a definition applies to an inside occupation the word "inside" follows the name of the occupation. Example—"Brakemen, inside." If it applies to outside work the word "outside" follows the name. Example—"Ash men, outside." If the occupation is found both inside and outside the mine no modifying word is used. Example—"Blacksmiths."

A similar rule has been followed to indicate anthracite and bituminous mine occupations.

Ash men, outside, anthracite.—Remove ashes from beneath the fire box of boilers by flushing or by shoveling the ashes into cars.

Blacksmiths.—Do general blacksmithing, nearly all repair work.

Brakemen, inside.—Also known as trip riders, trailers, and tailers. In anthracite mines they are called motor brakemen. They operate or throw switches, couple and uncouple cars, assist motormen in the transportation of loaded coal cars from switches or sidings in the mines to the shaft, and of empty cars from the shaft to the switches or sidings. Loaded cars are hauled by mules from rooms in which coal is mined to the switches and empty cars from the switches to the rooms.

Brattice men, inside.—Sometimes also called airmen. They usually work under the supervision of the fire boss, whose duty it is to see that the mine is prepared for ventilation and for protection against fire. They construct brattices of wood, canvas, stone, brick, or cement. This work is of great importance in mines affected by gas, as such mines must be thoroughly ventilated.

Cagers.—Also called bottomers and dumpers. They are stationed at the shaft inside the mine and at the top of the shaft outside the mine. Those inside the mine place loaded coal cars in the cage and take empty cars out of it. Those outside the mine take loaded cars from the cage and place empty cars in it.

Carpenters, outside.—Do general carpentry repair work.

Car runners, inside, anthracite.—In some mines cars are run by gravity from rooms or chambers in which coal is mined to switches or sidings, or to shafts, or from switches or shafts to rooms or chambers. Cars so run are in charge of car runners who control their speed or stop them by brakes or sprags.

Car runners, outside, anthracite.—Transfer empty railroad cars to breaker chutes and loaded cars from chutes over a section of the railroad track where scales for weighing cars are installed.

Door tenders (boys), inside, anthracite.—Also called trappers. They open ventilating doors to let cars through them to and from the shaft and close them as quickly and securely as possible as soon as the cars have passed. In some mines there are no door tenders as the doors are opened and closed automatically.

Drivers, inside.—Drive mules into and out of rooms in which coal is mined, hauling loaded coal cars from rooms to switches or sidings where cars are assembled for transportation by motor to the shaft, and empty cars from switches to the rooms. In mines where the distance from the rooms to the shaft is short, the haul is from the room to the shaft and return, no motor being used.

Dumpers, outside, anthracite.—Dump loaded coal cars at the tippie by hand or by operating mechanical apparatus.

Engineers.—Operate and repair ventilating fans inside the mines and breaker machinery outside the mines. Operate and inspect hoisting machinery which is used in lifting employees and loaded coal cars in cages to the top of the shaft and in lowering employees, empty cars, and material from the top of the shaft into the mines.

Firemen, outside.—Keep fires burning under boilers to produce steam by shoveling coal into the fire box as needed and by keeping the fire box clear of ashes and clinkers.

Jig runners, outside, anthracite.—Operate a jig, a mechanical contrivance or part of the breaker machine, which cleans coal by removing slate, rock, and waste material.

Laborers.—Do various kinds of unskilled inside and outside work. They push cars, assist trackmen and timbermen, shovel dirt, and handle material, and do other necessary unskilled work about the mines. In anthracite mines company miners' laborers and consideration miners' laborers are not included with these laborers, because they are paid a higher wage than is paid to these.

Laborers, company miners', inside, anthracite.—Load cars and assist company miners in drilling holes into stone or coal for explosives. The drilling is done with electric or compressed-air machines. Company miners' laborers seldom mine any coal, it being their duty to remove obstructions and prospect for new chambers or rooms. These laborers are paid a time rate which is a little lower than that of "Laborers, consideration miners'."

Laborers, consideration miners', anthracite.—Load cars and assist consideration miners in drilling holes into coal or stone for explosives. The drilling is done with electric or compressed-air coal-mining machines. They become contract miners' laborers when working conditions improve and miners are able to earn on a tonnage basis more than the fixed or specified time rate of consideration miners. They are paid a time rate when working as consideration miners' laborers, the rate being a little higher than that of company miners' laborers and are paid on a tonnage basis when working as contract miners' laborers.

