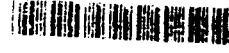


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BULLETIN OF THE UNITED STATES
BUREAU OF LABOR STATISTICS . . . { **No. 394**

WAGES AND HOURS OF LABOR SERIES

WAGES AND HOURS OF LABOR
IN METALLIFEROUS MINES
1924



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BULLETIN OF THE U. S. BUREAU OF LABOR STATISTICS

NO. 394

WASHINGTON

AUGUST, 1925

WAGES AND HOURS OF LABOR IN METALLIFEROUS MINES, 1924

INTRODUCTION AND SUMMARY

The Bureau of Labor Statistics made a survey of wages and hours of labor in the principal metalliferous mines in the United States during the summer of 1924. The study included mines producing iron, copper, lead, zinc, gold, and silver and some minor metals as well.

Of the 137 mines from which data were obtained, 117 were underground mines and 20 were open-pit or open-cut mines. Placer mines were not included.

The following table is a summary of the number of wage earners included in the report and of the average hours and earnings of these employees. See below for an explanation of "districts."

TABLE 1.—NUMBER OF WAGE EARNERS IN METALLIFEROUS MINING IN THE UNITED STATES ACCORDING TO 1919 CENSUS, NUMBER OF ESTABLISHMENTS AND OF WAGE EARNERS COVERED BY THIS SURVEY, AND AVERAGE FULL-TIME HOURS, EARNINGS PER HOUR AND FULL-TIME EARNINGS PER WEEK, BY DISTRICT AND STATE

District and State	Average number of wage earners reported by U. S. Census, 1919	Number of—		Average—		
		Establishments in this survey	Wage earners in this survey	Full-time hours per week	Earnings per hour	Full-time earnings per week
Western mixed ore:						
Arizona.....	14,980	8	3,662	52.4	\$0.695	\$31.18
California.....	3,936	6	1,397	51.7	.594	30.71
Colorado.....	4,775	9	1,210	52.8	.592	31.28
Idaho.....	2,206	4	1,390	54.4	.698	37.70
Montana.....	11,862	5	3,084	52.7	.666	35.10
Nevada.....	3,908	8	1,616	50.5	.636	33.93
New Mexico.....	3,057	6	1,603	54.2	.469	24.88
Utah.....	5,874	4	2,853	50.0	.560	31.36
Total.....	50,708	50	16,811	53.8	.599	32.23
Michigan copper.....	12,235	6	4,680	49.6	.498	24.70
Northern iron:						
Michigan.....	16,100	24	6,102	50.3	.566	28.47
Minnesota.....	16,236	23	4,983	55.5	.570	31.64
Total.....	32,336	47	11,085	52.8	.568	29.99
Alabama iron.....	6,485	8	2,678	60.6	.393	23.82
Southeast Missouri lead and the Tri-State lead and zinc:						
Kansas.....	1,141	()	()	()	()	()
Missouri.....	4,793	()	()	()	()	()
Oklahoma.....	5,253	()	()	()	()	()
Total.....	11,187	26	2,933	48.6	.552	26.83
Other States.....	13,947					
Grand total.....	126,988	137	38,196	53.0	.559	29.63

¹ Not reported separately.

The preceding table shows the number of metalliferous mine workers in the United States by districts and States as reported by the United States Census for 1919. The total number, not including placer mines, is 126,958. Of the total number 50,708 are found in the "Western mixed-ore district," 12,235 in the "Michigan copper district," 32,396 in the "Northern iron district," 6,485 in the "Alabama iron district," and 11,187 in the "Southeast Missouri lead" and the "Tri-State lead and zinc" districts combined. The remainder, or 13,947, are found scattered through other States. Set opposite these figures are the figures obtained in the survey made by the bureau. The table shows the number of establishments, the number of wage earners, the average full-time hours per week, average earnings per hour, and average full-time earnings per week.

The total number of employees covered in the survey, as will be seen, is 38,196, which is slightly over 30 per cent of the total for the United States. The average full-time hours were 53 per week and the average earnings 55.9 cents per hour. The average full-time earnings per week were \$29.63.

The highest average earnings per hour, 69.3 cents, were found in Idaho and the lowest, 39.3 cents, in Alabama. Full-time hours per week ranged from an average of 60.6 in Alabama to 48.6 in the Southeast Missouri lead and the Tri-State lead and zinc districts.

Nearly all the mines covered were visited personally by agents of the bureau who copied the data from pay rolls and other records. The figures were taken for one representative pay period at each mine. Pay periods were taken for 2 mines in June, 8 in July, 75 in August, 34 in September, and 18 in October. Fourteen States were covered in this investigation. For the purposes of tabulation these States have been divided into six districts, according to location of the kind of metals produced. The "Western mixed-ore district" includes Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, and Utah; the "Michigan copper district" is in the upper peninsula of Michigan; the "Northern iron district" includes the iron regions near Lake Superior in Michigan and Minnesota; the "Alabama iron district" is in the northern part of Alabama; the "Southeast Missouri lead district" is in the southeastern part of Missouri; and the "Tri-State lead and zinc district" includes the northeast corner of Oklahoma, the southeast corner of Kansas, and the southwest corner of Missouri. The last named is sometimes referred to as the Joplin district.

The "Western mixed-ore district" has been so named because most of the mines in that district produce ore containing from two to five different metals, with many variations in the combination. Only 13 mines in the district reported but one kind of metal produced.

The 47 underground mines covered in this district reported the production of the following-named metals, which are arranged in the order of importance in those mines showing more than a single metal produced.

TABLE 2.—NUMBER OF MINES PRODUCING SPECIFIED KINDS OF METAL

Number of mines	Kind of metal produced
1	Copper.
2	Copper and silver.
3	Copper, silver, and gold.
2	Copper, gold, silver, and lead.
4	Gold.
3	Gold and silver.
1	Gold, silver, and lead.
1	Gold, silver, lead, and zinc.
1	Gold, silver, lead, zinc, and copper.
1	Iron.
2	Lead and silver.
1	Lead, silver, and copper.
2	Lead, silver, and zinc.
1	Lead, silver, zinc, and copper.
1	Lead, zinc, iron, and silver.
1	Molybdenum.
7	Silver and gold.
1	Silver, gold, and lead.
1	Silver, lead, and copper.
1	Silver, lead, and gold.
1	Silver, lead, copper, and gold.
1	Zinc.
2	Zinc and copper.
1	Zinc and iron.

It may be noted that in the above arrangement three mines produce copper, gold, silver, and lead only. In two of these the important metal is copper and in the third, silver. Ten mines produce gold and silver, of which three are more important as gold mines and the other seven as silver mines. Likewise two mines produce gold, silver, and lead, but gold predominates in one and silver in the other. The Iron-Steel and zinc district produces these two metals in the proportion of about 7 parts zinc to 1 part lead. The other four districts produce only one kind of metal each.

Of the 20 open-pit or open-cut mines, 3 are copper mines in the western mixed-ore district, 13 are iron mines in Minnesota in the northern iron district, and 4 are iron mines in the Alabama iron district. In these mines the ore is mined with steam or electric shovels. Some of the steam shovels are mounted on caterpillar tractors, in which case it is not necessary to lay a track for them to move from place to place as in the case for those not so equipped.

In open-pit mines the cost of producing the ore is less expensive and they are less dangerous for the workers.

Some so-called open-pit mines are really open-cut mines—that is, hills or mountains are cut down instead of pits being dug below the surface. In either case the ore is dumped into cars and hauled to the crusher or mills directly from the steam shovels.

Underground mines are of different types, designated as shaft, slope, or drift. A shaft mine is one in which the entrance is a vertical shaft. Cross cuts are cut from the various levels into the ore bodies and the ore is brought to the surface through the shaft by means of a skip or cage.

A slope mine is entered through a downward incline.

A drift mine is one in which the ore vein is followed through a horizontal entrance.

The following tabulation is made of the 106 shaft mines reported. These mines are classified by the depth of the mine shafts in feet from top to bottom of shaft and distance in feet from bottom of shaft to face or working point.

4 WAGES AND HOURS OF LABOR IN METALLIFEROUS MINES

TABLE 3.—CLASSIFICATION OF SHAFT MINES BY DEPTH FROM TOP TO BOTTOM OF SHAFT, AND BY AVERAGE DISTANCE FROM BOTTOM OF SHAFT TO FACE OF WORKING POINT

Average distance in feet from bottom of shaft to face of working point	Total number of mines	Number of mines of each classified depth in feet—												
		100 and under 200	200 and under 300	300 and under 400	400 and under 500	500 and under 750	750 and under 1,000	1,000 and under 1,500	1,500 and under 2,000	2,000 and under 2,500	2,500 and under 3,000	3,000 and under 4,000	4,000 and under 5,000	5,000 and over
100 and under 200	2		1						1					
200 and under 300	3		2	1										
300 and under 400	10	1	3	2		1			1		1			
400 and under 500	9		6	2			2							
500 and under 750	15		3	1	1	3			2	1	1		2	1
750 and under 1,000	14		5	1			1	2		1	1	3		
1,000 and under 1,500	21	2	2	1	1	1	1	4	3	2		1	1	1
1,500 and under 2,000	13		1			1	3	4	1	2				
2,000 and under 2,500	10			2	1			4					1	2
2,500 and under 3,000	3			1				1	1					
3,500 and under 4,000	2					1					1			
5,000 and under 6,000	2				2									
11,000 and under 12,000	2					1			1					
Total	106	3	22	11	5	8	8	15	10	7	5	6	3	3

¹ 5,200 feet.

² 1 at 6,200 feet and 1 at 8,700 feet. These are incline shafts and do not represent exact vertical depth.

The depth of these mines is seen to range from 100 and under 200 feet to over 5,000 feet. The workings range from 100 feet to over 11,000 feet from foot of shaft.

In the following table 131 of the 137 mines scheduled have been classified according to the number of days they operated during the year ending August 31, 1924. This classification is made by districts, for underground and open-pit mines in separate sections. The average number of days of operation is also shown for the mines in each district. The other six mines did not begin operating until after September 1, 1923, and are not included in the table. By referring to the averages in each district we find that 338 days in the underground mines and 363 days in the open-pit mines are shown for the "Western mixed ore district." These high averages are made by reason of Sunday operation in many of the mines in this district. In no other district were mines found operating regularly on Sunday. The lowest average is found in the open-pit mines for the "Northern iron district." This condition is caused by the closing of transportation on the Great Lakes during a portion of the year. The iron ore is shipped by water to the blast furnaces in the great iron and steel centers, and when the winter season closes this traffic the mines are forced to cease operations until transportation opens in the spring.

TABLE 4.—AVERAGE AND CLASSIFIED NUMBER OF DAYS MINES WERE IN OPERATION DURING THE YEAR ENDING AUGUST 31, 1924, BY TYPE OF MINE AND DISTRICT

Type of mines and district	Number of mines operating	Average number of days mines operated	Number of mines in operation—											
			Under 200 days	200 and under 215 days	215 and under 245 days	245 and under 260 days	260 and under 275 days	275 and under 290 days	290 and under 300 days	300 and under 315 days	315 and under 345 days	345 and under 360 days	360 days and over	
UNDERGROUND MINES														
Western mixed ore.....	45	338		1							14	7	2	21
Michigan copper.....	6	300						2	1	3				
Northern iron.....	34	295	1			1			17	16				
Alabama iron.....	4	290				1		1		2				
Southeast Missouri lead.....	4	308								4				
Tri-State lead and zinc.....	19	274	1		1	1	2	9	2	3				
Total.....	112	309	2	1	1	2	2	12	20	42	7	2	2	21
OPEN-PIT MINES														
Western mixed ore.....	3	363												3
Northern iron.....	12	140	12											
Alabama iron.....	4	257	1						1	2				
Total.....	19	200	13						1	2				3

¹ Not including 5 mines which did not begin operating until after Sept. 1, 1923.
² Not including 1 mine which did not begin operating until after Sept. 1, 1923.

In connection with the foregoing table of the number of days the mines operated, a table follows showing the average number of days mines were idle classified by cause of idleness. Sunday accounted for the largest number of days of idleness in underground mines. The next greatest cause of idleness in the underground mines was "no market or lack of orders," which was responsible for six and one-half days. Next in order is "holiday," four and one-half days. In the open-pit group "seasonal shut down" shows 102.3 days, "Sunday," 41.1 days, "No market," 15.2 days.

