U. S. DEPARTMENT OF LABOR
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BUREAU OF LABOR STATISTICS
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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

AUGUST, 1925

WASHINGTON
GOVERNMENT PRINTING OFFICE
1925

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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	$0.595	$31.18
California	3,936	6	1,397	51.7	.594	30.71
Colorado	4,775	9	1,210	52.8	.592	31.26
Idaho	2,256	4	1,386	54.4	.693	37.70
Montana	11,862	5	3,084	52.7	.666	35.10
Nevada	3,968	8	1,616	56.5	.636	35.93
New Mexico	3,057	6	1,603	54.2	.459	24.88
Utah	5,874	4	2,853	56.0	.560	31.36
Total	50,708	50	16,811	53.8	.599	32.23
Michigan copper	12,235	6	4,689	49.6	.498	24.70
Northern iron:						
Michigan	16,160	24	6,102	50.3	.566	28.47
Minnesota	16,236	23	4,983	55.5	.570	31.64
Total	32,396	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	(1)	(1)	(1)	(1)	(1)
Missouri	4,793	(1)	(1)	(1)	(1)	(1)
Oklahoma	5,253	(1)	(1)	(1)	(1)	(1)
Total	11,187	26	2,933	48.6	.552	26.83
Other States	13,947	----	----	----	----	----
Grand total	126,958	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
3	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 Tri-State lead 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.

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

Average distance in feet from bottom of shaft to face or 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	-----	1	-----	-----	-----
400 and under 500	9	-----	5	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	3	-----	1	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
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	-----	-----	-----	-----	-----	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	[1] 112	309	2	1	1	2	2	12	20	42	7	2	21
OPEN-PIT MINES													
Western mixed ore	3	363	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	3
Northern iron	12	140	12	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Alabama iron	4	257	1	-----	-----	-----	-----	-----	1	2	-----	-----	-----
Total	[2] 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 shutdown	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	[1] 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	[2] 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 piecework 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.

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—		
	Establishments	Employees	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	.735	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	40.15
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

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—		
	Establishments	Employees	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	39.76
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—		
	Establishments	Employees	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	39.59
California	5	11	61.3	.576	35.31
Colorado	6	10	52.0	.538	27.98
Idaho	4	18	55.1	.707	38.96
Montana	2	6	56.0	.688	38.53
Nevada	5	8	56.0	.723	40.49
Utah	2	5	56.0	.621	34.78
Total	31	77	55.9	.662	37.01
Michigan copper	6	23	56.9	.446	25.38
Northern iron:					
Michigan	7	20	60.6	.447	27.09
Minnesota	2	3	79.3	.457	36.24
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	56.0	.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—		
	Establishments	Employees	Full-time hours per week	Earnings per hour	Full-time earnings per week
DRILLING MACHINE OPERATORS, CONTRACT (underground)—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 (underground)					
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.

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—		
	Establishments	Employees	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	8	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	.465	24.04

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—		
	Establishments	Employees	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

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—		
	Establishments	Employees	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	32	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—		
	Establishments	Employees	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

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—		
	Establishments	Employees	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	52.0	.553	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	.594	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	30.03
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

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—		
	Establishments	Employees	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
OILERS (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	.559	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	17.65
Utah	2	11	56.0	.650	36.40
Total	13	99	53.1	.556	29.53
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	31.25
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

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—		
	Establishments	Employees	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	.481	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

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—		
	Establishments	Employees	Full-time hours per week	Earnings per hour	Full-time earnings per week
SKIPPERS (underground)					
Western mixed ore:					
Arizona	6	17	52.2	$0.656	$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	28.05
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

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—		
	Establishments	Employees	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	52.3	.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—		
	Establishments	Employees	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	.586	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

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—		
	Establishments	Employees	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	25.95
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	33.96
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—		
	Establishments	Employees	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

