UNITED STATES 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. 525

WAGES AND HOURS OF LABOR SERIES

WAGES AND HOURS OF LABOR IN THE PORTLAND CEMENT INDUSTRY 1929

JANUARY, 1931

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1931

For sale by the Superintendent of Documents, Washington, D. C. - - Price 15 cents

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BULLETIN OF THE
U. S. BUREAU OF LABOR STATISTICS

No. 525 WASHINGTON January, 1931

WAGES AND HOURS OF LABOR IN THE PORTLAND CEMENT INDUSTRY, 1929

INTRODUCTION

THIS report presents the results of the first comprehensive study, by the Bureau of Labor Statistics, of wages and hours of labor of wage earners in the Portland cement industry in the United States by occupations.

The statistics in the report were computed from wage data for 20,544 males and 157 females, which were collected by agents of the bureau from the pay rolls and other records of 102 Portland cement plants in 28 States.

The wage data covered the actual hours worked, wage rates, and amount earned by each wage earner in a representative pay period in 1929 and other pertinent information. Most of the information was taken from pay rolls in the last four months in 1929 and consequently is representative of the conditions as of that period.

AVERAGE HOURS AND EARNINGS, 1929, BY OCCUPATIONS

TABLE 1 shows for all occupations in the industry, and also for each of the specified occupations in each department of the industry, summaries of average earnings per hour and of average full-time hours and earnings per week. The group designated in the table as "other employees" includes wage earners in other occupations, each too small in number to warrant tabulation as an occupation.

Average full-time hours per week for males in all occupations were 60.8, for females 52, and for both sexes, or the industry, 60.8. Average earnings per hour for males were 51.8 cents, for females 38.9 cents, and for both sexes, or the industry, 51.7 cents. Average full-time earnings per week for males in all occupations were $31.49, for females $20.23, and for both males and females, or the industry, $31.43.

Average full-time hours per week for males range by occupations from 54.5 for "sack cleaners" in the cement department to 80 for "elevator tenders" in the coal-mill department, and for females from 48.8 for "sack tiers" in the cement department to 52.2 for "other employees" in the same department. Average earnings per hour for males range from 36.3 cents for "laborers" in the coal-mill department to 87 cents for "packers (sackers)" in the cement department, and for females from 31.2 cents for "laborers" in the cement department to 49.2 cents for "sack tiers" in the same department. Average full-time earnings per week for males range from $21.78 for "laborers" in the shops and miscellaneous departments to $48.81 for "packers (sackers)" in the cement department, and for females from

$16.10 for "laborers" in the cement department to $24.01 for "sack tiers" in the same department.

TABLE 1.—AVERAGE HOURS AND EARNINGS, 1929, FOR THE INDUSTRY AND FOR EACH OCCUPATION IN EACH DEPARTMENT, BY SEX

Department and occupation	Sex	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Industry						
All occupations	Male	102	20,544	60.8	$0.518	$31.49
Do	Female	28	157	52.0	.389	20.23
Do	Male and female.	102	20,701	60.8	.517	31.43
Quarry						
Drillers	Male	85	544	56.9	.525	29.87
Blasters	do	70	142	55.9	.534	29.85
Shovel engineers	do	87	250	57.5	.730	41.98
Shovel cranemen	do	48	95	57.1	.595	33.97
Shovel firemen	do	47	110	58.7	.461	27.06
Locomotive engineers	do	84	324	57.3	.532	30.48
Locomotive firemen	do	24	82	57.5	.471	27.08
Laborers	do	91	1,213	57.4	.395	22.67
Other employees	do	89	1,239	58.2	.499	29.04
Raw						
Unloaders, hand	Male	34	162	60.4	.411	24.82
Unloaders, mechanical	do	53	124	61.7	.506	31.22
Crusher operators	do	85	206	56.9	.503	28.62
Elevator tenders	do	9	14	63.2	.423	26.73
Conveyor tenders	do	64	295	66.9	.428	28.63
Mixer tenders	do	36	113	66.1	.479	31.66
Dryer tenders	do	33	127	64.6	.461	29.78
Dryer firemen	do	22	62	69.6	.438	30.48
Grinder operators	do	95	322	66.8	.503	33.60
Raw-finish mill operators	do	55	208	64.9	.505	32.77
Oilers	do	62	181	68.6	.406	27.85
Laborers	do	79	434	63.5	.403	25.59
Other employees	do	80	665	64.6	.500	32.30
Coal mill						
Laborers	Male	33	119	71.2	.363	25.85
Elevator tenders	do	3	6	80.0	.373	29.84
Conveyor tenders	do	29	81	69.7	.427	29.76
Dryer tenders	do	34	98	64.2	.472	30.30
Dryer firemen	do	34	88	69.1	.450	31.10
Crusher operators	do	12	28	65.7	.463	30.42
Grinder operators	do	76	206	68.3	.519	35.45
Other employees	do	25	85	68.3	.458	31.28
Shops and miscellaneous						
Machinists	Male	99	433	56.0	.651	36.46
Repairmen	do	101	1,329	61.3	.572	35.06
Laborers	do	90	1,212	58.7	.371	21.78
Other employees	do	101	2,559	57.4	.562	32.26
Clinker						
Burners, first	Male	101	322	64.2	.628	40.32
Burners, second	do	46	220	65.3	.534	34.87
Cooler tenders	do	25	57	69.3	.456	31.60
Mixers	do	31	104	65.7	.456	28.59
Elevator tenders	do	9	23	69.8	.366	25.55
Conveyor tenders	do	61	206	69.4	.445	30.88
Clinker grinders	do	93	396	66.3	.498	33.02
Oilers	do	75	262	69.4	.449	31.16
Laborers	do	67	315	67.2	.422	28.36
Other employees	do	85	701	67.7	.497	33.65
Cement						
Conveyor tenders	Male	52	132	57.8	.437	25.26
Elevator tenders	do	3	4	60.0	.434	26.04
Packers (sackers)	do	96	1,249	56.1	.870	48.81
Sack tiers	do	65	130	55.2	.495	27.32
Sack tiers	Female	3	8	48.8	.492	24.01
Loaders	Male	25	148	57.2	.560	32.03
Laborers	do	87	728	57.2	.416	23.80
Do	Female	2	5	51.6	.312	16.10

TABLE 1.—AVERAGE HOURS AND EARNINGS, 1929, FOR THE INDUSTRY AND FOR EACH OCCUPATION IN EACH DEPARTMENT, BY SEX—Continued

Department and occupation	Sex	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Cement—Continued						
Sack cleaners	Male	40	106	54.5	$0.427	$23.27
Do	Female	3	14	51.4	.425	21.85
Inspectors	Male	22	61	58.3	.420	24.49
Oilers	do	17	22	56.9	.466	26.52
Other employees	do	94	743	57.0	.532	30.32
Do	Female	26	130	52.2	.382	19.94
Power						
Laborers	Male	26	71	63.2	.395	24.96
Firemen	do	26	116	61.9	.523	32.37
Engineers	do	31	253	60.7	.587	35.63
Pump men	do	24	57	69.3	.450	31.19
Oilers	do	32	99	70.5	.461	32.50
Other employees	do	82	863	67.3	.557	37.49

AVERAGE HOURS AND EARNINGS, 1929, BY DISTRICTS

AVERAGE full-time hours per week, earnings per hour, and full-time earnings per week are presented in Table 2 for wage earners of each sex and for both sexes combined in each of 12 geographic districts in the United States. The districts are those shown by the Bureau of Mines in Portland Cement in July, 1929, except that no data are shown in this table for Maine in district 2; for Louisiana in district 6; for Minnesota and South Dakota in district 7; nor for Wyoming and Idaho in district 10. The districts are as follows:

No. 1.—Eastern Pennsylvania, New Jersey, and Maryland.
No. 2.—New York.
No. 3.—Ohio, West Virginia, and western Pennsylvania.
No. 4.—Michigan.
No. 5.—Wisconsin, Illinois, Indiana, and Kentucky.
No. 6.—Virginia, Tennessee, Alabama, Georgia, and Florida.
No. 7.—Iowa and eastern Missouri.
No. 8.—Kansas, Oklahoma, Nebraska, and western Missouri.
No. 9.—Texas.
No. 10.—Utah, Montana, and Colorado.
No. 11.—California.
No. 12.—Oregon and Washington.

Average full-time hours for males range from 53.9 per week in district No. 12 to 67.9 in district No. 9, and for females from 45.1 in one of the districts for which averages are not shown separately to 57.8 in district No. 8. Averages for females are not shown for districts 2, 9, and 12 because data for each are for one plant only.

Average earnings per hour for males range from 37.3 cents in district No. 9 to 60.9 cents in district No. 12, and for females from 23.4 cents in one of the districts for which averages are not shown separately to 52.8 cents in district No. 11.