TABLE 5.—AVERAGE NUMBER OF DAYS MINES WERE IDLE DURING YEAR ENDING AUGUST 31, 1924, BY TYPE OF MINE, DISTRICT, AND CAUSE OF IDLENESS

Type of mines and district	Number of mines operating	Average number of days mines operated	Average number of days mines were idle in one year on account of—								
			Sunday	Holiday	Lack of railroad cars	Transportation disability	Strike	No market or lack of orders	Seasonal shut-down	Mine disability	Other causes
UNDERGROUND MINES											
Western mixed ore.....	45	338	19.7	3.0						0.7	4.0
Michigan copper.....	6	300	53.0	3.0					9.8	3	
Northern iron.....	34	295	52.7	8.4	0.1	0.7			4.0	4.9	.1
Alabama iron.....	4	290	52.3	3.0					16.0	5.0	
Southeast Missouri lead.....	4	308	53.0	3.0				0.5		8	.8
Tri-State lead and zinc.....	19	274	53.0	2.0					24.8	2.6	9.6
Total.....	112	309	39.5	4.5	.02	.2	.02	6.5		2.4	3.3
OPEN-PIT MINES											
Western mixed ore.....	3	363		2.7							
Northern iron.....	12	140	47.5	4.9	.4	2.1		7.8	162.0	1.5	
Alabama iron.....	4	257	52.8	1.8	.5			48.5		6.0	
Total.....	19	200	41.1	3.9	.4	1.3		15.2	102.3	2.2	

¹ Not including 5 mines which did not begin operating until after Sept. 1, 1923.
² Not including 1 mine which did not begin operating until after Sept. 1, 1923.

In the Western mixed ore district the 8-hour day is the rule. Of the 47 underground mines covered, 14 work a straight 8-hour 6-day week of 48 hours; 23 work a straight 8-hour 7-day week of 56 hours; 8 work an 8-hour 7-day week on the day shift and an 8-hour 6-day week on the night shift, thus averaging 52 hours per week. In the other 2 mines in the district the hours are 56 per week for the underground, and 48 for the surface men.

In the Michigan copper district the 6 mines covered work 8 hours per day 6 days per week or 48 hours in the underground occupations, and 9 hours per day 6 days per week or 54 hours on surface work.

In the Northern iron district, of the 34 underground mines covered, 14 have the straight 8-hour 6-day week, and 10 more have the same hours for their underground workers and a 9-hour 6-day week for the surface workers. In 4 mines the hours are 8 per day 6 days per week for the underground day shift and 8 hours per day 5 days per week for the underground night shift; the surface men work 10 hours per day 6 days per week in 1 of the 4 mines last mentioned. In 5 mines the underground day shift works 9 hours Monday to Thursday and 8 hours on Friday and Saturday, no work on Saturday for the night shift, thus making an average 48-hour week; the surface men work 10 hours per day 6 days per week. In the 1 other mine they have an 8-hour day and a 6-day week, except that the night shift works 4 hours on Saturday and is paid for 8 hours if it works full time during the week. The surface men work 10 hours per day in this mine.

In the Southeast Missouri lead district, and in the Tri-State lead and zinc mines they work 8 hours per day 6 days per week.

Turning to the open-pit mines we find in the Western mixed ore district the 3 mines work an 8-hour day and a 7-day week; in the Northern iron district and in the Alabama iron district the 16 mines work a 10-hour day and a 6-day week.

Changes in wages shown in the following table were reported by 30 establishments for the period from August 31, 1923, to the date of this survey. No changes were reported by 107 establishments.

TABLE 6.—WAGE CHANGES FROM AUGUST 31, 1923, TO DATE OF SURVEY, BY EMPLOYEES AFFECTED

Number of establishments	Employees affected	Change in wages rates
4	All.....	25 cents per day increase.
1	Underground employees.....	Do.
1	All.....	25 cents per day increase; 25 cents per day decrease; 25 cents per day increase.
4	.....do.....	10 per cent increase.
1	.....do.....	10 per cent decrease; 10 per cent increase.
2	.....do.....	50 cents per day decrease—10 per cent decrease for contracts.
2	.....do.....	50 cents per day decrease.
1	Underground employees.....	25 cents per day decrease.
1	.....do.....	25 cents per day or 7 per cent decrease.
1	All.....	12½ per cent decrease.
1	.....do.....	10 per cent decrease; 12 per cent decrease.
9	.....do.....	10 per cent decrease.
1	All except chief electrician and mine foremen.	Do.
1	All.....	Attendance bonus discontinued. ¹

¹ This bonus was, for underground workers receiving \$4 or more per day, 50 cents per day—all others 25 cents per day.

OCCUPATIONS

The following is a descriptive list of 46 occupations that were selected for tabulation for the underground mines and of 21 occupations for the open-pit mines. In the underground mines each occupation name is followed by a term indicating to which class it belongs, as "surface," "underground," or "surface and underground." Also, a brief description of the work of each occupation listed is given.

UNDERGROUND MINES

Blacksmiths (surface and underground).—Do general smithing and sharpen tools. The work is generally done on the surface, but is sometimes done underground.

Blacksmiths' helpers (surface and underground).—Assist blacksmiths in their work.

Cagers (underground).—Have charge of cage used in raising or lowering men or materials between levels or from various levels to the surface. They direct the movements of the cage by signals to hoistmen.

Carpenters (surface and underground).—Build and repair wooden structures and in some cases do timber framing. Their work is generally done on the surface, but sometimes occurs underground.

Carpenters' helpers (surface and underground).—Assist carpenters in their work.

Chute loaders (underground).—Operate doors opening and closing chutes from which mine cars are loaded.

Compressor men (surface and underground).—Have charge of air compressors which furnish air for operating drills and for ventilation of mines.

Drilling-machine operators (underground).—Operate drilling machines, the motive power being furnished by air from the air compressors. This is the principal occupation in the mines. These men are usually called miners. The machines are used to drill holes in the rock, into which explosives are inserted and fired, thus loosening the rock and ore. Various types of drilling machines are used. This occupation is divided into two sections—those who are paid a stipulated daily wage are called company men and those who work on a contract or piece-work basis are called contract men. The latter are paid according to the amount of work done, which is usually ascertained by measurement.

Drilling-machine operators' helpers (underground).—Assist the machine operators.

Drivers (surface).—Drive mules or horses in and about the yard hauling materials and may also transport ore from mine to crusher.

Drivers, mule (underground).—Drive mules in hauling ore or other materials in various parts of the mine. In some mines mules alone are used. In others mules are used to supplement motor or hand haulage.

Dry-house men (surface).—Are in charge of the change room, where men may change their wet or soiled clothing and have same dried; also have charge of bath and wash rooms.

Dumpers (surface).—Take cars of ore or refuse from cage and push them to crusher or other place of disposal and dump and return the empty cars.

Electricians (surface and underground).—Install and repair electrical machinery and wiring. Some work is underground, but is mostly on the surface.

Electricians' helpers (surface and underground).—Assist electricians in their work.

Engineers, stationary (surface).—Operate steam engines furnishing power for operating hoists or pumps or air compressors.

Firemen, stationary (surface).—Fire the boilers furnishing steam to the stationary engines.

Hoist men (surface).—Operate hoisting machinery for lowering and raising cages or skips in the mine shaft. The men enter and leave a shaft mine in the cage. Ore is hoisted to the surface by means of a skip bucket or a skip car in one part of the cage. This occupation is one requiring skill in handling machinery and ability to act promptly. Electric or bell signals are used to guide the hoist man in the management of the hoist.

Hoist men (underground).—Operate hoists used in handling ore or supplies between different levels of the mine.

Laborers (surface). (See Topmen.)

Laborers (underground).—Do unskilled labor of various kinds underground.

Loading-machine operators (underground).—Operate machines for loading ore into the mine cars or chutes. There are two general types of these machines—mechanical shovels and scrapers operated by hoists.

Machinists (surface and underground).—Do construction and repair work on machinery of all kinds.

Machinists' helpers (surface and underground).—Assist machinists in their work.

Motormen (underground).—Operate electric motors used in hauling empty or loaded mine cars. Compressed air is used instead of electricity for motive power in some cases.

Muckers (underground).—Shovel ore or refuse into mine cars; also do various unskilled labor jobs underground.

Nippers (underground).—Collect and carry tools from place to place and in general look after tools underground; in addition they may also carry and distribute powder.

Oilers (surface and underground).—Oil mine cars, machinery, pulleys, hoists, etc., both on the surface and underground.

Ore sorters (surface and underground).—Sort ore from rocks and refuse. This work sometimes includes breaking. The men work either on the surface or underground.

Pipemen (surface and underground).—Lay and repair water and compressed-air pipes in and about the mine both underground and on the surface.

Powdermen (underground).—Have charge of the underground powder magazines and issue explosives in proper amounts to the men as needed.

Pumpmen (underground).—Are in charge of underground pumping stations. These pumps are operated for the purpose of disposing of the surplus water which accumulates in the mines. Considerable mechanical skill is required.

Roof trimmers (underground).—Inspect roofs of working places after a blast and knock down loose ore or rock to prevent its falling and injuring workmen.

Skippers (underground).—Have charge of loading skip bucket with ore or refuse which is to be raised to the surface or from one level to another.

Station men (underground).—Have charge of the stations which are the loading points where materials are loaded on the skip or cage to be raised to the surface.

Timber framers (surface).—Cut and fit the timbers which are used in the mines. This work is done on the surface.

Timbermen (underground).—Place timbers and supports in stopes and entries, erect ladders, build ore chutes and doors, and erect framework wherever needed. All underground work.

Timbermen's helpers (underground).—Assist timbermen in their work.

Tool dressers (surface).—Dress and sharpen tools with machines.

Topmen (surface) (laborers).—Do all kinds of unskilled labor on the surface.

Trackmen (underground).—Lay and repair tracks for mine cars used in the mines.

Trackmen's helpers (underground).—Assist trackmen in their work.

Trammers (underground).—Push loaded mine cars from stopes where motors do not enter or mules are not used. This work is sometimes done by the mucker.

Trip riders (underground).—Ride on motors and assist motormen by handling brakes, throwing switches, opening and closing ventilating doors, etc.

Truck operators (surface).—Operate motor trucks in and about yards, doing all kinds of hauling.

Watchmen (surface).—Protect mining property both day and night; are sometimes called policemen.

OPEN-PIT MINES

In the following 12 occupations the work is similar to that of the same occupations in underground mines: Blacksmiths, blacksmiths' helpers, carpenters, carpenters' helpers, drilling-machine operators, drilling-machine operators' helpers, dumpmen, laborers, machinists, machinists' helpers, trackmen, and trip riders.

Locomotive engineers.—Operate steam railroad locomotives used in transporting ore trains through and about open-pit mines and to and from crushers or mills.

Locomotive firemen.—Work with the locomotive engineer and fire the engines to keep up steam.

Pitmen.—Remove obstructions in the path of the steam shovel, level and block shovels when moved to a new place of work and wheel coal from dump to shovel.

Shot firers.—Blast rock and ore after it has been drilled and charged. Blasting is usually done by an electric firing machine.

Shovel cranemen.—Operate steam or electric shovel cranes by use of levers; requires considerable skill.

Shovel engineers.—Have charge of and are responsible for the working conditions and moving of the steam shovels.

Shovel firemen.—Keep up steam to furnish motive power of steam shovels.

Switchmen.—Operate or throw switches of railroad tracks where there are no automatically operated switches.

Watchmen.—Perform the duties of caretakers and those detailed to watch steam shovels; also keep up their fires when temporarily not in use or at night.

GENERAL TABLES

In addition to the preceding tables three general tables follow which show in detail figures on hours and earnings.

Table A is divided into two sections, devoted to underground mines and open-pit mines, respectively. In the underground section the number of establishments, the number of employees, average full-time hours per week, average earnings per hour, and average full-time earnings per week are shown for each of 46 selected occupations and for all other reported wage earners in a single group designated "other employees." The open-pit section is treated in a similar manner and contains 21 occupations and a group of "other employees." Of the 46 selected occupations in the underground mines 23 are designated as underground occupations, 11 as surface occupations and 12 are occupations in which the men are employed on the surface or underground as occasion requires. "Other employees" include both surface and underground employees. Figures are shown for each district and each State in each district.

This table shows a total of 41,369 employees, but contains 3,173 duplications. The actual number of employees scheduled is 38,196. Quite a number of these men worked at more than one occupation during the pay period taken and were tabulated under each occupation worked. This accounts for the number of duplications.