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—		
	Establishments	Employees	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—		
	Establishments	Employees	Full-time hours per week	Earnings per hour	Full-time earnings per week
PITMEN					
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	26.38
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 B.—AVERAGE AND CLASSIFIED EARNINGS PER HOUR FOR 6 TYPICAL OCCUPATIONS, BY DISTRICT AND STATE

Occupation, district, and State	Number of—		Average earnings per hour	Number of employees whose earnings per hour were—																		
	Establishments	Employees		Under 30 cents	30 and under 35 cents	35 and under 40 cents	40 and under 45 cents	45 and under 50 cents	50 and under 55 cents	55 and under 60 cents	60 and under 65 cents	65 and under 70 cents	70 and under 75 cents	75 and under 80 cents	80 and under 85 cents	85 and under 90 cents	90 and under 95 cents	95 cents and under $1	$1 and under $1.10	$1.10 and under $1.20	$1.20 and under $1.30	$1.30 and under $1.40	$1.40 and under $1.60
DRILLING-MACHINE OPERATORS, COMPANY (underground)																						
Western mixed ore:																						
Arizona	8	716	$0.603	----	----	----	----	87	77	8	403	123	11	6	----	----	----	1	----	----	----	----	----
California	6	365	.602	----	----	----	1	1	46	201	45	24	----	26	21	----	----	----	----	----	----	----	----
Colorado	8	205	.605	----	----	----	----	----	1	91	104	3	----	----	6	----	----	----	----	----	----	----	----
Idaho	4	268	.692	----	1	----	----	2	----	1	39	163	5	44	13	----	----	----	----	----	----	----	----
Montana	5	685	.598	----	----	----	----	----	3	638	13	30	----	1	----	----	----	----	----	----	----	----	----
Nevada	6	282	.679	----	----	----	----	----	----	1	----	184	97	----	----	----	----	----	----	----	----	----	----
New Mexico	5	155	.475	----	----	----	37	73	25	19	1	----	----	----	----	----	----	----	----	----	----	----	----
Utah	3	251	.692	----	----	----	----	----	1	3	7	206	13	12	3	6	----	----	----	----	----	----	----
Total	45	2,927	.617	----	1	----	38	163	153	962	612	733	126	89	43	6	----	1	----	----	----	----	----
Michigan copper	4	523	.557	----	----	----	----	3	134	373	----	12	----	1	----	----	----	----	----	----	----	----	----
Northern iron:																							
Michigan	23	770	.625	----	----	----	----	----	2	460	175	12	2	117	2	----	----	----	----	----	----	----	----
Minnesota	5	333	.584	----	----	----	----	----	----	308	15	3	2	----	4	1	----	----	----	----	----	----	----
Total	28	1,103	.614	----	----	----	----	----	2	768	190	15	4	117	6	1	----	----	----	----	----	----	----
Alabama iron	4	310	.483	1	----	31	119	41	110	2	5	----	1	----	----	----	----	----	----	----	----	----	----
Southeast Missouri lead	3	169	.577	----	----	----	----	----	----	165	3	----	1	----	----	----	----	----	----	----	----	----	----
Tri-State lead and zinc	22	295	.497	----	1	----	11	35	240	7	1	----	----	----	----	----	----	----	----	----	----	----	----
All districts	106	5,327	.594	1	2	31	168	242	639	2,277	811	760	132	207	49	7	----	1	----	----	----	----	----