Average full-time earnings per week for males range from $25.33 in district No. 9 to $35.02 in district No. 4, and for females from $13.34 in one of the districts for which averages are not shown separately to $25.24 in district No. 11.

Average full-time hours per week for males and females combined, or the industry, range from 53.9 in district No. 12 to 67.8 in district No. 9; average earnings per hour range from 37.3 cents in district No. 9 to 60.8 cents in district No. 12; and average full-time earnings per week range from $25.29 in district No. 9 to $34.84 in district No. 4.

TABLE 2.—NUMBER OF ESTABLISHMENTS AND OF WAGE EARNERS AND AVERAGE HOURS AND EARNINGS, 1929, BY SEX AND DISTRICT

Sex and district	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Males					
No. 1	16	4,566	61.2	$0.554	$33.90
No. 2	6	1,230	60.7	.551	33.45
No. 3	10	2,194	61.5	.558	34.32
No. 4	9	1,409	62.1	.564	35.02
No. 5	10	2,708	60.2	.495	29.80
No. 6	13	2,043	64.0	.427	27.33
No. 7	6	1,892	61.6	.479	29.51
No. 8	7	1,292	60.0	.446	26.76
No. 9	3	607	67.9	.373	25.33
No. 10	6	617	56.8	.526	29.88
No. 11	9	1,416	55.2	.587	32.40
No. 12	7	570	53.9	.609	32.83
Total	102	20,544	60.8	.518	31.49
Females					
No. 1	2	11	53.6	.356	19.08
No. 2	1	(1)	(1)	(1)	(1)
No. 3	2	10	50.4	.448	22.58
No. 4	4	11	56.7	.348	19.73
No. 5	5	31	51.7	.370	19.13
No. 7	2	39	54.6	.331	18.07
No. 8	3	8	57.8	.399	23.06
No. 9	1	(1)	(1)	(1)	(1)
No. 10	5	10	48.8	.416	20.30
No. 11	2	22	47.8	.528	25.24
No. 12	1	(1)	(1)	(1)	(1)
Total	28	157	52.0	.389	20.23
Males and females					
No. 1	16	4,577	61.1	.553	33.79
No. 2	6	1,241	60.6	.550	33.33
No. 3	10	2,204	61.4	.558	34.26
No. 4	9	1,420	62.0	.562	34.84
No. 5	10	2,739	60.2	.494	29.74
No. 6	13	2,043	64.0	.427	27.33
No. 7	6	1,931	61.5	.476	29.27
No. 8	7	1,300	60.0	.446	26.76
No. 9	3	609	67.8	.373	25.29
No. 10	6	627	56.7	.525	29.77
No. 11	9	1,438	55.1	.586	32.29
No. 12	7	572	53.9	.608	32.77
Total	102	20,701	60.8	.517	31.43

[1] Included in "Total." Not shown here as it is the policy of the bureau not to publish data for any one plant separately.

AVERAGE AND CLASSIFIED EARNINGS PER HOUR, 1929

TABLE 3 presents a percentage distribution, by average earnings per hour, of the *male* employees in 14 representative occupations in the Portland cement industry. The employees in these occupations represent between 36 and 37 per cent of all employees included in the study. The classified figures in the table are representative of the spread of average earnings per hour of the employees in all occupations in the industry.

The figures for "drillers" in the quarries, the first occupation shown in the table, are for 544 wage earners in 85 quarries. They earned an average of 52.5 cents per hour, and less than 1 per cent of them earned 25 and under 30 cents; 2 per cent earned 30 and under 35 cents, and 6 per cent earned 35 and under 40 cents. The distribution continues by groups to 2 per cent at $1.25 and under $1.50 per hour and to less than 1 per cent at an average earning of $1.50 and under $1.75 per hour.

TABLE 3.—AVERAGE AND CLASSIFIED EARNINGS PER HOUR OF MALE EMPLOYEES IN 14 SPECIFIED OCCUPATIONS, 1929, BY DEPARTMENT

Department and occupation	Number of establishments	Number of employees	Average earnings per hour	Per cent of employees whose earnings (in cents) per hour were—																				
				15, under 20	20, under 25	25, under 30	30, under 35	35, under 40	40, under 45	45, under 50	50, under 55	55, under 60	60, under 65	65, under 70	70, under 75	75, under 80	80, under 85	85, under 90	90, under 95	95, under 100	100, under 125	125, under 150	150, under 175	175, under 200
Quarry																								
Drillers	85	544	$0.525	----	----	(1)	2	6	15	27	23	4	12	2	1	3	1	(1)	1	(1)	1	2	(1)	----
Shovel engineers	87	250	.730	----	----	----	----	----	2	4	5	8	11	7	15	19	6	8	4	5	6	----	----	----
Laborers	91	1,213	.395	----	2	11	11	22	32	14	4	1	3	(1)	(1)	(1)	----	----	----	----	----	----	----	----
Raw																								
Crusher operators	85	206	.503	----	1	1	2	5	18	17	28	11	7	(1)	1	----	----	1	2	3	1	----	----	----
Grinder operators	95	322	.503	----	1	1	1	4	11	27	20	21	7	2	----	1	(1)	1	1	1	1	----	----	----
Laborers	79	434	.403	----	3	5	7	23	37	9	8	2	1	(1)	(1)	----	----	1	1	1	(1)	----	----	----
Coal mill																								
Grinder operators	76	206	.519	----	----	----	1	3	9	26	29	15	5	2	3	2	----	1	2	1	(1)	----	----	----
Laborers	33	119	.363	----	3	7	3	49	33	4	1	----	----	----	----	----	----	----	----	----	----	----	----	----
Shops and miscellaneous																								
Laborers	90	1,212	.371	(1)	6	10	13	22	31	11	5	(1)	(1)	----	----	----	----	1	(1)	(1)	----	----	----	----
Clinker																								
Burners, first	101	322	.628	----	----	----	----	----	3	4	12	9	26	19	14	6	1	2	----	(1)	4	----	----	----
Clinker grinders	93	396	.498	----	1	1	1	2	12	28	28	14	6	1	----	1	(1)	1	1	1	1	----	----	----
Laborers	67	315	.422	----	2	5	7	15	52	11	8	(1)	(1)	----	----	----	----	----	----	----	----	----	----	----
Cement																								
Packers (sackers)	96	1,249	.870	----	----	(1)	(1)	3	3	2	4	6	4	4	5	6	10	10	7	8	2	7	2	1
Laborers	87	728	.416	----	2	4	5	24	35	19	7	2	2	(1)	(1)	(1)	----	(1)	(1)	----	----	----	----	----

[1] Less than 1 per cent.

FULL-TIME HOURS IN 1929

TABLE 4 shows for the *male* wage earners in each of 14 representative occupations in the industry average full-time hours per week and also the per cent of wage earners in each occupation working each classified number of full-time hours per week. Full-time hours per week represent the standard full time as established by the regular time of beginning and quitting work on each day of the week less the regular time off duty each day for dinner, lunch, or any other meal, without taking into consideration any time off by any employee for any cause.

Average full-time hours for the 544 "drillers," the first occupation shown in the table, were 56.9 per week. The percentage distribution of the employees in this occupation shows that the full-time hours per week of 23 per cent of them were 48; of 15 per cent were 54; and of 6 per cent were 55. The distribution continues by groups to 2 per cent at 77 hours per week.

TABLE 4.—AVERAGE AND CLASSIFIED FULL-TIME HOURS PER WEEK OF MALE EMPLOYEES IN 14 SPECIFIED OCCUPATIONS, 1929, BY DEPARTMENT

Department and occupation	Number of establishments	Number of employees	Average full-time hours per week	Per cent of employees whose full-time hours per week were—														
				40	48	Over 48, under 54	54	55	56	Over 56, under 60	60	Over 60, under 70	70	Over 70, under 77	77	80½	84	86	94½
Quarry																		
Drillers	85	544	56.9	----	23	----	15	6	7	2	34	7	4	----	2	----	----	----	----
Shovel operators	87	250	57.5	----	18	2	15	6	4	3	38	6	4	2	2	----	----	----	----
Laborers	91	1,213	57.4	----	17	----	12	7	6	3	46	3	4	----	1	----	(1)	----	----
Raw																		
Crusher operators	85	206	56.9	7	18	(1)	10	(1)	22	2	22	8	1	2	1	----	4	----	(1)
Grinder operators	95	322	66.8	3	3	----	2	1	49	(1)	1	2	----	2	1	----	34	2	(1)
Laborers	79	434	63.5	3	7	----	11	2	20	4	21	5	(1)	4	3	----	19	----	1
Coal mill																		
Grinder operators	76	206	68.3	5	1	----	1	----	43	----	----	----	2	4	1	----	42	----	1
Laborers	33	119	71.2	----	1	----	3	4	19	2	9	1	10	6	1	----	43	----	1
Shops and miscellaneous																		
Laborers	90	1,212	58.7	1	10	1	13	6	3	6	45	4	4	1	(1)	----	4	----	----
Clinker																		
Burners, first	101	322	64.2	2	1	----	1	----	65	----	1	(1)	----	1	----	----	29	----	----
Clinker grinders	93	396	66.3	4	1	----	2	----	52	----	1	1	----	3	1	----	36	----	----
Laborers	67	315	67.2	----	2	----	3	2	28	7	14	4	5	1	1	2	31	----	----
Cement																		
Packers (sackers)	96	1,249	56.1	(1)	23	1	14	2	1	7	47	5	----	----	----	----	----	----	----
Laborers	87	728	57.2	----	21	(1)	13	3	(1)	5	46	8	2	1	----	----	----	----	----

[1] Less than 1 per cent.