Table B shows a classification of employees according to their earnings per hour for 6 typical occupations which include over half of the total employees scheduled. The object of this table is to show the spread of earnings per hour for a few of the principal occupations as illustrative of the industry. The extremely high and low rates represent unusual conditions which sometimes occur in most occupations.

The same six occupations that were tabulated in Table B have been used in Table C, which shows the average and classified full-time hours per week for the various States in each of the six districts. About 72 per cent of the miners or drilling-machine operators work 48 hours or less a week. Twenty-one per cent work 56 hours. The latter are Sunday or 7-day workers. Of the 21,232 employees shown in this table less than 8 per cent work 60 hours per week and one-tenth of 1 per cent work longer hours than 60 per week.

10 WAGES AND HOURS OF LABOR IN METALLIFEROUS MINES

TABLE A.—AVERAGE FULL-TIME HOURS, EARNINGS PER HOUR, AND FULL-TIME EARNINGS PER WEEK, 1924, BY OCCUPATION, DISTRICT, AND STATE

UNDERGROUND MINES

Occupation, district, and State	Number of—		Average—		
	Estab-lishments	Em-ployees	Full-time hours per week	Earnings per hour	Full-time earnings per week
BLACKSMITHS (surface and underground)					
Western mixed ore:					
Arizona.....	8	30	51.7	\$0.679	\$35.10
California.....	5	13	52.6	.737	38.77
Colorado.....	9	16	51.0	.620	31.62
Idaho.....	4	8	54.5	.785	42.78
Montana.....	5	22	49.5	.736	36.43
Nevada.....	6	9	56.0	.746	41.78
New Mexico.....	5	6	52.7	.618	32.57
Utah.....	3	7	56.0	.717	40.16
Total.....	45	111	52.1	.700	36.47
Michigan copper.....	6	40	54.0	.445	24.03
Northern iron:					
Michigan.....	24	70	56.6	.517	29.
Minnesota.....	10	18	60.0	.571	34.26
Total.....	34	88	57.3	.529	30.31
Alabama iron.....	4	22	63.3	.554	35.07
Southeast Missouri lead.....	3	8	49.0	.594	29.11
Tri-State lead and zinc.....	18	23	48.0	.615	29.52
All districts.....	110	292	54.4	.593	32.26
BLACKSMITHS' HELPERS (surface and underground)					
Western mixed ore:					
Arizona.....	8	25	50.7	.552	27.99
California.....	5	9	52.0	.570	29.64
Colorado.....	5	6	52.0	.519	26.99
Idaho.....	3	9	54.2	.656	35.56
Montana.....	5	29	49.7	.609	30.27
Nevada.....	3	9	56.0	.633	35.45
New Mexico.....	5	11	52.4	.436	22.85
Utah.....	3	10	56.0	.590	33.04
Total.....	37	108	52.0	.572	29.74
Michigan copper.....	6	69	54.0	.354	19.12
Northern iron:					
Michigan.....	21	57	56.9	.420	23.90
Minnesota.....	9	20	59.4	.441	26.20
Total.....	30	77	57.6	.426	24.54
Alabama iron.....	4	27	60.0	.367	22.02
Southeast Missouri lead.....	3	4	48.0	.531	25.49
Tri-State lead and zinc.....	10	10	48.0	.513	24.62
All districts.....	90	295	54.5	.462	25.18
CAGERS (underground)					
Western mixed ore:					
Arizona.....	8	38	50.0	.646	32.30
Colorado.....	3	8	50.0	.579	28.95
Idaho.....	3	20	54.6	.736	40.19
Nevada.....	4	12	56.0	.683	38.25
New Mexico.....	4	13	51.4	.452	23.23
Utah.....	2	8	56.0	.700	39.20
Total.....	24	99	52.3	.638	33.37
Northern iron: Michigan.....	11	19	48.0	.567	27.22
All districts.....	35	118	51.6	.627	32.35

12 WAGES AND HOURS OF LABOR IN METALLIFEROUS MINES

TABLE A.—AVERAGE FULL-TIME HOURS, EARNINGS PER HOUR, AND FULL-TIME EARNINGS PER WEEK, 1924, BY OCCUPATION, DISTRICT, AND STATE—Continued

UNDERGROUND MINES—Continued

Occupation, district, and State	Number of—		Average—		
	Estab-lishments	Em-ployees	Full-time hours per week	Earnings per hour	Full-time earnings per week
CHUTE LOADERS (underground)—continued					
Alabama iron.....	1	1	60.0	\$0.300	\$18.00
Southeast Missouri lead.....	3	31	48.0	.557	26.74
All districts.....	37	596	49.1	.538	26.42
COMPRESSOR MEN (surface and underground)					
Western mixed ore:					
Arizona.....	7	19	55.6	.712	29.59
California.....	5	11	61.2	.576	25.81
Colorado.....	6	10	52.0	.538	27.26
Idaho.....	4	18	55.1	.707	26.66
Montana.....	2	6	56.0	.688	25.68
Nevada.....	5	8	56.0	.723	26.49
Utah.....	2	5	56.0	.621	24.78
Total.....	31	77	55.9	.662	27.01
Michigan copper.....	6	23	56.9	.446	25.29
Northern iron:					
Michigan.....	7	20	60.6	.447	27.09
Minnesota.....	2	3	79.3	.457	26.24
Total.....	9	23	63.0	.449	28.29
Alabama iron.....	3	11	73.1	.395	28.87
Southeast Missouri lead.....	4	10	51.8	.554	28.70
Tri-State lead and zinc.....	6	10	84.0	.411	34.52
All districts.....	59	154	59.9	.556	33.30
DRILLING-MACHINE OPERATORS, COMPANY (underground)					
Western mixed ore:					
Arizona.....	8	716	51.7	.603	31.18
California.....	6	365	50.8	.602	30.58
Colorado.....	8	205	53.9	.605	32.61
Idaho.....	4	268	54.8	.692	37.92
Montana.....	5	685	53.5	.598	31.99
Nevada.....	6	282	56.0	.679	38.02
New Mexico.....	5	155	50.4	.475	23.94
Utah.....	3	251	56.0	.692	38.75
Total.....	45	2,927	53.2	.617	32.82
Michigan copper.....	4	523	48.0	.557	26.74
Northern iron:					
Michigan.....	23	770	47.2	.625	29.50
Minnesota.....	5	333	47.8	.584	27.92
Total.....	28	1,103	47.4	.614	29.10
Alabama iron.....	4	310	60.0	.483	28.98
Southeast Missouri lead.....	3	169	48.0	.577	27.70
Tri-State lead and zinc.....	22	295	48.0	.497	23.86
All districts.....	106	5,327	51.4	.594	30.53
DRILLING-MACHINE OPERATORS, CONTRACT (underground)					
Western mixed ore:					
Arizona.....	4	481	50.4	.787	39.66
California.....	2	9	54.7	.858	46.93
Colorado.....	3	53	49.4	.785	38.78
Idaho.....	2	27	54.5	1.065	58.04
Montana.....	5	961	51.6	.764	39.42
Nevada.....	4	61	56.0	.836	46.82
New Mexico.....	3	18	52.0	.583	30.32
Utah.....	1	18	66.0	.895	50.12
Total.....	24	1,628	51.5	.778	40.07

TABLE A.—AVERAGE FULL-TIME HOURS, EARNINGS PER HOUR, AND FULL-TIME EARNINGS PER WEEK, 1924, BY OCCUPATION, DISTRICT, AND STATE—Continued

UNDERGROUND MINES—Continued

Occupation, district, and State	Number of—		Average—		
	Estab-lishments	Em-ployees	Full-time hours per week	Earnings per hour	Full-time earnings per week
CARPENTERS (surface and underground)					
Western mixed ore:					
Arizona.....	7	15	52.0	\$0.659	\$34.27
California.....	6	16	53.6	.746	39.99
Colorado.....	7	10	52.0	.712	37.02
Idaho.....	3	9	54.7	.751	41.08
Montana.....	4	21	50.7	.696	35.29
Nevada.....	6	18	56.0	.785	43.96
New Mexico.....	4	8	51.0	.611	31.16
Utah.....	2	6	56.0	.710	39.78
Total.....	39	103	53.1	.717	38.07
Michigan copper.....	6	71	53.9	.425	22.91
Northern iron:					
Michigan.....	22	103	55.5	.523	29.03
Minnesota.....	10	29	56.2	.562	31.58
Total.....	32	132	55.6	.532	29.58
Alabama iron.....	3	38	60.0	.531	31.86
Southeast Missouri lead.....	1	1	48.0	.587	28.18
Tri-State lead and zinc.....	7	17	52.7	.691	36.42
All districts.....	88	362	54.9	.571	31.35
CARPENTERS' HELPERS (surface and underground)					
Western mixed ore:					
Arizona.....	6	11	50.9	.477	24.28
California.....	2	4	49.0	.563	27.59
Colorado.....	1	1	48.0	.531	25.49
Idaho.....	3	8	55.0	.644	35.42
Montana.....	1	2	56.0	.531	29.74
Nevada.....	2	3	56.0	.600	33.60
New Mexico.....	4	5	52.0	.450	23.40
Utah.....	2	2	56.0	.535	29.96
Total.....	21	36	52.7	.532	28.04
Michigan copper.....	4	27	54.0	.363	19.60
Northern iron:					
Michigan.....	10	35	58.1	.414	24.05
Minnesota.....	4	6	60.0	.445	26.70
Total.....	14	41	58.4	.419	24.47
Alabama iron.....	1	42	60.0	.375	22.50
Southeast Missouri lead.....	1	1	48.0	.569	27.31
Tri-State lead and zinc.....	5	6	52.0	.453	23.56
All districts.....	46	153	56.4	.426	24.03
CHUTE LOADERS (underground)					
Western mixed ore:					
Arizona.....	4	28	53.4	.519	27.71
California.....	1	2	52.0	.563	29.28
Colorado.....	5	52	54.5	.674	36.73
Nevada.....	1	31	56.0	.656	36.74
New Mexico.....	1	1	52.0	.563	29.28
Total.....	12	114	54.5	.626	34.12
Michigan copper.....	4	304	48.0	.503	24.14
Northern iron:					
Michigan.....	13	124	47.4	.537	25.45
Minnesota.....	4	22	46.8	.553	25.88
Total.....	17	146	47.3	.540	25.54

TABLE A.—AVERAGE FULL-TIME HOURS, EARNINGS PER HOUR, AND FULL-TIME EARNINGS PER WEEK, 1924, BY OCCUPATION, DISTRICT, AND STATE—Continued

UNDERGROUND MINES—Continued

Occupation, district, and State	Number of—		Average—		
	Estab-lishments	Em-ployees	Full-time hours per week	Earnings per hour	Full-time earnings per week
DRILLING MACHINE OPERATORS, CONTRACT (under-ground)—continued					
Michigan copper.....	4	686	48.0	\$0.676	\$32.45
Northern iron:					
Michigan.....	18	2,134	47.4	.674	31.95
Minnesota.....	10	1,394	47.4	.788	37.35
Total.....	28	3,528	47.4	.717	33.99
Alabama iron.....	1	6	60.0	.821	49.26
Southeast Missouri lead ¹	4	68	48.0	.712	34.18
All districts.....	61	5,916	48.6	.729	35.43
DRILLING-MACHINE OPERATORS' HELPERS (under-ground)					
Western mixed ore:					
California.....	1	21	52.0	.562	29.22
Nevada.....	1	18	56.0	.814	45.58
New Mexico.....	2	9	52.0	.530	27.56
Total.....	4	48	53.5	.679	36.33
Northern iron: Michigan.....	3	8	46.5	.535	24.88
Alabama iron.....	3	169	60.0	.393	23.58
Southeast Missouri lead.....	1	1	48.0	.569	27.31
Tri-State lead and zinc.....	22	333	48.0	.438	21.02
All districts.....	33	559	52.1	.447	23.29
DRIVERS (surface)					
Western mixed ore:					
Arizona.....	1	1	48.0	.516	24.77
Idaho.....	1	3	56.0	.670	37.52
Montana.....	2	2	56.0	.522	29.23
Nevada.....	1	1	56.0	.563	31.53
New Mexico.....	1	1	52.0	.438	22.78
Utah.....	1	1	56.0	.625	35.00
Total.....	7	9	54.7	.568	31.07
Michigan copper.....	6	22	54.0	.358	19.33
Northern iron:					
Michigan.....	18	42	58.6	.405	23.73
Minnesota.....	7	8	61.3	.434	26.60
Total.....	25	50	59.0	.410	24.19
Alabama iron.....	2	19	60.0	.334	20.04
Tri-State lead and zinc.....	2	4	48.0	.609	29.23
All districts.....	42	104	57.3	.406	23.26
DRIVERS, MULE (underground)					
Western mixed ore:					
Arizona.....	3	31	48.0	.550	26.40
California.....	2	26	48.3	.564	27.24
Colorado.....	4	10	55.2	.523	28.87
New Mexico.....	2	18	52.0	.451	23.45
Utah.....	2	20	56.0	.614	34.38
Total.....	13	105	51.0	.547	27.90

¹ Not including 54 contract men who have from 1 to 4 helpers, and make a profit from the helpers' labor in addition to their own earnings. Their average income was \$0.902 per hour.