DRILLING-MACHINE OPERATORS, CONTRACT ((underground)																						
Western mixed ore:																						
Arizona	4	481	.787							86	89	67	58	39	42	28	33	28	7	3	1	
California	2	9	.858								1		1	2	1	3	1					
Colorado	3	53	.785					2	2	3	11	3	14	8	2			4	2		2	
Idaho	2	27	1.065								3					5		3	13		3	
Montana	5	961	.764					2	2	138	172	121	112	82	93	67	37	23	66	30	5	5	6
Nevada	4	61	.836									7	7	10	9	18	3	2	4	1			
New Mexico	3	18	.583						7	4	5		1	1									
Utah	1	18	.895											12					2	4			
Total	24	1,628	.778					2	11	144	266	232	190	178	151	130	76	59	107	57	8	11	6
Michigan copper	4	686	.676				1	6	110	188	170	111	44	29	12	4	4	3	1	2		1	
Northern iron:																							
Michigan	18	2,134	.674				1	3	10	251	528	1,007	129	77	37	40	30	5	13	1	2		
Minnesota	10	1,394	.788				1	1	4	88	90	85	150	427	308	74	69	35	37	14	8		[1]3
Total	28	3,528	.717				2	4	14	339	618	1,092	279	504	345	114	99	40	50	15	10		[1]3
Alabama iron	1	6	.821										3	1			1		1				
Southeast Missouri lead [2]	4	68	.712							20	13	6	8	4	3	3	3	3	3	1	1		
All districts [1]	61	5,916	.729				3	12	135	691	1,067	1,441	524	716	511	251	183	105	162	75	19	12	[1]9
MUCKERS (underground)																							
Western mixed ore:																							
Arizona	8	688	.553			92	21		3	346	146	49	15	4	2	6	4						
California	6	397	.548				33		234	61	1	67							1				
Colorado	8	180	.539						143	23	5		2		1	2	2		2				
Idaho	4	262	.623							20	233	8		1									
Montana	2	24	.594							24													
Nevada	5	156	.640							44	2	109	1										
New Mexico	5	127	.402			36	89	2															
Utah	3	303	.623							80	214	5	1						3				
Total	41	2,137	.568			128	143	2	380	598	601	238	19	5	3	8	6		3	3			
Michigan copper	6	319	.501		1	36	4	170	23	26	43	8	3	2	1		1		1				
Northern iron: Michigan	5	49	.531						42	6	1												
Alabama iron	4	737	.429	27	40	260	149	225	25	9	1						1						
Southeast Missouri lead	4	430	.596					1	2	287	110	21	5	1	1		1	1					
Tri-State lead and zinc	22	438	.699	2	1	4	18	36	51	53	80	41	36	26	27	13	16	7	13	6	6	2	
All districts	82	4,110	.554	29	42	428	314	434	523	979	836	308	63	34	32	21	25	8	17	9	6	2	

[1] Including 1 employee at $1.94.
[2] Not including 54 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.

TABLE B.—AVERAGE AND CLASSIFIED EARNINGS PER HOUR FOR 6 TYPICAL OCCUPATIONS, BY DISTRICT AND STATE—Continued

Occupation, district, and State	Number of—		Average earnings per hour	Number of employees whose earnings per hour were—																		
	Establishments	Employees		Under 30 cents	30 and under 35 cents	35 and under 40 cents	40 and under 45 cents	45 and under 50 cents	50 and under 55 cents	55 and under 60 cents	60 and under 65 cents	65 and under 70 cents	70 and under 75 cents	75 and under 80 cents	80 and under 85 cents	85 and under 90 cents	90 and under 95 cents	95 cents and under $1	$1 and under $1.10	$1.10 and under $1.20	$1.20 and under $1.30	$1.30 and under $1.40	$1.50 and under $1.60
TIMBERMEN (underground)																						
Western mixed ore:																						
Arizona	8	184	$0.617					76	8	23	2	36	7	10	1	6	1	2	7	3	2	
California	6	93	.642							27	52	1			13							
Colorado	8	157	.594						1	100	33	23										
Idaho	4	208	.764									3	1	154	50							
Montana	5	415	.659							112	171	108		2		6	1		3	9	3	
Nevada	6	84	.721									2	76	4	2							
New Mexico	5	28	.473				13	8	6	1												
Utah	3	110	.654						1	27	6	68	6	2								
Total	45	1,279	.658				13	84	16	290	264	241	90	172	66	12	2	2	10	12	5	
Michigan copper	6	410	.464			2	58	339	11													
Northern iron:																						
Michigan	22	231	.576					1	24	165	34			6	1							
Minnesota	10	101	.598						7	76	9	2	5		1			1				
Total	32	332	.578					1	31	241	43	2	5	6	2			1				
Alabama iron	3	12	.421				12															
Southeast Missouri lead	1	3	.756											3								
Tri-State lead and zinc	5	19	.500						19													
All districts	92	2,055	.604			2	83	424	77	531	307	243	95	181	68	12	2	3	10	12	5	
TOPMEN (surface)																						
Western mixed ore:																						
Arizona	7	92	.364		32	49	3	2	3	3												
California	6	54	.519	1			7	21	12	7		6										
Colorado	8	65	.491				16	15	17	8												