Full-time hours per week and per day are shown in Table 5 by geographic districts for the wage earners in the quarry, coal-mill, and cement departments of the Portland cement industry; for those in the raw department, who did the crushing and the grinding of rock; and for those in the clinker department, who did the burning and the grinding of the burnt rock.

The geographic districts are Nos. 1 to 12 and are described on page 3.

Much of the work in the cement industry was continuous because of the relation to the burning and the grinding of rock in the clinker department. Except when closed for necessary repairs, kilns were kept burning day and night in 101 of the 102 plants included in the study, and grinding of burnt rock was continuous, or of two or more shifts per day, in all except 4 of the 102 plants. There was much variation in the regular hours per week and per day of wage earners in the different departments and also in the same department, especially of those who worked on different shifts. A typical example in one plant is as follows:

Example of variations in regular hours of labor in a cement plant

Department	Work done	Number of shifts	Regular hours of shifts			
			Per week	Monday to Friday	Saturday	Sunday
Quarry	All in department	1 (day)	60	10	10	
Raw	Crushing rock	1 (day)	60	10	10	
	Grinding rock	1 (day)	73½	10½	10½	10½
		1 (night)	94½	13½	13½	13½
Coal mill	All in department	1 (day)	73½	10½	10½	10½
		1 (night)	94½	13½	13½	13½
Clinker	Burning crushed rock	3 in 24 hours	56	8	8	8
	Grinding burnt rock	1 (day)	73½	10½	10½	10½
Cement	All in department	1 (day)	60	10	10	
Power	All in power house	2 in 24 hours	84	12	12	12

Quarries were generally in operation during the day, or one shift only. Data are shown in the table for 95 quarries because 7 of the 102 cement plants covered in the study used oyster shells, marl, or other fine materials, or purchased rock. The hours of this department were usually the basis of the hours of wage earners who worked at the rock crushers in the raw department. Crushing was done in the quarries of a very few plants. There was day work, or one shift only, in 77 of the 87 plants in which there was raw crushing and both day and night work in 10 plants. There was no crushing in 15 plants because crushed stone was purchased, materials used did not require crushing, or crushers were not in operation in the pay period taken. The operation of grinding rock in the raw department was generally continuous, consisting of two or more shifts per day. There was day work in 6 and day and night work in 95 plants in which there was grinding in the raw department. One plant purchased material already ground. The operation of the coal-mill departments, which supplied pulverized coal to the kilns, was usually continuous, or of two or more shifts, in all except 5 of the 82 plants in which coal was used. Twenty of the 102 plants used gas or oil. The cement

department, where the product was finished, bagged, and placed in storage, or loaded for shipment from the plants, was in operation during the day or one shift only. Data are shown for 100 cement departments because in 2 of the 102 plants covered in this study the work of this department was done by contract with figures for such work not available.

The data in Table 5 show that the full-time hours of 18 quarries were 48 per week, or 8 hours each on 6 days, there being no work on Sunday at any of the 18. Two of them were in geographic district No. 1; 2 in No. 3; 3 in No. 5; 1 in No. 7; 1 in No. 8; 2 in No. 10; 3 in No. 11; and 4 were in district No. 12. The hours for 7 quarries were 56 per week, or 8 each day, Monday to Friday, Saturday, and Sunday; for 2 quarries 63 per week, or 9 each of 7 days; for 4 quarries 70 per week, or 10 each on 7 days; for 2 quarries 77 per week, or 11 each on 7 days; and for 2 other quarries 84 per week, or 12 hours each on 7 days. There were no regular hours of work on Sunday at 78 of the 95 quarries included in the table.

It will be observed under "crushing in raw department," that in 3 plants there were three shifts of 8 hours each on 7 days, or 56 hours per week; that in 1 plant there were two shifts each on 7 days, the hours of the first shift being 10½ each on 7 days or 73½ per week, and of the second shift 13½ each on 7 days or 94½ per week; that in 1 plant there were two shifts, the hours of the first being 11 each on 7 days or 77 per week, and of the second 13 each on 7 days or 91 per week; and that in 5 plants there were two shifts, the hours of each shift being 12 each on 7 days or 84 per week. Work in these plants was continuous and employees in them alternated; that is, they worked one shift one week or pay period and the next week or pay period worked the next or other shift.

TABLE 5.—FULL-TIME HOURS PER WEEK AND PER DAY, 1929, BY GEOGRAPHIC DISTRICTS AND DEPARTMENTS

[For explanation of geographic districts, see p. 3]

QUARRY DEPARTMENT

Hours per week	Monday to Friday	Saturday	Sunday	Number of plants in geographic district No.—												Total
				1	2	3	4	5	6	7	8	9	10	11	12	
48	8	8		2		2		3		1	1		2	3	4	18
54	9	9		2	3	1				1	4			2		13
55	10	5		2		1			1							4
56	8	8	8					1	1				3	1	1	7
57	9.5	9.5							1							1
59	10	9		2												2
60	10	10		4	2	4	2	5	8	3	2	3	1	1		35
60	10.3	8.5		1												1
62	10.5	9.5		1												1
63	9	9	9	1											1	2
66	11	11			1			1								2
70	10	10	10			1			2	1						4
72	12	12				1										1
77	11	11	11	1										1		2
84	12	12	12				2									2
Total				16	6	10	4	10	13	6	7	3	6	8	6	95

TABLE 5.—FULL-TIME HOURS PER WEEK AND PER DAY, 1929, BY GEOGRAPHIC DISTRICTS AND DEPARTMENTS—Continued

CRUSHING IN RAW DEPARTMENT

Hours per week	Monday to Friday	Saturday	Sunday	Number of plants in geographic district No.—												Total
				1	2	3	4	5	6	7	8	9	10	11	12	
48	8	8		2	1	1		2		1	1			2	2	12
51	8.5	8.5						1								1
54	9	9		2	1	1				1	4			2		11
55	10	5							1							1
56	8	8	8	1		1	1	2	1				4	2	1	13
56 [1]	[1] 8	[1] 8	[1] 8												3	3
57	9.5	9.5		1					1							2
59	10	9		2												2
60	10	10		3		2	3	3	4	1	2	2	1			21
60	10.3	8.5		1									1			2
60.5	11	5.5		1												1
62	10.5	9.5		1												1
63	9	9	9	1												1
63	10.5	10.5				1										1
66	11	11			1			1	1							3
69	11.5	11.5		1												1
70	10	10	10						1	1						2
73.5 [2]	[2] 10.5	[2] 10.5	[2] 10.5						1							1
77	11	11	11											2		2
77 [3]	[3] 11	[3] 11	[3] 11		1											1
84 [4]	[4] 12	[4] 12	[4] 12		1	2			1	1						5
Total				16	5	8	4	9	11	5	7	2	6	8	6	87

GRINDING IN RAW DEPARTMENT

54	9	9		1												1
55	10	5							1							1
56 [1]	[1] 8	[1] 8	[1] 8	5	2	3	1	5	4	2	4		5	7	7	45
59	10	9		1												1
60	10	10							1							1
66	11	11							1					1		2
73.5 [2]	[2] 10.5	[2] 10.5	[2] 10.5						2							2
77 [3]	[3] 11	[3] 11	[3] 11	2	2	1	1	1		1		2	2		1	13
84 [4]	[4] 12	[4] 12	[4] 12	7	2	5	6	4	3	3	3	1		1		35
Total				16	6	9	8	10	12	6	7	3	7	9	8	101

COAL MILL DEPARTMENT

54	9	9		1												1
56 [1]	[1] 8	[1] 8	[1] 8	7	2	4	2	5	3	2	2		3		4	34
63	9	9	9						1							1
70	10	10	10						2							2
70 [5]	[5] 10	[5] 10	[5] 10	1												1
72	12	12							1							1
73.5 [2]	[2] 10.5	[2] 10.5	[2] 10.5						2							2
77 [3]	[3] 11	[3] 11	[3] 11		2	1	1	1		1			1			7
84 [4]	[4] 12	[4] 12	[4] 12	7	2	5	6	4	4	3	2					33
Total				16	6	10	9	10	13	6	4		4		4	82

BURNING IN CLINKER DEPARTMENT

54	9	9		1												1
56 [1]	[1] 8	[1] 8	[1] 8	11	3	5	3	6	8	3	4		5	7	5	60
63 [1]	[1] 9	[1] 9	[1] 9						1							1
77 [3]	[3] 11	[3] 11	[3] 11		2	1	1	1		1		2	1		1	10
84 [4]	[4] 12	[4] 12	[4] 12	4	1	4	5	3	4	2	3	1		2	1	30
Total				16	6	10	9	10	13	6	7	3	6	9	7	102

[1] 3 shifts.
[2] Of first shift. Second shift, 94.5 per week, or 13.5 each of 7 days.
[3] Of first shift. Second shift, 91 per week, or 13 each of 7 days.
[4] Of first shift. Second shift, 84 per week, or 12 each of 7 days.
[5] Of first shift. Second shift, 98 per week, or 14 each of 7 days.