14 WAGES AND HOURS OF LABOR IN METALLIFEROUS MINES

TABLE A.—AVERAGE FULL-TIME HOURS, EARNINGS PER HOUR, AND FULL-TIME EARNINGS PER WEEK, 1924, BY OCCUPATION, DISTRICT, AND STATE—Continued

UNDERGROUND MINES—Continued

Occupation, district, and State	Number of—		Average—		
	Estab-lishments	Em-ployees	Full-time hours per week	Earnings per hour	Full-time earnings per week
DRIVERS, MULE (underground)—continued					
Michigan copper.....	1	2	48.0	\$0.400	\$19.20
Northern iron: Michigan.....	3	10	47.7	.550	26.24
Alabama iron.....	2	76	60.0	.267	16.02
Southeast Missouri lead.....	3	68	48.0	.624	29.95
Tri-State lead and zinc.....	16	88	48.0	.444	21.31
All districts.....	38	349	51.5	.474	24.41
DRY-HOUSE MEN (surface)					
Western mixed ore:					
Arizona.....	8	27	53.6	.462	24.76
California.....	4	5	55.2	.504	27.82
Colorado.....	1	2	48.0	.500	24.00
Idaho.....	2	4	54.0	.656	35.42
Montana.....	5	13	52.3	.511	26.73
Nevada.....	3	5	56.0	.632	35.39
New Mexico.....	3	4	51.0	.327	16.68
Total.....	26	60	53.3	.499	26.60
Michigan copper.....	6	33	55.3	.324	17.92
Northern iron:					
Michigan.....	18	45	61.7	.382	23.57
Minnesota.....	10	23	65.5	.420	27.51
Total.....	28	68	63.0	.394	24.82
Alabama iron.....	3	10	76.8	.270	20.74
Southeast Missouri lead.....	4	8	59.0	.417	24.60
All districts.....	67	179	58.9	.410	24.15
DUMPERS (surface)					
Western mixed ore:					
Colorado.....	4	24	55.0	.540	29.70
Idaho.....	1	2	56.0	.551	30.86
Nevada.....	1	3	56.0	.656	36.74
New Mexico.....	2	6	50.7	.389	19.72
Utah.....	1	5	56.0	.616	34.50
Total.....	9	40	54.6	.536	29.27
Northern iron:					
Michigan.....	3	10	55.4	.462	25.59
Minnesota.....	2	8	60.0	.422	25.32
Total.....	5	18	57.4	.445	25.54
All districts.....	14	58	55.5	.508	28.19
ELECTRICIANS (surface and underground)					
Western mixed ore:					
Arizona.....	7	19	51.8	.679	35.17
California.....	6	7	54.3	.781	42.41
Colorado.....	6	7	53.7	.720	38.66
Idaho.....	4	20	53.2	.770	40.96
Montana.....	5	22	51.3	.723	37.09
Nevada.....	4	12	56.0	.750	42.00
New Mexico.....	4	4	52.0	.730	37.96
Utah.....	2	3	56.0	.726	40.66
Total.....	38	94	53.0	.733	38.85
Michigan copper.....	6	26	51.7	.466	24.04

WAGES AND HOURS OF LABOR IN METALLIFEROUS MINES 15

TABLE A.—AVERAGE FULL-TIME HOURS, EARNINGS PER HOUR, AND FULL-TIME EARNINGS PER WEEK, 1924, BY OCCUPATION, DISTRICT, AND STATE—Continued

UNDERGROUND MINES—Continued

Occupation, district, and State	Number of—		Average—		
	Estab-lishments	Em-ployees	Full-time hours per week	Earnings per hour	Full-time earnings per week
ELECTRICIANS (surface and underground)—continued					
Northern iron:					
Michigan.....	22	40	56.3	\$0.533	\$30.01
Minnesota.....	6	13	56.9	.526	29.93
Total.....	28	53	56.4	.530	29.89
Alabama iron.....	4	18	64.0	.537	34.37
Southeast Missouri lead.....	1	2	48.0	.575	27.60
Tri-State lead and zinc.....	1	1	56.0	.714	39.98
All districts.....	78	194	54.7	.622	34.02
ELECTRICIANS' HELPERS (surface and underground)					
Western mixed ore:					
Arizona.....	5	10	52.8	.521	27.51
California.....	3	4	52.0	.591	30.73
Colorado.....	4	7	51.4	.539	27.70
Idaho.....	3	14	52.9	.648	34.28
Montana.....	3	9	48.9	.614	30.02
Nevada.....	2	6	56.0	.665	37.24
New Mexico.....	2	2	54.0	.483	26.08
Utah.....	1	1	56.0	.584	32.70
Total.....	23	53	52.4	.598	31.34
Michigan copper.....	6	9	54.0	.368	19.87
Northern iron:					
Michigan.....	9	29	54.4	.443	24.10
Minnesota.....	3	4	60.0	.428	25.68
Total.....	12	33	55.0	.440	24.20
All districts.....	41	95	53.5	.521	27.87
ENGINEERS, STATIONARY (surface)					
Western mixed ore:					
Arizona.....	3	7	53.7	.733	39.36
Colorado.....	1	4	56.0	.500	28.00
New Mexico.....	4	15	55.5	.644	35.74
Total.....	8	26	55.1	.643	35.43
Michigan copper.....	1	8	61.5	.420	25.83
Northern iron: Michigan.....	12	35	55.3	.472	26.10
Alabama iron.....	2	4	66.0	.314	20.72
Tri-State lead and zinc.....	4	6	70.0	.470	32.90
All districts.....	27	79	57.5	.515	29.61
FIREMEN, STATIONARY (surface)					
Western mixed ore:					
Arizona.....	1	3	56.0	.550	30.80
Colorado.....	5	17	56.0	.548	30.69
Idaho.....	2	6	54.0	.656	35.42
Montana.....	3	10	56.0	.625	35.00
Nevada.....	1	1	56.0	.563	31.53
New Mexico.....	1	3	56.0	.536	30.02
Total.....	13	40	55.7	.584	32.53
Michigan copper.....	6	109	56.3	.426	23.98

16 WAGES AND HOURS OF LABOR IN METALLIFEROUS MINES

TABLE A.—AVERAGE FULL-TIME HOURS, EARNINGS PER HOUR, AND FULL-TIME EARNINGS PER WEEK, 1924, BY OCCUPATION, DISTRICT, AND STATE—Continued

UNDERGROUND MINES—Continued

Occupation, district, and State	Number of—		Average—		
	Estab- lishments	Em- ployees	Full-time hours per week	Earnings per hour	Full-time earnings per week
FIREMEN, STATIONARY (surface)—continued					
Northern iron:					
Michigan.....	16	62	60.6	\$0.471	\$28.54
Minnesota.....	6	29	62.6	.548	34.30
Total.....	22	91	61.3	.493	30.22
Alabama iron.....	4	30	75.6	.304	22.98
Tri-State lead and zinc.....	5	7	80.0	.329	26.32
All districts.....	50	277	60.5	.455	27.53
HOIST MEN (surface)					
Western mixed ore:					
Arizona.....	8	31	53.8	.763	41.05
California.....	4	17	54.6	.706	38.55
Colorado.....	5	13	51.1	.657	33.57
Idaho.....	1	5	52.0	.750	39.00
Montana.....	5	29	55.2	.741	40.90
Nevada.....	6	20	56.0	.750	42.00
New Mexico.....	3	10	54.8	.573	31.40
Utah.....	2	11	56.0	.780	43.68
Total.....	34	136	54.4	.727	39.55
Michigan copper.....	6	92	53.5	.473	25.31
Northern iron:					
Michigan.....	23	128	58.2	.479	27.88
Minnesota.....	10	34	62.2	.505	31.41
Total.....	33	162	59.0	.484	28.56
Alabama iron.....	4	16	71.3	.502	35.79
Southeast Missouri lead.....	4	16	55.0	.575	31.63
Tri-State lead and zinc.....	22	61	54.4	.530	28.83
All districts.....	103	483	56.4	.560	31.58
HOIST MEN (underground)					
Western mixed ore:					
Arizona.....	4	9	53.3	.686	36.56
California.....	5	19	50.7	.637	32.30
Colorado.....	7	16	53.5	.586	31.35
Idaho.....	4	22	54.8	.717	39.29
Montana.....	3	8	53.0	.688	36.46
Nevada.....	4	18	56.0	.752	42.11
New Mexico.....	2	7	50.3	.489	24.60
Utah.....	1	8	56.0	.732	40.99
Total.....	30	117	53.7	.678	36.41
Michigan copper.....	1	4	48.0	.428	20.54
Northern iron:					
Michigan.....	4	14	47.4	.514	24.36
Minnesota.....	2	4	47.3	.511	24.17
Total.....	6	18	47.3	.514	24.31
Alabama iron.....	3	33	60.0	.386	23.16
Southeast Missouri lead.....	1	2	48.0	.569	27.31
Tri-State lead and zinc.....	6	11	48.0	.496	23.81
All districts.....	47	185	53.7	.593	31.84

TABLE A.—AVERAGE FULL-TIME HOURS, EARNINGS PER HOUR, AND FULL-TIME EARNINGS PER WEEK, 1924, BY OCCUPATION, DISTRICT, AND STATE—Continued

UNDERGROUND MINES—Continued

Occupation, district, and State	Number of—		Average—		
	Estab-lishments	Em-ployees	Full-time hours per week	Earnings per hour	Full-time earnings per week
LABORERS (underground)					
Michigan copper	3	157	48.0	\$0.474	\$22.75
Northern iron:					
Michigan.....	9	40	47.1	.500	23.55
Minnesota.....	3	12	48.0	.515	24.72
Total.....	12	52	47.3	.503	23.79
Alabama iron.....	3	250	60.0	.330	19.80
Southeast Missouri lead.....	3	60	48.4	.573	27.73
Tri-State lead and zinc.....	20	206	48.0	.434	20.83
All districts.....	41	725	52.1	.423	22.04
LOADING-MACHINE OPERATORS (underground)					
Western mixed ore: Arizona.....	2	3	53.3	.696	37.10
Michigan copper.....	2	35	48.0	.413	19.82
Northern iron:					
Michigan.....	3	31	47.5	.664	31.54
Minnesota.....	1	3	48.0	.719	34.51
Total.....	4	34	47.5	.669	31.78
Alabama iron.....	1	49	60.0	.510	30.60
Southeast Missouri lead.....	4	53	48.0	.719	34.51
Tri-State lead and zinc.....	1	1	48.0	.563	27.02
All districts.....	14	175	51.4	.588	30.22
MACHINISTS (surface and underground)					
Western mixed ore:					
Arizona.....	7	50	50.1	.672	33.67
California.....	6	17	53.2	.661	35.17
Colorado.....	8	14	50.9	.619	31.51
Idaho.....	4	24	54.2	.756	40.98
Montana.....	5	23	49.7	.724	35.98
Nevada.....	7	18	56.0	.774	43.34
New Mexico.....	5	15	52.0	.666	34.63
Utah.....	3	6	56.0	.758	42.45
Total.....	45	167	52.0	.701	36.45
Michigan copper.....	6	73	53.8	.478	25.72
Northern iron:					
Michigan.....	21	70	57.1	.512	29.24
Minnesota.....	7	16	60.0	.596	35.76
Total.....	28	86	57.6	.528	30.41
Alabama iron.....	4	32	60.0	.543	32.58
Southeast Missouri lead.....	4	15	48.0	.601	28.85
Tri-State lead and zinc.....	2	2	52.0	.706	36.71
All districts.....	89	375	54.2	.600	32.52
MACHINISTS' HELPERS (surface and underground)					
Western mixed ores:					
Arizona.....	6	27	54.2	.508	27.53
California.....	4	14	50.3	.593	29.83
Colorado.....	6	10	52.8	.534	28.20
Idaho.....	3	12	54.3	.662	35.95
Montana.....	5	18	48.9	.610	29.83
Nevada.....	1	4	56.0	.642	35.95
New Mexico.....	3	11	49.8	.419	20.87
Utah.....	3	9	56.0	.590	33.04
Total.....	31	105	52.4	.557	29.19