Laborers, contract miners', inside, anthracite.—Load cars and assist contract miners in operating electric or compressed-air coal-mining machines which are used in drilling holes into coal for explosives. They become consideration miners' laborers when mining or working conditions are abnormal, due to obstructions, such as stone, slate, and dirt, and when contract miners are thereby unable to earn on a tonnage basis more than the fixed or specified rate of consideration miners. They are paid on a tonnage basis when contract miners' laborers and a time rate when consideration miners' laborers. The rate as consideration miners' laborers is a little higher than that of company miners' laborers.

Loaders, inside, bituminous.—Shoot or blast coal from seams or beds after it has been undercut by machine miners and then load the coal into cars, using hand shovels or coal-loading machines. In some mines they do the timbering; that is, set props or timbers to prevent the falling of slate, stone, and earth into the rooms of the

mines; also lay tracks in rooms of mines and keep rooms in good working condition.

Loaders, outside, anthracite.—Load coal into railroad cars and refuse into mine cars.

Machinists, anthracite.—Install and repair machines and machinery.

Masons, inside, anthracite.—Construct necessary air bridges and walls to conduct or force air into all parts of the mine.

Miners, company, inside, anthracite.—These employees very seldom mine coal. They operate electric or compressed-air machines, drill holes into stone or coal for explosives, and load cars. They are usually engaged in removing obstructions in the mines and in prospecting for profitable mining chambers. They are paid a time rate which is a little less than that of the consideration miner and are called "company miners" to distinguish them from the consideration miners.

Miners, consideration, inside, anthracite.—Operate electric or compressed-air coal-mining machines, drill holes into coal or stone for explosives, and also load coal into cars. These employees are regular *contract* miners who, in consequence of obstructions in their working chambers or rooms, such as stone, slate, dirt, or of bad working conditions, are unable to earn on a tonnage basis an amount equal to or in excess of a certain specified rate per day. They are paid the specified rate, which is a little more than that of company miners, until they are able to earn more on a tonnage basis.

Miners, contract, inside, anthracite.—Operate electric or compressed-air coal-mining machines, drill holes into coal for explosives, and also load coal into cars. They are paid on a tonnage basis. A contract miner becomes a consideration miner when, owing to obstructions in his working chamber or room, such as stone, slate, or dirt, he is unable to earn an amount in excess of a fixed or specified rate per day. He then becomes a consideration miner and is paid the fixed rate per day until he is able to earn more on a tonnage basis.

Miners, hand or pick, inside, bituminous.—Undercut coal with pick, cutting some distance from the face of the seam, separate it from seams with pick or explosives, and load the coal into cars.

Miners, machine, inside, bituminous.—Operate electric or compressed-air coal-mining machines, undercutting seams of coal and drilling holes into coal for explosives.

Motormen, inside.—Operate motors which are used in the transportation of loaded cars from switches or sidings in the mines to the shaft and of empty cars from the shaft to the switches or sidings. Loaded and empty cars are hauled to and from the switches by mules.

Motor brakemen, anthracite.—*See* Brakemen, inside, bituminous.

Oilers, outside, anthracite.—Oil and clean machines and engines.

Other employees.—Include employees of all occupations in the industry other than those specified and defined in this bulletin.

Plate men, outside, anthracite.—Work at the platform of the breaker machine sizing coal and removing stones from the coal before it enters the conveyors.

Pump men, inside.—Operate, repair, and look after pumps used in pumping water from the mines.

Repair men, outside, anthracite.—Repair chutes and breakers and other machinery.

Timber cutters, outside, anthracite.—Cut and load props or timbers into cars for transportation into the mines. They also load cars with other supplies for use in mines.

Timbermen, inside.—Cut and set timbers or supports in mines to prevent falls of slate, stone, and dirt.

Trackmen.—Lay and repair tracks used in transportation in and about the mines. At some mines outside trackmen repair tracks on the mine property.

Slaters (boys), outside, anthracite.—Also called pickers. They pick slate from the coal as it passes over the automatic conveyors or down the coal chutes.

Trappers (boys), outside, bituminous.—See Door tenders, inside, anthracite.

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