TABLE 5.—FULL-TIME HOURS PER WEEK AND PER DAY, 1929, BY GEOGRAPHIC DISTRICTS AND DEPARTMENTS—Continued

GRINDING IN CLINKER DEPARTMENT

Hours per week	Monday to Friday	Saturday	Sunday	Number of plants in geographic district No.—											Total
				1	2	3	4	5	6	7	8	9	10	11	12	
48	8	8												1	1
54	9	9		1											1
56 [1]	[1] 8	[1] 8	[1] 8	5	2	5	2	5	5	2	4		5	7	4	46
60	10	10							1							1
66	11	11												1		1
70 [5]	[5] 10	[5] 10	[5] 10	1												1
73.5 [2]	[2] 10.5	[2] 10.5	[2] 10.5						2							2
77 [6]	[6] 11	[6] 11	[6] 11						1							1
77 [3]	[3] 11	[3] 11	[3] 11	3	2	1	1	1		1		2	1		1	13
84 [4]	[4] 12	[4] 12	[4] 12	6	2	4	6	4	4	3	3	1		1	1	35
Total				16	6	10	9	10	13	6	7	3	6	9	7	102

CEMENT DEPARTMENT

48	8	8		3		1		5	1	1			4	6	6	27
51	8.5	8.5									1					1
54	9	9		2	1	1			1	1	2			1		9
55	10	5				1				1						2
56	8	8	8				1				1		1	1		4
57	9.5	9.5							1			1				2
59	10	9		4												4
60	10	10		4	5	7	7	5	7	3	2		1	1	1	43
60	10.3	8.5		1												1
63	10.5	10.5										2				2
66	11	11		2					1							3
70	10	10	10						1							1
72	12	12					1									1
Total				16	6	10	9	10	12	6	6	3	6	9	7	100

[1] 3 shifts.
[2] Of first shift. Second shift, 94.5 per week, or 13.5 each of 7 days.
[3] Of first shift. Second shift, 91 per week, or 13 each of 7 days.
[4] Of first shift. Second shift, 84 per week, or 12 each of 7 days.
[5] Of first shift. Second shift, 98 per week, or 14 each of 7 days.
[6] 2 shifts.

CHANGES IN FULL-TIME HOURS AND WAGE RATES SINCE JANUARY 1, 1928

IN MAKING the 1929 study of the industry, each of the cement establishments from which wage figures were obtained was asked to furnish information concerning changes made in regular full-time hours per day and per week and in wage rates of wage earners since January 1, 1928.

Hours of burners, clinker grinders, and oilers of the clinker department of one cement plant were changed from two shifts of 12 hours each day and night or 84 per week, to three shifts of 8 hours each shift, or 56 hours per week. The hours of burners of the clinker department of another plant were changed from two shifts of 10½ hours each on 7 days, or 73½ hours per week for the day shift, and of 13½ hours each on 7 nights, or 94½ hours per week for the night shift, to three shifts of 8 hours each, or 56 hours per week. The hours of the shift workers of a third plant, that is, the wage earners engaged in continuous 24-hour operations who regularly alternate on three 8-hour shifts, were changed in June, 1929, from 1 day of 8 hours off every three weeks with pay to 1 day off each week without pay, and wage rates were increased approximately 3 per cent to make up partially for the loss of earnings by the change from 7 to 6 days per week. Between January 1, 1928, and the 1929 study there was no change in hours of any wage earners of 99 of the 102 plants, and no change in wage rates in 101 plants.

BONUS SYSTEMS AND PAYMENTS, 1929

A BONUS, as generally applied, is compensation in addition to earnings of employees at regular time or piece rates.

In 19 of the 102 Portland cement plants that were included in the study, earnings of all or of a specified part of the employees of each plant, as shown in Table 6. were increased by the addition of bonus payments.

The table shows the kind or basis of each bonus, the employees who may get the bonus, and the amount and conditions of the bonus. The basis of the bonus in 9 plants was "safety," being a specified per cent of earnings provided there was no loss of time by any employees on account of accident while on duty in a certain period of time. In 1 plant a "safety" bonus was paid to all employees, a "production" bonus to drillers and a "set standard of cost" bonus was paid to locomotive engineers and shovel operators. In 7 plants a "production" bonus was paid to a specified part of the employees. In 1 plant a bonus was paid to shovel cranemen provided there was no breakage of the teeth of the shovel in a month, and a "service" bonus was paid to all employees of 1 plant.

TABLE 6.—BONUS SYSTEMS IN 19 CEMENT PLANTS, 1929

Number of plants	Kind of bonus	Employees entitled	Amount and conditions
7	Safety	All	1 per cent of earnings for no lost-time accident during pay period.
1	do	do	Employees are divided into safety groups. Groups having no accidents in the calendar month receive 1 per cent of earnings as bonus.
1	do	Mine, quarry, mill, shops, and miscellaneous.	All employees of 5 days' service in each department free of accidents are paid 1 per cent bonus at the end of each month.
1	do	All	1 per cent of earnings for no lost-time accident during pay period.
	Production	Drillers only	$2.02 per foot drilled over the set daily standard.
	Set standard of cost.	Locomotive engineers and shovel operators.	A figure is set as the standard cost for hauling and loading rock. Any savings shown in these occupations is prorated according to earnings of the employees showing the savings.
1	Production	All employees in the shale quarry, and crusher tenders.	The cost of production is set at 9 cents per ton for rock from quarry through the crusher. If less than this figure, the savings is prorated among employees working in the quarry and crusher tenders.
3	do	Packers only	A certain number of barrels per day is set as the standard of production. When packers exceed this set standard of production they receive in addition to the regular rate a fixed amount for each barrel over and above the set standard. The amount per barrel allowed in each plant was 0.0071, 0.0172, and 0.01364 cent, respectively.
1	do	Loaders, hand, and loaders with Modock (quarry).	95 cents per car of rock loaded for all over 5 cars per day in addition to the regular rate.
1	do	Shovel operators, shovel cranemen, shovel firemen, locomotive engineers, pitmen, conductors, all in quarry.	95 cents per car of rock loaded for all over 5 cars per day in addition to the regular rate.
1	do	Sorters only	A set number of sacks constitute a standard day. For all sacks sorted over this set standard the sorter receives 0.001 cent per sack.
1	No breakage of teeth of shovel	Shovel cranemen	If no teeth in the shovel bucket are broken during the month the shovel craneman receives $5.
1	Period of services	All	All wage earners receive $5. Bonus paid in December of each year. Period of service necessary to entitle employee to participation was not reported.

PAY FOR OVERTIME AND WORK ON SUNDAY AND HOLIDAYS

ANY time worked by an employee in excess of the *regular* full-time hours per day or per week is *usually* considered *overtime*. In the cement industry certain departments in most of the plants operate continuously night and day. Work on Sunday and holidays in such departments is regular working time and consequently is paid for as such.

Only 4 of the 102 plants covered in the study paid extra for either overtime or work on Sunday and holidays. In 1 plant all employees were paid one and one-half times the regular rate for any work on Sunday; in 1, all employees were paid one and one-half times the regular rate for any work on Christmas eve and twice the regular rate for any work on Christmas, New Year, and July 4; in 1, blacksmiths only; and in 1, employees in the packing department, machine shop, and quarry, and the locomotive crew were paid one and one-half times the regular rate for any work after the regular hours per day.

DAYS ACTUALLY WORKED IN ONE WEEK, 1929

TABLE 7 presents for each of the 14 representative occupations in the industry for which classified figures are shown in this report, the average number of days on which *male* wage earners in each occupation worked in one week in 1929, and also the per cent of the *male* employees in each of them who worked on each specified number of days in the week. Any part of a day on which an employee did any work was counted as a day.