18 WAGES AND HOURS OF LABOR IN METALLIFEROUS MINES

TABLE A.—AVERAGE FULL-TIME HOURS, EARNINGS PER HOUR, AND FULL-TIME EARNINGS PER WEEK, 1924, BY OCCUPATION, DISTRICT, AND STATE—Continued

UNDERGROUND MINES—Continued

Occupation, district, and State	Number of—		Average—		
	Estab-lishments	Em-ployees	Full-time hours per week	Earnings per hour	Full-time earnings per week
MACHINISTS' HELPERS (surface and underground)— continued					
Michigan copper.....	6	48	54.0	\$0.377	\$20.36
Northern iron:					
Michigan.....	13	26	56.8	.425	24.14
Minnesota.....	6	23	59.5	.422	25.11
Total.....	19	49	58.0	.422	24.48
Alabama iron.....	4	15	60.0	.366	21.96
Southeast Missouri lead.....	3	14	48.0	.569	27.31
All districts.....	63	231	54.1	.479	25.91
MOTORMEN (underground)					
Western mixed ore:					
Arizona.....	7	118	53.8	.583	31.37
California.....	3	12	50.3	.610	30.68
Colorado.....	6	42	54.7	.586	32.05
Idaho.....	4	43	54.8	.687	37.65
Montana.....	4	120	53.3	.595	31.71
Nevada.....	6	27	56.0	.674	37.74
New Mexico.....	1	4	52.0	.531	27.61
Utah.....	2	14	52.0	.664	34.53
Total.....	33	380	53.8	.609	32.76
Michigan copper.....	5	67	48.0	.457	21.94
Northern iron:					
Michigan.....	22	142	47.3	.556	26.30
Minnesota.....	10	88	47.3	.565	26.72
Total.....	32	230	47.3	.558	26.39
Alabama iron.....	2	11	60.0	.444	26.64
Southeast Missouri lead.....	4	57	48.0	.576	27.65
Tri-State lead and zinc.....	2	4	48.0	.556	26.69
All districts.....	78	749	50.9	.575	29.27
MUCKERS (underground)					
Western mixed ore:					
Arizona.....	8	688	32.0	.363	28.76
California.....	6	397	51.7	.548	28.33
Colorado.....	8	180	51.6	.539	27.81
Idaho.....	4	262	54.4	.623	33.89
Montana.....	2	24	56.0	.694	33.26
Nevada.....	5	156	56.0	.640	35.84
New Mexico.....	5	127	50.9	.402	20.46
Utah.....	3	303	56.0	.623	34.89
Total.....	41	2,137	53.0	.568	30.10
Michigan copper.....	6	319	48.0	.501	24.05
Northern iron: Michigan.....	5	49	47.3	.531	25.12
Alabama iron.....	4	737	60.0	.429	25.74
Southeast Missouri lead.....	4	430	48.0	.596	28.61
Tri-State lead and zinc.....	22	438	48.0	.699	33.55
All districts.....	82	4,110	52.7	.554	29.20
NIPPERS (underground)					
Western mixed ore:					
Arizona.....	8	50	52.3	.541	28.29
California.....	5	15	50.1	.597	29.91
Colorado.....	4	9	55.1	.545	30.08
Idaho.....	3	16	53.8	.661	35.56
Montana.....	5	52	53.8	.599	32.23
Nevada.....	4	11	56.0	.659	36.90
New Mexico.....	4	10	50.8	.449	22.81
Utah.....	3	9	56.0	.674	37.74
Total.....	36	172	53.2	.584	31.07

WAGES AND HOURS OF LABOR IN METALLIFEROUS MINES 19

TABLE A.—AVERAGE FULL-TIME HOURS, EARNINGS PER HOUR, AND FULL-TIME EARNINGS PER WEEK, 1924, BY OCCUPATION, DISTRICT, AND STATE—Continued

UNDERGROUND MINES—Continued

Occupation, district, and State	Number of—		Average—		
	Estab-lishments	Em-ployees	Full-time hours per week	Earnings per hour	Full-time earnings per week
NIPPERS (underground)—continued					
Michigan copper.....	4	85	48.0	\$0.342	\$16.42
Northern iron: Michigan.....	3	4	47.0	.569	26.74
Alabama iron.....	1	19	60.0	.380	22.80
Southeast Missouri lead.....	1	1	48.0	.631	30.29
Tri-State lead and zinc.....	3	7	48.0	.455	21.84
All districts.....	48	288	51.9	.496	25.74
OLLERS (surface and underground)					
Western mixed ore:					
Arizona.....	6	17	52.9	.544	28.78
California.....	1	1	52.0	.562	29.22
Colorado.....	3	6	52.0	.578	30.06
Idaho.....	2	7	54.3	.656	35.62
Montana.....	4	19	54.3	.584	31.71
Nevada.....	1	1	56.0	.688	38.53
New Mexico.....	4	10	54.4	.467	25.40
Total.....	21	61	53.7	.562	30.18
Michigan copper.....	5	65	54.5	.333	18.15
Northern iron:					
Michigan.....	7	11	57.3	.444	25.44
Minnesota.....	4	6	57.8	.569	32.31
Total.....	11	17	57.4	.492	28.24
Alabama iron.....	2	3	60.0	.251	15.06
Tri-State lead and zinc.....	2	2	59.0	.403	23.78
All districts.....	41	148	54.7	.445	24.34
ORE SORTERS (surface and underground)					
Western mixed ore:					
Colorado.....	4	34	50.8	.552	28.04
Idaho.....	2	24	54.2	.604	32.74
Montana.....	1	15	56.0	.544	30.46
Nevada.....	1	3	56.0	.661	37.02
New Mexico.....	3	12	50.0	.353	17.66
Utah.....	2	11	56.0	.650	36.40
Total.....	13	99	53.1	.556	29.52
Michigan copper.....	2	8	48.0	.412	19.78
Northern iron: Michigan.....	9	34	52.8	.474	25.03
All districts.....	24	141	52.7	.528	27.83
PIPEMAN (surface and underground)					
Western mixed ore:					
Arizona.....	8	44	52.7	.593	31.28
California.....	5	16	51.8	.620	32.12
Colorado.....	4	11	54.5	.579	31.56
Idaho.....	4	7	55.4	.704	39.00
Montana.....	5	39	53.3	.696	37.10
Nevada.....	6	12	56.0	.712	39.87
New Mexico.....	5	8	48.5	.481	23.33
Utah.....	2	9	56.0	.650	36.40
Total.....	39	146	53.3	.635	33.85
Michigan copper.....	6	36	48.5	.481	23.33

20 WAGES AND HOURS OF LABOR IN METALLIFEROUS MINES

TABLE A.—AVERAGE FULL-TIME HOURS, EARNINGS PER HOUR, AND FULL-TIME EARNINGS PER WEEK, 1924, BY OCCUPATION, DISTRICT, AND STATE—Continued

UNDERGROUND MINES—Continued

Occupation, district, and State	Number of—		Average—		
	Estab-lishments	Em-ployees	Full-time hours per week	Earnings per hour	Full-time earnings per week
PIPEMAN (surface and underground)—continued					
Northern iron:					
Michigan.....	24	82	49.8	\$0.528	\$26.29
Minnesota.....	10	28	54.2	.510	27.64
Total.....	34	110	51.0	.524	26.72
Alabama iron.....	4	17	60.0	.383	22.98
Southeast Missouri lead.....	2	13	48.0	.570	27.36
Tri-State lead and zinc.....	4	6	48.0	.465	22.32
All districts.....	89	328	52.0	.562	29.22
POWDER MEN (underground)					
Western mixed ore:					
Arizona.....	8	33	50.8	.588	29.87
California.....	1	1	56.0	.531	29.74
Colorado.....	3	5	54.4	.563	30.63
Montana.....	4	26	54.8	.596	32.66
Nevada.....	4	5	56.0	.682	38.19
New Mexico.....	2	3	52.0	.417	21.68
Utah.....	3	7	56.0	.679	38.02
Total.....	25	80	53.2	.596	31.71
Michigan copper.....	1	1	48.0	.463	22.22
Northern iron:					
Michigan.....	11	17	47.2	.556	26.24
Minnesota.....	5	8	47.8	.546	26.10
Total.....	16	25	47.4	.553	26.21
Alabama iron.....	2	6	60.0	.376	22.56
Southeast Missouri lead.....	3	3	48.0	.569	27.31
All districts.....	47	115	52.1	.573	29.85
PUMP MEN (underground)					
Western mixed ore:					
Arizona.....	4	16	55.8	.643	35.88
California.....	3	14	56.0	.589	32.98
Colorado.....	1	3	56.0	.593	33.21
Idaho.....	2	10	53.6	.737	39.50
Montana.....	4	21	56.0	.694	38.86
Nevada.....	3	15	56.0	.714	39.98
New Mexico.....	4	8	55.0	.459	25.25
Utah.....	2	15	56.0	.687	38.47
Total.....	23	102	55.6	.655	36.42
Michigan copper.....	6	67	54.9	.429	23.55
Northern iron:					
Michigan.....	22	89	57.9	.451	27.85
Minnesota.....	10	37	52.3	.546	28.56
Total.....	32	126	56.3	.498	28.04
Alabama iron.....	4	20	65.6	.384	25.19
Southeast Missouri lead.....	4	15	54.4	.534	29.05
Tri-State lead and zinc.....	4	5	69.6	.439	30.55
All districts.....	73	335	56.5	.526	29.72
ROOF TRIMMERS (underground)					
Michigan copper.....	3	7	48.0	.482	23.14
Alabama iron.....	2	63	60.0	.556	33.36
Southeast Missouri lead.....	4	74	48.0	.575	27.60
Tri-State lead and zinc.....	17	32	48.0	.509	24.43
All districts.....	26	176	52.3	.553	28.92

WAGES AND HOURS OF LABOR IN METALLIFEROUS MINES

TABLE A.—AVERAGE FULL-TIME HOURS, EARNINGS PER HOUR, AND FULL-TIME EARNINGS PER WEEK, 1924, BY OCCUPATION, DISTRICT, AND STATE—Continued

UNDERGROUND MINES—Continued

Occupation, district, and State	Number of—		Average—		
	Estab-lishments	Em-ployees	Full-time hours per week	Earnings per hour	Full-time earnings per week
SKIPPERS (underground)					
Western mixed ore:					
Arizona.....	6	17	52.2	\$.656	\$34.24
California.....	6	35	55.3	.612	33.84
Colorado.....	2	7	48.0	.681	32.69
Idaho.....	1	1	56.0	.656	36.74
Nevada.....	6	18	56.0	.682	38.19
New Mexico.....	1	3	48.0	.468	22.46
Utah.....	1	1	56.0	.688	38.53
Total.....	23	82	54.0	.637	34.40
Michigan copper.....	1	9	48.0	.459	22.03
Northern iron:					
Michigan.....	20	99	47.1	.550	25.91
Minnesota.....	9	28	49.8	.551	27.44
Total.....	29	127	47.7	.550	26.24
Alabama iron.....	1	11	66.0	.425	28.06
All districts.....	54	229	50.8	.572	29.06
STATION MEN (underground)					
Western mixed ore:					
Montana.....	5	58	54.3	.658	35.73
Utah.....	1	8	56.0	.701	39.26
Total.....	6	66	54.5	.663	36.13
Michigan copper.....	4	70	48.0	.495	23.76
Northern iron:					
Michigan.....	3	7	46.3	.543	25.14
Minnesota.....	4	5	46.7	.531	24.80
Total.....	7	12	46.5	.538	25.02
Alabama iron.....	1	5	60.0	.425	25.50
All districts.....	18	153	51.1	.569	29.08
TIMBER FRAMERS (surface)					
Western mixed ore:					
Arizona.....	6	8	52.0	.599	31.15
California.....	5	5	54.0	.625	33.75
Colorado.....	5	5	51.2	.585	29.95
Idaho.....	3	11	53.8	.666	35.83
Montana.....	5	25	50.2	.645	32.38
Nevada.....	3	5	56.0	.684	38.30
Utah.....	2	4	56.0	.673	37.69
Total.....	29	63	52.3	.641	33.52
Northern iron:					
Michigan.....	15	48	57.4	.449	25.70
Minnesota.....	10	27	60.0	.450	27.02
Total.....	25	75	58.3	.448	26.17
All districts.....	54	138	55.6	.536	29.80
TIMBERMEN (underground)					
Western mixed ore:					
Arizona.....	8	184	54.7	.617	33.75
California.....	6	93	50.8	.642	32.61
Colorado.....	8	157	53.6	.594	31.84
Idaho.....	4	208	54.5	.764	41.64
Montana.....	5	415	52.7	.659	34.73
Nevada.....	6	84	56.0	.721	40.38
New Mexico.....	5	28	50.1	.473	23.70
Utah.....	3	110	56.0	.654	36.62
Total.....	45	1,279	53.7	.658	35.33