Idaho	3	63	.605							47	11	4	1										
Montana	5	112	.563						73	28	1	8	2										
Nevada	7	47	.608						9	1	29	8											
New Mexico	4	33	.358	1	16	7	9																
Utah	3	63	.588						23	16	12	12											
Total	43	520	.517	2	48	56	35	38	137	110	53	38	3										
Michigan copper	6	181	.343	22	53	97	9																
Northern iron:																							
Michigan	24	595	.416		4	227	301	39	4	2	9			7	2								
Minnesota	10	172	.427	3		2	141	5	21														
Total	34	767	.418	3	4	229	442	44	25	2	9			7	2								
Alabama iron	4	159	.282	118	34	5	2																
Southeast Missouri lead	4	9	.468				4	5															
Tri-State lead and zinc	22	106	.421			18	72	10	5					1									
All districts	113	1,742	.428	145	139	405	564	97	167	112	62	38	3	8	2								
TRAMMERS (underground)																							
Western mixed ore:																							
Arizona	5	311	.481			88	44	10	4	129	36												
California	5	74	.586						25	37	1	11											
Colorado	7	145	.599						82	22	1	1	7	26	3					1	2		
Idaho	4	32	.638							3	25			4									
Montana	5	356	.596						1	350		1	1	1		1				1			
Nevada	5	111	.641							24		87											
New Mexico	5	73	.394			26	47																
Utah	2	50	.616							22	21	7											
Total	38	1,152	.557			114	91	10	112	587	84	107	8	31	3	1				2	2		
Michigan copper	6	367	.551			1	2	117	106	51	31	26	10	6	3	7	6			1			
Northern iron:																							
Michigan	21	345	.561					11	244	46	11	12	1	10		2		4		2	2		
Minnesota	8	40	.551						38				2										
Total	29	385	.560					11	282	46	11	12	3	10		2		4		2	2		
Alabama iron	1	3	.370			3																	
Southeast Missouri lead	1	7	.569							7													
Tri-State lead and zinc	22	114	.438				102	8	3	1													
All districts	97	2,028	.550			118	195	146	503	692	126	145	21	47	6	10	6	4	5	4			

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—							
	Establishments	Employees		Under 48	48	Over 48 and under 56	56	60	Over 60 and under 72	72 and under 84	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	1,103	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	262	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—							
	Establishments	Employees		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	2,055	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	[1]4	267	7	2	-----
Minnesota	10	172	60.4	------	-----	-----	-----	168	2	1	1
Total	34	767	57.6	------	11	304	[1]4	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	55.3	------	299	580	253	588	18	3	1

[1] Time is 57 hours.

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—							
	Establishments	Employees		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	22	114	48.0	----	114	----	----	----	----	----	----
All districts	97	2,028	50.9	88	1,124	117	696	3	----	----	----

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*Bul. 106. Retail prices, 1890 to June, 1912: Part I.
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Bul. 369. The use of cost-of-living figures in wage adjustments. [In press.]

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*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.

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*Electrical manufacturing, distribution, and maintenance.
Glass.
Hotels and restaurants.
*Logging camps and sawmills.
Medicinal manufacturing.
Metal working, building and general construction, railroad transportation, and shipbuilding.
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*Office employees.
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