It was frequently reported that wage earners in occupations of two shifts per day were on duty both shifts on one day of the week, or 24 hours. The employees in such occupations, almost invariably, alternated, in some plants each week and in others every two weeks, so that the wage earners of each shift had an equal amount of day work and night work. Example: There were two shifts, one for day workers designated "A," and the other for night workers designated "B." The workers on the day shift were on duty 12 hours each on 6 days and 24 hours continuously on the seventh day, or 96 hours one week, and those on the night shift were on duty 12 hours each on 6 nights and did no work on the seventh night, or 72 hours per week. The next week those designated "A" were on duty 6 nights of 12 hours each or 72 hours per week and those designated "B" were on duty 6 days of 12 hours each and 24 hours on Sunday or 96 hours per week. The employees of each shift had 24 hours' continuous work one week and 24 continuous hours off duty the next week. The 24 hours on the seventh day were counted a day in computing Table 7. The hours of shifts were not the same in all establishments, nor were the hours of the day shifts the same as the hours of the night shifts.

The first line of the table shows data for 544 drillers, of 85 quarries, who worked an average of 5.6 days in one week; 2 per cent of them worked on 1 day only; 1 per cent on 2 days; 2 per cent on 3 days; 6 per cent on 4 days; 20 per cent on 5 days; 49 per cent on 6 days; and 19 per cent of them were on duty on 7 days in one week. The table shows a considerable number of employees in each occupation as

having worked on less than 6 days in the week. The reasons therefor are many. Employees shown as having worked on less than 6 days may have entered service or left service at any time during the week, may have been absent one or more days in the week on account of illness or other disability, may have been off duty voluntarily part of the time, or also for other causes.

TABLE 7.—NUMBER OF DAYS ON WHICH MALE EMPLOYEES IN 14 SPECIFIED OCCUPATIONS WORKED IN ONE WEEK, 1929, BY DEPARTMENT

Department and occupation	Number of—		Average number of days worked in 1 week	Per cent of employees who worked each specified number of days						
	Establishments	Employees		1	2	3	4	5	6	7
Quarry:										
Drillers	85	544	5.6	2	1	2	6	20	49	19
Shovel engineers	87	250	5.8	(1)	(1)	2	8	12	57	19
Laborers	91	1,213	5.4	2	2	3	9	23	48	12
Raw:										
Crusher operators	85	206	5.9	(1)	1	(1)	5	16	50	27
Grinder operators	95	322	6.3	(1)	(1)	2	3	7	35	53
Laborers	79	434	5.9	3	2	2	3	12	42	37
Shops and miscellaneous:										
Laborers	90	1,212	5.5	2	3	4	7	17	51	16
Coal mill:										
Grinder operators	76	206	6.5	(1)	(1)	(1)	1	6	30	61
Laborers	33	119	6.1	4	4	------	------	8	29	55
Clinker:										
Burners, first	101	322	6.7	------	------	(1)	1	3	21	74
Clinker grinders	93	396	6.2	1	1	2	4	5	34	53
Laborers	67	315	6.1	2	1	2	4	9	33	49
Cement:										
Packers (sackers)	96	1,249	5.3	2	3	6	8	18	59	5
Laborers	87	728	5.3	4	5	3	5	13	64	6

[1] Less than 1 per cent.

GROWTH OF THE INDUSTRY

IN 1929 the production of Portland cement in the United States was 170,646,036 barrels, or approximately 31,000,000 barrels more than in the 16 years from 1890 to 1905 combined. The tremendous growth was due primarily to the trend to permanency of building construction, to the increasing scarcity of wood, and to the increase in the use of cement in the construction of the extensive network of concrete highways everywhere.

TABLE 8.—PRODUCTION, IN NUMBER OF BARRELS, EACH YEAR FROM 1890 TO 1929[1]

Year	Barrels	Year	Barrels	Year	Barrels	Year	Barrels
1890	335,500	1900	8,482,020	1910	76,549,951	1920	100,023,245
1891	454,813	1901	12,711,225	1911	78,528,637	1921	98,842,049
1892	547,440	1902	17,230,644	1912	82,438,096	1922	114,789,984
1893	590,652	1903	22,342,973	1913	92,097,131	1923	137,460,238
1894	798,757	1904	26,505,881	1914	88,230,170	1924	149,358,109
1895	990,324	1905	35,246,812	1915	85,914,907	1925	161,658,901
1896	1,543,023	1906	46,463,424	1916	91,521,198	1926	164,530,170
1897	2,677,775	1907	48,785,390	1917	92,814,202	1927	173,206,513
1898	3,692,284	1908	51,072,612	1918	71,081,663	1928	176,598,846
1899	5,652,266	1909	64,991,431	1919	80,777,935	1929	170,646,036

[1] U. S. Bureau of Mines. Mineral Resources of the United States: 1924–1929, pt. 2.

The figures in Table 9, which were drawn from the reports of the United States Census of Manufactures, show for each of the years, 1919, 1921, 1923, 1925, 1927, and 1929, the total number of Portland cement

plants in the country; average number of wage earners; amount paid as wages; average yearly earnings of wage earners as computed by the bureau; the number of barrels produced, not including puzzolan and natural cement; and also the average production in number of barrels per wage earner.

Between 1919 and 1929 the number of plants increased 30.9 per cent; the average number of wage earners increased 21.3 per cent; the amount paid as wages, 44.2 per cent; the average wages per wage earner per year, 18.8 per cent; production, 113.3 per cent; and the average production per wage earner, 74.2 per cent.

TABLE 9.—NUMBER OF ESTABLISHMENTS, WAGE EARNERS, WAGES, CEMENT PRODUCED, AND PRODUCTION PER WAGE EARNER IN THE CEMENT INDUSTRY, 1919, 1921, 1923, 1925, 1927, AND 1929

Year	Number of establishments	Average number of wage earners	Amount paid in wages	Average wages per year	Cement produced (barrels)	Production per wage earner (barrels)
1919	123	25,524	$33,194,920	$1,301	80,777,935	3,165
1921	125	26,231	34,415,677	1,312	98,842,049	3,789
1923	133	35,091	49,707,992	1,417	137,460,238	3,955
1925	145	38,437	53,911,519	1,403	161,658,901	4,251
1927	161	36,322	53,110,745	1,462	173,206,513	4,827
1929	161	30,961	47,872,091	1,546	170,646,036	5,512
Per cent increase, 1919–1929	30.9	21.3	44.2	18.8	111.3	74.2

SCOPE AND METHOD

THE figures shown in the various tables of this report were computed from data of the wage earners only in the Portland cement industry, beginning with the drilling in the quarry and ending with loading the finished product for shipment from the plants. The report does not include any data for executives, supervisors, office force (including clerks, sample collectors, testers, analysts, chemists), and persons engaged in the construction of new or the repair of old buildings.

Average earnings per hour of wage earners in each occupation, as presented in the various tables in this report, were computed by dividing the combined earnings of all wage earners in the occupation by the total hours worked by them.

Average full-time hours per week of wage earners in each occupation were obtained by dividing the aggregate full-time hours of all wage earners in the occupation by the number of wage earners. The full-time hours per week of each wage earner were used in arriving at this average, even though some employees may have worked more or less than full time on account of overtime, sickness, disability, or other cause.

Average full-time earnings per week of wage earners in each occupation were computed by multiplying the average earnings per hour by the average full-time hours per week. This shows what the earnings would have been had all wage earners in the occupation worked full time, no more nor less, at the same average earning per hour as in the one week covered in the 1929 study of the industry.

The bureau in this study obtained wage data from plants in every State in which the manufacture of Portland cement was of material importance in number of wage earners. Selections of plants were

made from lists of the Portland Cement Association, United States Bureau of Mines, trade directories, etc. Based on the 1929 Census of Manufactures, this study covers 68 per cent of the average number of wage earners in the industry in the United States.

The frequency of wage payments to the wage earners of the 102 plants for which data are shown in the report was every week in 12, every two weeks in 87, and monthly in 3 plants. In the 90 plants in which the length of the pay period was more than one week, data were so taken as to make it possible to present averages for one week for wage earners in all plants.

GENERAL TABLES

IN ADDITION to the preceding text tables, wage figures covering averages and classified hours and earnings by occupations and districts are shown in five general tables. For description of districts see page 3.

TABLE A.—Average number of days on which employees worked in one week, average full-time and actual hours and earnings per week, per cent of full time worked, and average earnings per hour, 1929, by department, occupation, sex, and district.