WAGES AND HOURS OF LABOR IN METALLIFEROUS MINES

TABLE A.—AVERAGE FULL-TIME HOURS, EARNINGS PER HOUR, AND FULL-TIME EARNINGS PER WEEK, 1924, BY OCCUPATION, DISTRICT, AND STATE—Continued

UNDERGROUND MINES—Continued

Occupation, district, and State	Number of—		Average—		
	Estab-lishments	Em-ployees	Full-time hours per week	Earnings per hour	Full-time earnings per week
TIMBERMEN (underground)—continued					
Michigan copper.....	6	410	48.0	\$0.464	\$22.27
Northern iron:					
Michigan.....	22	231	47.1	.576	27.13
Minnesota.....	10	101	47.8	.598	28.58
Total.....	32	332	47.3	.578	27.34
Alabama iron.....	3	12	60.0	.421	25.26
Southeast Missouri lead.....	1	3	48.0	.756	36.29
Tri-State lead and zinc.....	5	19	48.0	.500	24.00
All districts.....	92	2,055	51.5	.604	31.11
TIMBERMEN'S HELPERS (underground)					
Western mixed ore:					
Arizona.....	5	107	55.7	.524	29.19
California.....	5	20	52.8	.555	29.30
Colorado.....	5	21	49.5	.509	25.20
Idaho.....	4	185	54.3	.666	36.16
Nevada.....	2	26	56.0	.645	36.12
New Mexico.....	3	9	52.0	.437	22.72
Utah.....	1	61	56.0	.656	36.74
Total.....	25	429	54.6	.605	33.03
Michigan copper.....	3	42	48.0	.406	19.49
Northern iron:					
Michigan.....	10	139	46.9	.525	24.62
Minnesota.....	1	30	46.5	.553	25.71
Total.....	11	169	46.8	.530	24.80
Alabama iron.....	3	68	60.0	.365	21.90
Tri-State lead and zinc.....	2	7	48.0	.437	20.98
All districts.....	44	715	52.8	.551	29.09
TOOL DRESSERS (surface)					
Western mixed ore:					
Arizona.....	5	6	50.0	.716	35.80
California.....	4	8	51.5	.641	33.01
Colorado.....	3	3	53.3	.656	34.96
Idaho.....	4	8	54.5	.777	42.35
Montana.....	5	15	53.3	.695	37.04
Nevada.....	5	7	56.0	.747	41.83
New Mexico.....	5	7	52.0	.575	29.90
Utah.....	3	8	56.0	.689	38.58
Total.....	34	62	53.4	.694	37.06
Michigan copper.....	6	33	54.0	.401	21.65
Northern iron: Michigan.....	9	13	54.5	.515	28.07
Alabama iron.....	1	2	60.0	.620	37.20
All districts.....	50	110	53.8	.584	31.42
TOPMEN (surface)					
Western mixed ore:					
Arizona.....	7	92	51.3	.364	18.67
California.....	6	54	52.7	.519	27.35
Colorado.....	8	56	49.7	.491	24.40
Idaho.....	3	63	53.8	.605	32.55
Montana.....	5	112	50.9	.563	28.66
Nevada.....	7	47	56.3	.608	34.23
New Mexico.....	4	33	51.4	.358	18.40
Utah.....	3	63	56.0	.588	32.93
Total.....	43	520	52.5	.517	27.14

TABLE A.—AVERAGE FULL-TIME HOURS, EARNINGS PER HOUR, AND FULL-TIME EARNINGS PER WEEK, 1924, BY OCCUPATION, DISTRICT, AND STATE—Continued

UNDERGROUND MINES—Continued

Occupation, district, and State	Number of—		Average—		
	Estab-lishments	Em-ployees	Full-time hours per week	Earnings per hour	Full-time earnings per week
TOPMEN (surface)—continued					
Michigan copper.....	6	181	54.2	\$0.343	\$18.59
Northern iron:					
Michigan.....	24	595	56.8	.416	23.63
Minnesota.....	10	172	60.4	.427	25.79
Total.....	34	767	57.6	.418	24.08
Alabama iron.....	4	159	60.3	.282	17.00
Southeast Missouri lead.....	4	9	48.0	.468	22.46
Tri-State lead and zinc.....	22	106	48.1	.421	20.25
All districts.....	113	1,742	55.3	.428	23.67
TRACKMEN (underground)					
Western mixed ore:					
Arizona.....	8	49	51.8	.570	29.53
California.....	4	12	50.7	.554	28.09
Colorado.....	5	15	53.3	.561	29.90
Idaho.....	4	10	55.2	.700	38.64
Montana.....	4	58	50.5	.601	30.35
Nevada.....	2	4	56.0	.688	38.53
New Mexico.....	2	3	49.3	.459	22.63
Utah.....	3	11	56.0	.670	37.52
Total.....	32	162	52.0	.596	30.99
Michigan copper.....	6	144	48.0	.460	22.08
Northern iron:					
Michigan.....	14	26	47.6	.589	28.04
Minnesota.....	7	45	47.0	.537	25.24
Total.....	21	71	47.2	.556	26.24
Alabama iron.....	4	31	60.0	.448	26.88
Southeast Missouri lead.....	4	219	48.0	.569	27.31
Tri-State lead and zinc.....	19	40	48.0	.517	24.82
All districts.....	86	667	49.4	.542	26.77
TRACKMEN'S HELPERS (underground)					
Western mixed ore:					
Arizona.....	5	33	53.8	.513	27.60
California.....	1	6	52.0	.571	29.69
Colorado.....	1	1	56.0	.500	28.00
Idaho.....	1	5	56.0	.656	36.74
Nevada.....	2	5	56.0	.622	34.83
Utah.....	1	2	56.0	.656	36.74
Total.....	11	52	54.2	.551	29.86
Michigan copper.....	2	25	48.0	.413	19.82
Northern iron: Michigan.....	4	18	47.1	.515	24.26
Alabama iron.....	3	126	60.0	.351	21.06
Tri-State lead and zinc.....	7	27	48.0	.437	20.98
All districts.....	27	248	55.3	.420	23.23
TRAMMERS (underground)					
Western mixed ore:					
Arizona.....	5	311	53.9	.481	25.93
California.....	5	74	49.8	.585	29.18
Colorado.....	7	145	51.8	.599	31.03
Idaho.....	4	32	53.5	.638	34.13
Montana.....	5	356	53.2	.596	31.71
Nevada.....	5	111	56.0	.641	35.90
New Mexico.....	5	73	50.6	.394	19.94
Utah.....	2	50	56.0	.616	34.50
Total.....	38	1,152	53.2	.557	29.63

24 WAGES AND HOURS OF LABOR IN METALLIFEROUS MINES

TABLE A.—AVERAGE FULL-TIME HOURS, EARNINGS PER HOUR, AND FULL-TIME EARNINGS PER WEEK, 1924, BY OCCUPATION, DISTRICT, AND STATE—Continued

UNDERGROUND MINES—Continued

Occupation, district, and State	Number of—		Average—		
	Estab-lishments	Em-ployees	Full-time hours per week	Earnings per hour	Full-time earnings per week
TRAMMERS (underground) continued					
Michigan copper.....	6	367	48.0	\$0.551	\$26.45
Northern iron:					
Michigan.....	21	345	47.5	.561	26.65
Minnesota.....	8	40	48.0	.551	26.45
Total.....	29	385	47.6	.560	26.66
Alabama iron.....	1	3	60.0	.370	22.20
Southeast Missouri lead.....	1	7	48.0	.569	27.31
Tri-State lead and zinc.....	22	114	48.0	.438	21.02
All districts.....	97	2,028	50.9	.550	28.00
TRIP RIDERS (underground)					
Western mixed ore:					
Arizona.....	7	68	53.2	.499	26.55
California.....	3	13	50.2	.563	28.26
Colorado.....	4	6	53.3	.512	27.29
Idaho.....	3	31	54.3	.644	34.97
Nevada.....	3	4	56.0	.630	35.28
New Mexico.....	1	4	52.0	.460	23.92
Total.....	21	126	53.2	.542	28.83
Michigan copper.....	3	36	48.0	.467	22.42
Northern iron:					
Michigan.....	16	93	47.1	.551	25.08
Minnesota.....	7	45	47.6	.555	26.42
Total.....	23	138	47.2	.552	26.05
Alabama iron.....	3	48	60.0	.345	20.70
Southeast Missouri lead.....	3	43	48.0	.569	27.31
Tri-State lead and zinc.....	2	4	48.0	.469	22.51
All districts.....	55	395	50.8	.517	26.26
TRUCK OPERATORS (surface)					
Western mixed ore:					
Arizona.....	5	6	50.7	.559	28.34
California.....	4	6	55.7	.560	31.19
Colorado.....	1	2	48.0	.602	28.90
Montana.....	2	4	52.0	.653	33.98
Nevada.....	4	6	56.0	.716	40.10
New Mexico.....	2	2	54.0	.483	26.08
Utah.....	1	1	56.0	.750	42.00
Total.....	19	27	53.4	.610	32.57
Michigan copper.....	4	12	54.0	.383	20.68
Northern iron:					
Michigan.....	9	22	55.1	.498	27.44
Minnesota.....	6	10	60.0	.460	27.60
Total.....	15	32	56.6	.485	27.45
Alabama iron.....	2	2	60.0	.456	27.36
All districts.....	40	73	55.1	.514	28.32

TABLE A.—AVERAGE FULL-TIME HOURS, EARNINGS PER HOUR, AND FULL-TIME EARNINGS PER WEEK, 1924, BY OCCUPATION, DISTRICT, AND STATE—Continued

UNDERGROUND MINES—Continued

Occupation, district, and State	Number of—		Average—		
	Estab-lishments	Em-ployees	Full-time hours per week	Earnings per hour	Full-time earnings per week
WATCHMEN (surface)					
Western mixed ore:					
Arizona.....	4	20	56.0	\$0.532	\$29.79
California.....	5	12	56.0	.529	29.62
Colorado.....	6	14	68.0	.440	29.92
Idaho.....	4	15	56.3	.638	35.92
Montana.....	5	24	56.0	.507	28.39
Nevada.....	5	8	56.0	.637	35.67
New Mexico.....	5	5	57.2	.415	23.74
Utah.....	2	6	56.0	.538	30.13
Total.....	36	104	57.7	.526	30.35
Michigan copper.....	6	26	66.3	.352	23.34
Northern iron:					
Michigan.....	20	41	77.1	.366	28.22
Minnesota.....	8	9	75.6	.443	33.49
Total.....	28	50	76.8	.380	29.18
Alabama iron.....	2	8	79.3	.291	23.08
Tri-State lead and zinc.....	2	2	56.0	.366	20.50
All districts.....	74	190	64.8	.452	29.29
OTHER EMPLOYEES (surface and underground)					
Western mixed ore:					
Arizona.....	8	243	55.0	.605	33.28
California.....	6	54	52.8	.672	35.48
Colorado.....	9	113	53.1	.635	33.72
Idaho.....	4	91	54.1	.774	41.87
Montana.....	5	155	54.4	.744	40.47
Nevada.....	6	66	56.8	.755	42.88
New Mexico.....	5	58	52.9	.555	29.36
Utah.....	3	47	56.0	.735	41.16
Total.....	46	827	54.4	.673	36.61
Michigan copper.....	6	439	50.1	.497	24.90
Northern iron:					
Michigan.....	25	436	52.2	.578	30.17
Minnesota.....	10	127	55.6	.620	34.47
Total.....	35	563	53.0	.584	30.95
Alabama iron.....	4	116	61.3	.420	25.75
Southeast Missouri lead.....	4	81	49.9	.592	29.54
Tri-State lead and zinc.....	22	113	49.0	.554	27.15
All districts.....	117	2,139	53.1	.590	31.33