Line 1 of the table shows averages for 93 drillers of 16 quarries in District No. 1—Eastern Pennsylvania, New Jersey, and Maryland (p. 17). They worked an average of 5.5 days in one week. Their average full-time hours per week were 57.9, and in one week they worked an average of 56.3 hours, or 97.2 per cent of full time. They earned an average of 52.8 cents per hour and an average of $29.70 in the week. Had they worked full time in the week, or 57.9 hours, at the same average earnings per hour as in 56.3 hours,they would have earned $30.57.

TABLE B.—Average and classified earnings per hour in 14 specified occupations, 1929, by department, sex, and district.

TABLE C.—Average and classified full-time hours per week in 14 specified occupations, 1929, by department, sex, and district.

In the classification of full-time hours in this table, especially of wage earners in occupations associated with grinding in the raw department and burning in the clinker department, a comparatively large percentage of them are shown at 84 hours per week. The wage earners at these hours were in occupations in which work was continuous, or of two shifts per day. In some plants each shift was 12 hours. In others, one shift was 11 and the other 13 hours per day, but as wage earners alternated, working on one shift one week and on the other the next, they averaged 12 hours per day and 84 per week.

TABLE D.—Average and classified hours actually worked in one week in 14 specified occupations, 1929, by department, sex, and district.

TABLE E.—Average and classified actual earnings in one week in 14 specified occupations, 1929, by department, sex, and district.

TABLE A.—*Average number of days on which employees worked in one week, average full time and actual hours and earnings per week, per cent of full time worked and average earnings per hour, 1929, by department, occupation, sex, and district*

Department, occupation, sex, and district	Establishments	Wage earners	Average— Days employees worked in one week	Average— Full-time hours per week	Average— Hours actually worked in one week	Per cent of full time worked	Average— Earnings per hour	Average— Full-time earnings per week	Average— Actual earnings in one week
Quarry									
Drillers, male:									
District No. 1	16	93	5.5	57.9	56.3	97.2	$0.528	$30.57	$29.70
2	5	38	5.4	58.7	54.3	92.5	.473	27.77	25.66
3	8	68	5.1	54.8	49.6	90.5	.646	35.40	32.05
4	3	15	5.5	60.0	57.7	96.2	.406	24.36	23.43
5	9	60	5.8	56.7	52.3	92.2	.495	28.07	25.89
6	11	55	5.4	61.4	54.9	89.4	.417	25.60	22.90
7	5	76	5.8	56.1	57.1	101.8	.475	26.65	27.10
8	7	31	5.4	54.8	49.7	90.7	.442	24.22	21.98
9	2	8	5.6	60.0	56.3	93.8	.404	24.24	22.72
10	5	13	5.8	55.7	53.1	95.3	.770	42.89	40.85
11	8	61	6.3	54.6	55.8	102.2	.588	32.10	32.81
12	6	26	5.8	54.2	48.7	89.9	.713	38.64	34.72
Total	85	544	5.6	56.9	54.0	94.9	.525	29.87	28.38
Blasters, male:									
District No. 1	16	28	5.4	56.4	55.0	97.5	.540	30.46	29.68
2	5	14	5.8	61.3	64.2	104.7	.537	32.92	34.47
3	7	24	5.1	54.2	49.4	91.1	.521	28.24	25.69
4	2	2	6.0	60.0	60.0	100.0	.550	33.00	33.00
5	7	17	6.1	53.1	52.9	99.6	.519	27.56	27.46
6	8	13	5.2	62.3	50.7	81.4	.456	28.41	23.13
7	4	11	6.1	54.9	60.0	109.3	.499	27.40	29.95
8	5	7	5.9	54.9	53.0	96.5	.476	26.13	25.20
9	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
10	3	3	6.7	57.3	58.0	101.2	.523	29.97	30.31
11	8	18	6.2	51.7	52.8	102.1	.624	32.26	32.90
12	4	4	5.5	53.8	49.0	91.1	.732	38.74	35.89
Total	70	142	5.7	55.9	54.2	89.1	.534	29.85	28.97
Shovel engineers, male:									
District No. 1	15	48	5.6	57.8	56.4	97.6	.701	40.52	39.54
2	5	16	5.6	57.4	53.6	93.4	.809	46.44	43.35
3	10	45	5.7	57.2	55.3	96.7	.800	45.76	44.24
4	4	10	4.8	63.6	49.0	77.0	.677	43.06	33.19
5	9	34	5.9	56.2	54.5	97.0	.655	36.81	35.73
6	11	23	6.1	62.0	57.8	93.2	.659	40.86	38.10
7	6	26	5.9	57.8	57.2	99.0	.762	44.04	43.56
8	6	14	5.9	55.7	56.7	101.8	.621	34.59	35.24
9	3	7	6.0	60.0	65.7	110.0	.636	38.16	41.82
10	6	7	6.6	53.1	55.1	103.8	.730	38.76	40.24
11	8	14	6.5	53.8	58.1	108.0	.909	48.90	52.83
12	4	6	5.2	50.5	48.2	95.5	.832	42.01	40.07
Total	87	250	5.8	57.5	55.8	97.0	.730	41.98	40.74
Shovel cranemen, male:									
District No. 1	8	16	5.5	55.9	53.3	95.3	.552	30.86	29.43
2	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3	7	16	5.9	57.9	57.0	98.4	.676	39.14	38.53
4	2	3	6.0	60.0	59.8	99.7	.589	35.34	35.27
5	8	20	5.9	55.9	54.0	96.6	.512	28.62	27.62
6	5	8	5.9	62.8	54.5	86.8	.472	29.64	25.73
7	5	13	5.9	57.2	55.9	97.7	.604	34.55	33.79
8	4	4	6.3	54.0	60.0	111.1	.534	28.84	32.01
10	5	8	5.6	52.3	45.8	87.6	.595	31.12	27.26
11	3	3	6.7	54.7	58.0	106.0	.782	42.78	45.34
Total	48	95	5.8	57.1	54.5	95.4	.595	33.97	32.41

[1] Data included in total to avoid identification of plant.

TABLE A.—*Average number of days on which employees worked in one week, average full time and actual hours and earnings per week, per cent of full time worked and average earnings per hour, 1929, by department, occupation, sex, and district*—Con.

Department, occupation, sex, and district	Establishments	Wage earners	Average— Days employees worked in one week	Average— Full-time hours per week	Average— Hours actually worked in one week	Per cent of full time worked	Average— Earnings per hour	Average— Full-time earnings per week	Average— Actual earnings in one week
Quarry—Continued									
Shovel firemen, male:									
District No. 1	9	26	5.4	57.0	56.9	99.8	$0.471	$26.85	$26.80
2	2	4	5.5	63.0	59.3	94.1	.720	45.36	42.67
3	3	12	5.9	59.2	63.5	107.3	.502	29.72	31.88
4	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
5	7	22	6.0	57.9	58.4	100.9	.405	23.45	23.66
6	6	12	6.1	63.9	62.6	98.0	.426	27.22	26.65
7	5	14	6.4	61.3	62.0	101.1	.444	27.22	27.55
8	5	8	6.3	55.5	58.2	104.9	.412	22.87	23.96
9	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
10	4	5	6.8	57.2	56.4	98.6	.482	27.57	27.18
11	4	5	6.4	53.8	55.8	103.7	.554	29.81	30.93
Total	47	110	6.0	58.7	59.4	101.2	.461	27.06	27.42
Locomotive engineers, male:									
District No. 1	15	62	5.7	57.7	57.5	99.7	.518	29.89	29.81
2	5	23	5.3	57.1	50.7	88.8	.567	32.38	28.73
3	10	62	5.5	57.9	56.5	97.6	.534	30.92	30.16
4	4	10	4.7	62.4	51.1	81.9	.499	31.14	25.45
5	10	53	5.9	56.2	56.0	99.7	.513	28.83	28.75
6	11	26	6.2	61.8	58.3	94.3	.461	28.49	26.86
7	5	26	5.9	56.2	55.2	98.2	.586	32.93	32.32
8	7	24	6.3	54.8	59.1	107.8	.467	25.59	27.62
9	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
10	5	9	6.6	53.8	52.8	98.1	.501	26.95	26.45
11	7	20	6.4	57.4	63.5	110.6	.673	38.63	42.77
12	4	6	5.2	49.3	43.3	87.8	.689	33.97	29.86
Total	84	324	5.8	57.3	56.3	98.3	.532	30.48	29.96
Locomotive firemen, male:									
District No. 1	2	9	6.6	56.8	66.7	117.4	.590	33.51	39.33
2	2	11	5.0	61.6	48.9	79.4	.448	27.60	21.90
3	2	7	5.1	54.9	49.1	89.4	.446	24.49	21.91
4	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
5	4	19	6.4	59.5	59.5	100.0	.424	25.24	25.24
6	5	11	6.3	60.7	61.2	100.8	.408	24.77	24.93
7	2	12	5.8	51.0	51.2	100.4	.498	25.40	25.46
8	2	5	5.8	55.2	51.9	94.0	.424	23.40	22.03
10	2	2	6.0	54.0	54.8	101.5	.522	28.19	28.58
11	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
12	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Total	24	82	6.0	57.5	56.4	98.1	.471	27.08	26.57
Laborers, male:									
District No. 1	15	186	5.3	57.8	51.4	88.9	.431	24.91	22.15
2	5	44	5.2	58.8	50.0	85.0	.494	29.05	24.69
3	10	182	5.5	56.7	54.5	96.1	.450	25.52	24.49
4	4	35	5.8	62.7	60.1	95.9	.376	23.58	22.63
5	10	145	5.6	56.2	51.3	91.3	.370	20.79	18.99
6	12	209	4.8	60.8	45.1	74.2	.283	17.21	12.78
7	6	161	5.5	56.8	53.2	93.7	.378	21.47	20.09
8	7	75	5.5	55.0	50.6	92.0	.351	19.31	17.74
9	3	41	5.4	60.0	52.0	86.7	.281	16.86	14.60
10	6	25	6.4	52.3	52.5	100.4	.468	24.44	24.59
11	7	69	6.1	53.5	52.5	98.1	.460	24.61	24.16
12	6	41	5.8	53.5	47.2	88.2	.591	31.62	27.85
Total	91	1,213	5.4	57.4	51.1	89.0	.395	22.67	20.17

[1] Data included in total to avoid identification of plant.

TABLE A.—*Average number of days on which employees worked in one week, average full time and actual hours and earnings per week, per cent of full time worked and average earnings per hour, 1929, by department, occupation, sex, and district*—Con.

Department, occupation, sex, and district	Establishments	Wage earners	Average— Days employees worked in one week	Average— Full-time hours per week	Average— Hours actually worked in one week	Per cent of full time worked	Average— Earnings per hour	Average— Full-time earnings per week	Average— Actual earnings in one week
Quarry—Continued									
Other employees, male:									
District No. 1	15	267	5.9	59.2	59.6	100.8	$0.524	$31.02	$31.25
2	5	62	5.7	61.0	61.6	101.0	.490	29.89	30.19
3	10	268	5.4	55.0	51.2	93.1	.519	28.55	26.61
4	4	23	5.8	64.7	61.3	94.7	.487	31.51	29.84
5	10	128	5.9	60.0	56.8	94.7	.444	26.64	25.23
6	13	148	5.4	61.0	52.8	86.6	.449	27.39	23.71
7	6	158	5.9	56.2	56.7	100.9	.508	28.55	28.82
8	7	72	5.5	57.7	52.9	91.7	.426	24.58	22.53
9	2	14	6.1	62.2	63.4	103.5	.378	25.51	23.99
10	4	15	6.2	58.6	55.1	94.0	.484	28.36	26.65
11	8	55	6.1	58.1	56.4	97.1	.580	33.70	32.72
12	5	29	6.3	55.7	52.5	94.3	.644	35.87	33.80
Total	89	1,239	5.7	58.2	55.7	95.7	.499	29.04	27.81
Raw									
Unloaders, shovel, male:									
District No. 1	5	22	6.5	55.1	56.6	102.7	.516	28.43	29.21
2	3	15	5.8	54.4	58.6	107.7	.413	22.47	24.17
3	2	4	6.8	60.0	73.6	122.7	.499	29.94	36.71
4	6	27	5.8	57.8	58.7	101.6	.460	26.59	26.97
5	7	39	6.0	60.4	57.5	95.2	.404	24.40	23.20
7	4	28	5.8	57.4	55.6	96.9	.375	21.53	20.86
8	2	5	6.6	55.2	62.5	113.2	.387	21.36	24.16
9	3	17	6.9	86.1	85.1	98.8	.280	24.11	23.83
11	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
12	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Total	34	162	6.1	60.4	60.6	100.3	.411	24.82	24.93
Unloaders, mechanical, male:									
District No. 1	5	9	6.3	78.1	75.0	96.0	.431	33.66	32.31
2	4	8	5.4	63.0	55.2	87.6	.436	27.47	24.07
3	7	18	6.0	61.2	62.3	101.8	.450	27.54	28.03
4	6	21	5.1	51.8	48.9	94.4	.677	35.07	33.07
5	7	21	6.1	54.1	55.9	103.3	.554	29.97	31.00
6	3	7	5.9	68.9	56.1	81.4	.326	22.46	18.26
7	3	8	6.6	79.5	77.3	97.2	.528	41.98	40.76
8	6	10	6.3	58.5	64.3	109.9	.515	30.13	33.14
9	3	6	7.0	60.0	82.5	137.5	.430	25.80	35.48
10	2	5	6.2	56.0	48.8	87.1	.503	28.17	24.52
11	5	7	6.4	54.1	60.5	111.8	.536	29.00	32.43
12	2	4	6.3	68.3	59.3	86.8	.472	32.24	27.97
Total	53	124	6.0	61.7	60.4	97.9	.506	31.22	30.59
Crusher operators, male:									
District No. 1	15	48	5.9	57.0	56.7	99.5	.497	28.33	28.16
2	5	10	5.3	66.6	58.9	88.4	.452	30.10	26.60
3	9	19	6.3	61.9	65.1	105.2	.480	29.71	31.27
4	4	20	5.1	46.0	43.8	95.2	.738	33.95	32.30
5	9	25	6.0	56.9	55.0	96.7	.427	24.30	23.48
6	10	16	5.7	64.5	52.6	81.6	.401	25.86	21.11
7	5	15	5.9	57.5	56.3	97.9	.466	26.80	26.26
8	7	11	6.0	55.1	57.8	104.9	.454	25.02	26.21
9	2	5	6.6	60.0	68.8	114.7	.362	21.72	24.89
10	5	8	6.6	56.5	54.6	96.6	.531	30.00	28.98
11	8	11	6.5	59.9	63.2	105.5	.635	38.04	40.18
12	6	18	6.1	49.3	49.6	100.6	.577	28.45	28.64
Total	85	206	5.9	56.9	55.8	98.1	.503	28.62	28.05

[1] Data included in total to avoid identification of plant.

TABLE A.—*Average number of days on which employees worked in one week, average full time and actual hours and earnings per week, per cent of full time worked, and average earnings per hour, 1929, by department, occupation, sex, and district*—Con.

Department, occupation, sex, and district	Establishments	Wage earners	Average— Days employees worked in one week	Average— Full-time hours per week	Average— Hours actually worked in one week	Per cent of full time worked	Average— Earnings per hour	Average— Full-time earnings per week	Average— Actual earnings in one week
Raw—Continued									
Elevator tenders, male:									
District No. 1	3	4	6.0	55.6	67.6	121.6	$0.429	$23.85	$29.01
5	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
6	2	2	6.0	56.0	59.3	105.9	.444	24.86	26.32
7	2	3	7.0	79.3	81.5	102.8	.425	33.70	34.64
11	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Total	9	14	6.1	63.2	65.7	104.0	.423	26.73	27.80
Conveyor tenders, male:									
District No. 1	7	38	6.1	78.8	75.4	95.7	.441	34.75	33.28
2	4	15	5.9	68.1	62.0	91.0	.438	29.83	27.17
3	5	18	6.1	63.6	61.1	96.1	.477	30.34	29.16
4	8	33	5.8	66.5	61.2	92.0	.512	34.05	31.34
5	9	56	6.2	67.1	64.7	96.4	.396	26.57	25.65
6	7	21	6.2	63.1	58.1	92.1	.352	22.21	20.40
7	5	24	6.5	72.3	71.9	99.4	.413	29.86	29.71
8	7	26	6.2	61.8	57.9	93.7	.388	23.98	22.44
9	2	9	6.4	84.0	77.3	92.0	.280	23.52	21.65
10	2	6	7.0	56.0	56.0	100.0	.500	28.00	28.00
11	6	41	6.5	59.3	56.7	95.6	.457	27.10	25.91
12	2	8	6.9	55.0	54.3	98.7	.500	27.50	27.46
Total	61	295	6.2	66.9	63.7	95.2	.428	28.63	27.25
Mixer tenders, male:									
District No. 1	4	11	6.6	73.8	72.5	98.2	.435	32.10	31.59
2	2	6	5.8	66.7	63.5	95.2	.534	35.62	33.94
3	3	14	6.7	66.0	65.5	99.2	.481	31.75	31.55
4	5	21	5.6	54.9	52.5	95.6	.643	35.30	33.76
5	7	24	6.2	68.8	59.4	86.3	.422	29.03	25.09
6	6	14	6.8	76.3	68.4	89.6	.355	27.09	24.25
7	3	7	6.3	72.0	72.0	100.0	.448	32.22	32.22
10	2	6	7.0	56.0	57.3	102.3	.500	28.00	28.67
11	4	10	6.7	61.6	60.8	98.7	.544	33.51	33.10
Total	36	113	6.3	66.1	62.3	94.3	.479	31.66	29.84
Dryer tenders, male:									
District No. 1	4	20	6.3	63.7	59.0	92.6	.514	32.74	30.31
2	2	5	6.6	62.4	66.9	107.2	.461	28.77	30.81
3	4	10	5.9	80.4	69.2	86.1	.450	36.18	31.15
4	3	20	5.5	57.6	53.8	93.4	.603	34.73	32.47
5	6	37	6.3	58.9	55.2	93.7	.401	23.62	22.16
6	3	10	5.8	78.4	68.9	87.9	.350	27.44	24.12
7	2	3	6.7	79.3	75.0	94.6	.400	31.72	30.00
8	2	5	6.4	62.4	62.0	99.4	.445	27.77	27.61
9	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
10	3	7	6.9	64.0	62.1	97.0	.566	36.22	35.15
11	3	8	6.8	66.5	65.0	97.7	.430	28.60	27.94
Total	33	127	6.2	64.6	60.3	93.3	.461	29.78	27.83
Dryer firemen, male:									
District No. 1	8	20	5.9	72.3	64.8	89.6	.462	33.40	29.94
2	3	7	6.3	64.0	63.1	98.6	.489	31.30	30.88
3	2	3	7.0	80.5	83.0	103.1	.438	35.26	36.37
5	3	11	6.3	76.4	71.2	93.2	.393	30.03	27.97
6	2	6	6.3	74.3	50.0	67.3	.304	22.59	15.18
7	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
10	3	6	6.5	65.3	60.8	93.1	.472	30.82	28.65
Total	22	62	6.2	69.6	63.1	90.7	.438	30.48	27.67