OPEN PIT MINES

BLACKSMITHS					
Western mixed ore.....	3	79	56.0	\$0.668	\$37.41
Northern iron.....	10	57	60.0	.567	34.02
Alabama iron.....	4	4	60.0	.401	24.06
All districts.....	17	140	57.7	.619	35.72
BLACKSMITHS' HELPERS					
Western mixed ore.....	3	82	56.0	.523	29.29
Northern iron.....	7	40	60.0	.458	27.48
Alabama iron.....	2	2	60.0	.285	17.10
All districts.....	12	124	57.4	.498	28.59

26 WAGES AND HOURS OF LABOR IN METALLIFEROUS MINES

TABLE A.—AVERAGE FULL-TIME HOURS, EARNINGS PER HOUR, AND FULL-TIME EARNINGS PER WEEK, 1924, BY OCCUPATION, DISTRICT, AND STATE—Continued

OPEN PIT MINES—Continued

Occupation, district, and State	Number of—		Average—		
	Estab-lishments	Em-ployees	Full-time hours per week	Earnings per hour	Full-time earnings per week
CARPENTERS					
Western mixed ore.....	3	26	56.0	\$0.684	\$38.30
Northern iron.....	7	49	60.0	.530	31.80
Alabama iron.....	4	4	60.0	.315	18.90
All districts.....	14	79	58.7	.570	33.46
CARPENTERS' HELPERS					
Western mixed ore.....	3	35	56.0	.526	29.46
Northern iron.....	6	20	60.0	.437	26.22
Alabama iron.....	3	8	60.0	.310	18.60
All districts.....	12	63	57.8	.470	27.17
DRILLING-MACHINE OPERATORS					
Western mixed ore.....	3	110	56.9	.614	34.94
Northern iron.....	12	117	60.0	.479	28.74
Alabama iron.....	2	2	60.0	.460	27.60
All districts.....	17	229	58.5	.544	31.82
DRILLING MACHINE OPERATORS' HELPERS					
Western mixed ore.....	3	99	57.1	.545	31.12
Northern iron.....	7	45	60.0	.438	26.28
Alabama iron.....	2	2	60.0	.281	16.86
All districts.....	12	146	58.0	.508	29.46
DUMP MEN					
Western mixed ore.....	2	85	56.0	.339	18.98
Northern iron.....	9	106	60.0	.422	25.32
Alabama iron.....	1	1	60.0	.280	16.80
All districts.....	12	192	58.2	.385	22.41
LABORERS					
Western mixed ore.....	3	179	56.0	.369	20.66
Northern iron.....	10	96	60.0	.429	25.74
Alabama iron.....	4	97	60.0	.245	14.70
All districts.....	17	372	58.1	.352	20.45
LOCOMOTIVE ENGINEERS					
Western mixed ore.....	3	139	56.0	.685	38.36
Northern iron.....	13	162	60.0	.696	41.76
Alabama iron.....	4	18	60.0	.414	24.84
All districts.....	20	319	58.3	.675	39.35
LOCOMOTIVE FIREMEN					
Western mixed ore.....	3	175	56.0	.531	29.74
Northern iron.....	11	213	60.8	.524	31.86
Alabama iron.....	4	18	60.0	.260	15.60
All districts.....	18	406	58.7	.515	30.23
MACHINISTS					
Western mixed ore.....	3	109	56.0	.660	36.96
Northern iron.....	10	79	60.0	.536	32.16
Alabama iron.....	4	4	60.0	.399	23.94
All districts.....	17	192	57.7	.604	34.85
MACHINISTS' HELPERS					
Western mixed ore.....	3	184	57.1	.515	29.41
Northern iron.....	3	40	60.0	.455	27.30
Alabama iron.....	3	7	60.0	.337	20.22
All districts.....	9	231	57.7	.499	28.79

TABLE A.—AVERAGE FULL-TIME HOURS, EARNINGS PER HOUR, AND FULL-TIME EARNINGS PER WEEK, 1924, BY OCCUPATION, DISTRICT, AND STATE—Continued

OPEN PIT MINES—Continued

Occupation, district, and State	Number of—		Average—		
	Estab-lishments	Em-ployees	Full-time hours per week	Earnings per hour	Full-time earnings per week
FITMEN					
Western mixed ore.....	3	232	56.0	\$0.386	\$21.62
Northern iron.....	13	315	60.0	.469	28.14
Alabama iron.....	4	26	60.0	.253	15.18
All districts.....	20	573	58.4	.426	24.88
SHOT FIRERS					
Western mixed ore.....	2	28	59.5	.458	27.25
Northern iron.....	10	26	60.0	.494	29.64
All districts.....	12	54	59.7	.475	28.36
SHOVEL CRANEMEN					
Western mixed ore.....	3	76	56.0	.673	37.69
Northern iron.....	13	64	60.0	.701	42.06
Alabama iron.....	4	10	60.0	.390	23.40
All districts.....	20	150	58.0	.666	38.63
SHOVEL ENGINEERS					
Western mixed ore.....	3	69	56.0	.901	50.46
Northern iron.....	13	75	60.0	.997	59.82
Alabama iron.....	4	13	60.0	.546	32.76
All districts.....	20	157	58.2	.917	53.37
SHOVEL FIREMEN					
Western mixed ore.....	3	104	56.0	.526	29.46
Northern iron.....	13	112	64.1	.514	32.95
Alabama iron.....	4	15	60.0	.275	16.50
All districts.....	20	231	60.2	.504	30.34
SWITCHMEN					
Western mixed ore.....	3	128	56.0	.471	26.33
Northern iron.....	10	81	60.0	.424	25.44
Alabama iron.....	2	7	60.0	.255	15.30
All districts.....	15	216	57.6	.446	25.69
TRACKMEN					
Western mixed ore.....	3	891	56.0	.376	21.06
Northern iron.....	13	759	60.0	.419	25.14
Alabama iron.....	4	36	60.0	.250	15.00
All districts.....	20	1,686	57.9	.393	22.75
TRIP RIDERS					
Western mixed ore.....	2	153	56.0	.544	30.46
Northern iron.....	13	179	60.0	.481	28.86
All districts.....	15	332	58.2	.510	29.68
WATCHMEN					
Western mixed ore.....	3	104	58.6	.471	27.60
Northern iron.....	10	34	76.8	.449	34.48
Alabama iron.....	4	10	72.8	.249	18.13
All districts.....	17	148	63.7	.451	28.73
OTHER EMPLOYEES					
Western mixed ore.....	3	352	57.2	.536	30.66
Northern iron.....	13	355	60.4	.535	32.31
Alabama iron.....	4	69	60.0	.293	17.58
All districts.....	20	776	58.9	.514	30.27

TABLE C.—AVERAGE AND CLASSIFIED FULL-TIME HOURS PER WEEK FOR SIX TYPICAL OCCUPATIONS, BY DISTRICT AND STATE

Occupation, district, and State	Number of—		Average full-time hours per week	Number of employees whose full-time hours per week were—						
	Estab-lish-ments	Em-ploy-ees		Un-der 48	48	Over 48 and under 56	56	60	Over 60 and under 72	72 and under 84
DRILLING-MACHINE OPERATORS, COMPANY (underground)										
Western mixed ore:										
Arizona.....	8	716	51.7		317	129	270			
California.....	6	365	50.8		188	97	80			
Colorado.....	8	205	53.9		53		152			
Idaho.....	4	268	54.8			83	185			
Montana.....	5	685	53.5		218		467			
Nevada.....	6	282	56.0				282			
New Mexico.....	5	155	50.4		62	93				
Utah.....	3	251	56.0				251			
Total.....	45	2,927	53.2		838	402	1,687			
Michigan copper.....	4	523	48.0		523					
Northern iron:										
Michigan.....	23	770	47.2	333	437					
Minnesota.....	5	333	47.8	34	299					
Total.....	28	1,108	47.4	367	736					
Alabama iron.....	4	310	60.0					310		
Southeast Missouri lead.....	3	169	48.0		169					
Tri-State lead and zinc.....	22	295	48.0		295					
All districts.....	106	5,327	51.4	367	2,561	402	1,687	310		
DRILLING-MACHINE OPERATORS, CONTRACT (underground)										
Western mixed ore:										
Arizona.....	4	481	50.4		335		146			
California.....	2	9	54.7			3	6			
Colorado.....	3	53	49.4		44		9			
Idaho.....	2	27	54.5			10	17			
Montana.....	5	961	51.6		528		433			
Nevada.....	4	61	56.0				61			
New Mexico.....	3	18	52.0			18				
Utah.....	1	18	56.0				18			
Total.....	24	1,628	51.5		907	31	690			
Michigan copper.....	4	686	48.0		686					
Northern iron:										
Michigan.....	18	2,134	47.4	803	1,331					
Minnesota.....	10	1,394	47.4	485	909					
Total.....	28	3,528	47.4	1,288	2,240					
Alabama iron.....	1	6	60.0					6		
Southeast Missouri lead.....	4	122	48.0		122					
All districts.....	61	5,970	48.6	1,288	3,955	31	690	6		
MUCKERS (underground)										
Western mixed ore:										
Arizona.....	8	688	52.0		286	120	282			
California.....	6	397	51.7		168	90	139			
Colorado.....	8	180	51.6		98		82			
Idaho.....	4	282	54.4			104	158			
Montana.....	2	24	56.0				24			
Nevada.....	5	156	56.0				156			
New Mexico.....	5	127	50.9		36	91				
Utah.....	3	303	56.0				303			
Total.....	41	2,137	53.0		588	405	1,144			

TABLE C.—AVERAGE AND CLASSIFIED FULL-TIME HOURS PER WEEK FOR SIX TYPICAL OCCUPATIONS, BY DISTRICT AND STATE—Continued

Occupation, district, and State	Number of—		Average full-time hours per week	Number of employees whose full-time hours per week were—							
	Estab-lish-ments	Emp-loy-ees		Under 48	48	Over 48 and under 56	56	60	Over 60 and under 72	72 and under 84	84
MUCKERS (underground)—contd.											
Michigan copper.....	6	319	48.0		319						
Northern iron:											
Michigan.....	5	49	47.3	16	33						
Alabama iron.....	4	737	60.0					737			
Southeast Missouri lead.....	4	430	48.0		430						
Tri-State lead and zinc.....	22	438	48.0		438						
All districts.....	82	4,110	52.7	16	1,808	405	1,144	737			
TIMBERMEN (underground)											
Western mixed ore:											
Arizona.....	8	184	54.7		29		155				
California.....	6	93	50.8		49	24	20				
Colorado.....	8	157	53.6		48		109				
Idaho.....	4	208	54.5			78	130				
Montana.....	5	415	52.7		172		243				
Nevada.....	6	84	56.0				84				
New Mexico.....	5	28	50.1		13	15					
Utah.....	3	110	56.0				110				
Total.....	45	1,279	53.7		311	117	851				
Michigan copper.....	6	410	48.0		410						
Northern iron:											
Michigan.....	22	231	47.1	125	106						
Minnesota.....	10	101	47.8	9	92						
Total.....	32	332	47.3	134	198						
Alabama iron.....	3	12	60.0					12			
Southeast Missouri lead.....	1	3	48.0		3						
Tri-State lead and zinc.....	5	19	48.0		19						
All districts.....	92	2,035	51.5	134	941	117	851	12			
TOPMEN (surface)											
Western mixed ore:											
Arizona.....	7	92	51.3		45	17	30				
California.....	6	54	52.7		7	34	13				
Colorado.....	8	56	49.7		44		12				
Idaho.....	3	63	53.8			34	29				
Montana.....	5	112	50.9		71		41				
Nevada.....	7	47	56.3				46		1		
New Mexico.....	4	33	51.4		7	24	2				
Utah.....	3	63	56.0				63				
Total.....	43	520	52.5		174	109	236		1		
Michigan copper.....	6	181	54.2			167	13		1		
Northern iron:											
Michigan.....	24	595	56.8		11	304	14	267	7	2	
Minnesota.....	10	172	60.4				168	7	2	1	1
Total.....	34	767	57.6		11	304	14	435	9	3	1
Alabama iron.....	4	159	60.3					152	7		
Southeast Missouri lead.....	4	9	48.0		9						
Tri-State lead and zinc.....	22	106	48.1		105			1			
All districts.....	113	1,742	56.3		299	680	253	568	18	3	1

¹ Time is 57 hours.

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TABLE C.—AVERAGE AND CLASSIFIED FULL-TIME HOURS PER WEEK FOR SIX TYPICAL OCCUPATIONS, BY DISTRICT AND STATE—Continued

Occupation, district, and State	Number of—			Number of employees whose full-time hours per week were—							
	Es-tab-lish-ments	Em-ploy-ees	Average full-time hours per week	Under 48	48	Over 48 and under 56	56	60	Over 60 and under 72	72 and under 84	84
TRAMMERS (underground)											
Western mixed ore:											
Arizona.....	5	311	53.9		61	38	212				
California.....	5	74	49.8		51	12	11				
Colorado.....	7	145	51.8		76		69				
Idaho.....	4	32	53.5			20	12				
Montana.....	5	356	53.2		125		231				
Nevada.....	5	111	56.0				111				
New Mexico.....	5	73	50.6		26	47					
Utah.....	2	50	56.0				50				
Total.....	38	1,152	53.2		339	117	696				
Michigan copper.....	6	367	48.0		367						
Northern iron:											
Michigan.....	21	345	47.5	88	257						
Minnesota.....	8	40	48.0		40						
Total.....	29	385	47.6	88	297						
Alabama iron.....	1	3	60.0					3			
Southeast Missouri lead.....	1	7	48.0		7						
Tri-State lead and zinc.....	2	114	48.0		114						
All districts.....	97	2,028	50.9	88	1,124	117	696	3			

SERIES OF BULLETINS PUBLISHED BY THE BUREAU OF LABOR STATISTICS

*The publication of the annual and special reports and of the bimonthly bulletin was discontinued in July, 1912, and since that time a bulletin has been published at irregular intervals. Each number contains matter devoted to one of a series of general subjects. These bulletins are numbered consecutively, beginning with No. 101, and up to No. 236; they also carry consecutive numbers under each series. Beginning with No. 237 the serial numbering has been discontinued. A list of the series is given below. Under each is grouped all the bulletins which contain material relating to the subject matter of that series. A list of the reports and bulletins of the bureau issued prior to July 1, 1912, will be furnished on application. The bulletins marked thus * are out of print.*

Wholesale Prices.

- *Bul. 114. Wholesale prices, 1890 to 1912.
- Bul. 149. Wholesale prices, 1890 to 1913.
- *Bul. 173. Index numbers of wholesale prices in the United States and foreign countries.
- *Bul. 181. Wholesale prices, 1890 to 1914.
- *Bul. 200. Wholesale prices, 1890 to 1915.
- Bul. 226. Wholesale prices, 1890 to 1916.
- Bul. 269. Wholesale prices, 1890 to 1919.
- Bul. 284. Index numbers of wholesale prices in the United States and foreign countries. [Revision of Bulletin No. 173.]
- Bul. 296. Wholesale prices, 1890 to 1920.
- Bul. 320. Wholesale prices, 1890 to 1921.
- Bul. 335. Wholesale prices, 1890 to 1922.
- Bul. 367. Wholesale prices, 1890 to 1923.
- Bul. 390. Wholesale prices, 1890 to 1924.

Retail Prices and Cost of Living.

- *Bul. 105. Retail prices, 1890 to 1911: Part I.
Retail prices, 1890 to 1911: Part II—General tables.
- *Bul. 106. Retail prices, 1890 to June, 1912: Part I.
Retail prices, 1890 to June, 1912: Part II—General tables.
- Bul. 108. Retail prices, 1890 to August, 1912
- Bul. 110. Retail prices, 1890 to October, 1912.
- Bul. 113. Retail prices, 1890 to December, 1912.
- Bul. 115. Retail prices, 1890 to February, 1913.
- *Bul. 121. Sugar prices, from refiner to consumer.
- Bul. 125. Retail prices, 1890 to April, 1913.
- *Bul. 130. Wheat and flour prices, from farmer to consumer.
- Bul. 132. Retail prices, 1890 to June, 1913.
- Bul. 136. Retail prices, 1890 to August, 1913.
- *Bul. 138. Retail prices, 1890 to October, 1913.
- *Bul. 140. Retail prices, 1890 to December, 1913.
- Bul. 156. Retail prices, 1907 to December, 1914.
- Bul. 164. Butter prices, from producer to consumer.
- Bul. 170. Foreign food prices as affected by the war.
- *Bul. 184. Retail prices, 1907 to June, 1915
- Bul. 197. Retail prices, 1907 to December, 1915.
- Bul. 228. Retail prices, 1907 to December, 1916.
- Bul. 270. Retail prices, 1913 to December, 1919.
- Bul. 300. Retail prices, 1913 to 1920.
- Bul. 315. Retail prices, 1913 to 1921.
- Bul. 334. Retail prices, 1913 to 1922.
- Bul. 357. Cost of living in the United States.
- Bul. 366. Retail prices, 1913 to December, 1923.
- Bul. 369. The use of cost-of-living figures in wage adjustments. [In press.]

Wages and Hours of Labor.

- Bul. 116. Hours, earnings, and duration of employment of wage-earning women in selected industries in the District of Columbia.
- *Bul. 118. Ten-hour maximum working-day for women and young persons.
- Bul. 119. Working hours of women in the pea canneries of Wisconsin.
- *Bul. 128. Wages and hours of labor in the cotton, woolen, and silk industries, 1890 to 1912.
- *Bul. 129. Wages and hours of labor in the lumber, millwork, and furniture industries, 1890 to 1912.
- *Bul. 131. Union scale of wages and hours of labor, 1907 to 1912.

* Supply exhausted.

Wages and Hours of Labor—Continued.

- *Bul. 134. Wages and hours of labor in the boot and shoe and hosiery and knit goods industries, 1890 to 1912
- *Bul. 135. Wages and hours of labor in the cigar and clothing industries, 1911 and 1912
- Bul. 137. Wages and hours of labor in the building and repairing of steam railroad cars, 1890 to 1912
- Bul. 143. Union scale of wages and hours of labor, May 15, 1913
- Bul. 146. Wages and regularity of employment and standardization of piece rates in the dress and waist industry of New York City.
- *Bul. 147. Wages and regularity of employment in the cloak, suit, and skirt industry.
- *Bul. 150. Wages and hours of labor in the cotton, woolen, and silk industries, 1907 to 1913.
- *Bul. 151. Wages and hours of labor in the iron and steel industry in the United States, 1907 to 1912.
- Bul. 153. Wages and hours of labor in the lumber, millwork, and furniture industries, 1907 to 1913.
- *Bul. 154. Wages and hours of labor in the boot and shoe and hosiery and underwear industries, 1907 to 1913.
- Bul. 160. Hours, earnings, and conditions of labor of women in Indiana mercantile establishments and garment factories.
- Bul. 161. Wages and hours of labor in the clothing and cigar industries, 1911 to 1913.
- Bul. 163. Wages and hours of labor in the building and repairing of steam railroad cars, 1907 to 1913.
- Bul. 168. Wages and hours of labor in the iron and steel industry, 1907 to 1913.
- *Bul. 171. Union scale of wages and hours of labor, May 1, 1914.
- Bul. 177. Wages and hours of labor in the hosiery and underwear industries, 1907 to 1914.
- Bul. 178. Wages and hours of labor in the boot and shoe industry, 1907 to 1914.
- Bul. 187. Wages and hours of labor in the men's clothing industry, 1911 to 1914.
- *Bul. 190. Wages and hours of labor in the cotton, woolen, and silk industries, 1907 to 1914.
- *Bul. 194. Union scale of wages and hours of labor, May 1, 1915.
- Bul. 204. Street railway employment in the United States.
- Bul. 214. Union scale of wages and hours of labor, May 15, 1916.
- Bul. 218. Wages and hours of labor in the iron and steel industry, 1907 to 1915.
- Bul. 221. Hours, fatigue, and health in British munition factories.
- Bul. 225. Wages and hours of labor in the lumber, millwork, and furniture industries, 1915.
- Bul. 232. Wages and hours of labor in the boot and shoe industry, 1907 to 1916.
- Bul. 238. Wages and hours of labor in woolen and worsted goods manufacturing, 1916.
- Bul. 239. Wages and hours of labor in cotton goods manufacturing and finishing, 1916.
- Bul. 245. Union scale of wages and hours of labor, May 15, 1917
- Bul. 252. Wages and hours of labor in the slaughtering and meat-packing industry, 1917.
- Bul. 259. Union scale of wages and hours of labor, May 15, 1918.
- Bul. 260. Wages and hours of labor in the boot and shoe industry, 1907 to 1918
- Bul. 261. Wages and hours of labor in woolen and worsted goods manufacturing, 1918.
- Bul. 262. Wages and hours of labor in cotton goods manufacturing and finishing, 1918.
- Bul. 265. Industrial survey in selected industries in the United States, 1919. Preliminary report.
- *Bul. 274. Union scale of wages and hours of labor, May 15, 1919
- Bul. 278. Wages and hours of labor in the boot and shoe industry, 1907 to 1920.
- Bul. 279. Hours and earnings in anthracite and bituminous coal mining.
- Bul. 286. Union scale of wages and hours of labor, May 15, 1920.
- Bul. 288. Wages and hours of labor in cotton goods manufacturing, 1920.
- Bul. 289. Wages and hours of labor in woolen and worsted goods manufacturing, 1920.
- Bul. 294. Wages and hours of labor in the slaughtering and meat-packing industry in 1921.
- Bul. 297. Wages and hours of labor in the petroleum industry.
- Bul. 302. Union scale of wages and hours of labor, May 15, 1921.
- Bul. 305. Wages and hours of labor in the iron and steel industry, 1907 to 1920.
- Bul. 316. Hours and earnings in anthracite and bituminous coal mining—anthracite, January, 1922; bituminous, winter of 1921-22.
- Bul. 317. Wages and hours of labor in lumber manufacturing, 1921.
- Bul. 324. Wages and hours of labor in the boot and shoe industry, 1907 to 1922.
- Bul. 325. Union scale of wages and hours of labor, May 15, 1922.
- Bul. 327. Wages and hours of labor in woolen and worsted goods manufacturing, 1922.
- Bul. 328. Wages and hours of labor in hosiery and underwear industry, 1922.
- Bul. 329. Wages and hours of labor in the men's clothing industry, 1922.
- Bul. 345. Wages and hours of labor in cotton goods manufacturing, 1922.
- Bul. 348. Wages and hours of labor in the automobile industry, 1922.
- Bul. 353. Wages and hours of labor in the iron and steel industry, 1907 to 1922.
- Bul. 354. Union scale of wages and hours of labor, May 15, 1923.
- Bul. 356. Productivity costs in the common-brick industry, 1932-1923.
- Bul. 358. Wages and hours of labor in the automobile-tire industry, 1923.
- Bul. 360. Time and labor costs in manufacturing 100 pairs of shoes.
- Bul. 362. Wages and hours of labor in foundries and machine shops, 1923.
- Bul. 363. Wages and hours of labor in lumber manufacturing, 1923
- Bul. 365. Wages and hours of labor in the paper and pulp industry.

* Supply exhausted.

Wages and Hours of Labor—Continued.

- Bul. 371. Wages and hours of labor in cotton goods manufacturing, 1924
- Bul. 373. Wages and hours of labor in the slaughtering and meat-packing industry, 1923.
- Bul. 374. Wages and hours of labor in the boot and shoe industry, 1907 to 1924.
- Bul. 376. Wages and hours of labor in the hosiery and underwear industry, 1907 to 1924.
- Bul. 377. Wages and hours of labor in the woolen and worsted goods manufacturing, 1924.
- Bul. 381. Wages and hours of labor in the iron and steel industry, 1907 to 1924.
- Bul. 387. Wages and hours of labor in the men's clothing industry.
- Bul. 388. Union scale of wages and hours of labor, May 15, 1924.

Employment and Unemployment.

- *Bul. 109. Statistics of unemployment and the work of employment offices in the United States.
- Bul. 116. Hours, earnings, and duration of employment of wage-earning women in selected industries in the District of Columbia.
- Bul. 172. Unemployment in New York City, N. Y.
- *Bul. 182. Unemployment among women in department and other retail stores of Boston, Mass.
- *Bul. 183. Regularity of employment in the women's ready-to-wear garment industries.
- Bul. 192. Proceedings of the American Association of Public Employment Offices
- *Bul. 195. Unemployment in the United States.
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