[1] Data included in total to avoid identification of plant.

TABLE A.—*Average number of days on which employees worked in one week, average full time and actual hours and earnings per week, per cent of full time worked and average earnings per hour, 1929, by department, occupation, sex, and district*—Con.

Department, occupation, sex, and district	Establishments	Wage earners	Average— Days employees worked in one week	Average— Full-time hours per week	Average— Hours actually worked in one week	Per cent of full time worked	Average— Earnings per hour	Average— Full-time earnings per week	Average— Actual earnings in one week
Raw—Continued									
Grinder operators, male:									
District No. 1	16	78	6.2	64.9	59.4	91.5	$0.527	$34.20	$31.26
2	6	18	5.8	65.0	59.8	92.0	.490	31.85	29.32
3	10	29	6.1	69.4	65.0	93.7	.536	37.20	34.83
4	8	26	5.8	72.0	62.0	86.1	.565	40.68	35.03
5	10	38	6.4	69.3	64.6	93.2	.487	33.75	31.48
6	11	26	6.2	69.9	59.9	85.7	.431	30.13	25.82
7	6	22	6.5	68.7	66.2	96.4	.443	30.43	29.29
8	7	24	6.5	66.5	62.3	93.7	.445	29.59	27.70
9	3	7	6.7	84.0	80.9	96.3	.361	30.32	29.25
10	6	16	6.8	59.5	57.5	96.6	.542	32.25	31.20
11	7	25	6.8	61.1	61.8	101.1	.568	34.70	35.05
12	5	13	6.9	59.1	60.2	101.9	.519	30.67	31.26
Total	95	322	6.3	66.8	62.1	93.0	.503	33.60	31.21
Raw-finish mill operators, male:									
District No. 1	8	44	6.4	64.3	60.3	93.8	.504	32.41	30.38
2	5	20	6.1	62.4	55.6	89.1	.495	30.89	27.53
3	6	17	6.3	67.5	63.6	94.2	.478	32.27	30.41
4	9	29	6.4	68.7	65.1	94.8	.575	39.50	37.40
5	9	39	6.2	67.5	59.0	87.4	.456	30.78	26.87
6	5	16	6.2	69.9	55.9	80.0	.451	31.52	25.22
7	3	8	6.1	63.0	60.0	95.2	.454	28.60	27.23
8	2	7	7.0	64.0	67.6	105.6	.463	29.63	31.28
9	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
11	4	15	6.6	54.4	57.9	106.4	.639	34.76	36.96
12	3	11	6.6	53.8	52.3	97.2	.563	30.29	29.45
Total	55	208	6.3	64.9	60.0	92.4	.505	32.77	30.31
Oilers, male:									
District No. 1	11	37	6.3	72.1	67.0	92.9	.350	25.24	23.43
2	3	9	5.2	65.8	52.8	80.2	.447	29.41	23.63
3	5	15	6.0	78.4	69.3	88.4	.449	35.20	31.13
4	5	12	6.8	76.0	75.7	99.6	.425	32.30	32.13
5	5	14	6.2	71.4	67.0	93.8	.448	31.99	30.01
6	8	20	6.2	71.4	62.5	87.5	.352	25.13	21.98
7	5	15	6.5	76.5	73.5	96.1	.394	30.14	28.98
8	4	15	6.7	63.2	63.5	100.5	.397	25.09	25.22
9	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
10	5	14	6.4	58.3	51.9	89.0	.470	27.40	24.38
11	6	15	6.9	59.2	59.5	100.5	.424	25.10	25.26
12	4	13	6.1	52.3	48.2	92.2	.505	26.41	24.36
Total	62	181	6.3	68.6	63.8	93.0	.406	27.85	25.90
Laborers, male:									
District No. 1	13	77	6.0	68.2	65.2	95.6	.418	28.51	27.27
2	4	10	5.9	57.0	56.1	98.4	.425	24.23	23.86
3	8	31	4.8	58.7	46.5	79.2	.418	24.54	19.43
4	7	59	5.2	59.7	52.7	88.3	.450	26.87	23.72
5	8	44	6.0	66.9	58.1	86.8	.355	23.75	20.65
6	7	35	5.6	67.0	60.5	86.8	.263	17.62	15.90
7	6	26	6.5	70.1	68.3	97.4	.391	27.41	26.72
8	6	27	6.2	63.5	61.4	96.7	.354	22.48	21.76
9	3	18	6.4	84.0	78.3	93.2	.293	24.61	22.98
10	5	29	6.3	60.1	53.9	89.7	.455	27.35	24.55
11	8	62	6.5	56.5	57.3	101.4	.455	25.71	26.05
12	4	16	5.5	52.0	45.7	87.9	.604	31.41	27.58
Total	79	434	5.9	63.5	58.7	92.0	.403	25.59	23.66

[1] Data included in total to avoid identification of plant.

TABLE A.—*Average number of days on which employees worked in one week, average full time and actual hours and earnings per week, per cent of full time worked and average earnings per hour, 1929, by department, occupation, sex, and district*—Con.

Department, occupation, sex, and district	Establishments	Wage earners	Average— Days employees worked in one week	Average— Full-time hours per week	Average— Hours actually worked in one week	Per cent of full time worked	Average— Earnings per hour	Average— Full-time earnings per week	Average— Actual earnings in one week
Raw—Continued									
Other employees, male:									
District No. 1	16	225	6.4	62.0	59.1	95.3	$0.531	$32.92	$31.38
2	4	48	6.2	62.4	61.5	98.6	.494	30.83	30.35
3	8	56	6.5	70.0	69.0	98.6	.526	36.82	36.32
4	8	53	6.2	67.4	65.9	97.8	.527	35.52	34.71
5	9	71	6.5	63.4	54.6	86.1	.475	30.12	25.93
6	9	52	5.8	74.8	56.7	75.8	.391	29.25	22.17
7	5	47	6.6	67.7	65.0	96.0	.458	31.00	29.79
8	4	34	6.7	62.5	62.6	100.2	.414	25.88	25.94
9	3	12	5.9	84.0	68.6	81.7	.338	28.39	23.16
10	3	10	6.7	59.2	59.6	100.7	.484	28.65	28.85
11	7	27	6.7	55.9	56.4	100.9	.617	34.49	34.80
12	4	30	5.7	58.3	54.3	93.1	.556	32.41	30.18
Total	80	665	6.3	64.6	60.4	93.5	.500	32.30	30.19
Coal mill									
Laborers, male:									
District No. 1	7	21	6.1	71.0	62.7	88.3	.411	29.18	25.76
3	3	8	6.3	59.9	62.2	103.8	.413	24.74	25.67
5	7	34	6.2	72.6	66.4	91.5	.359	26.06	23.82
6	7	21	5.9	69.7	58.5	83.9	.285	19.86	16.69
7	4	22	6.6	73.8	70.0	94.9	.362	26.72	25.35
8	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
10	3	5	4.2	63.0	37.7	59.8	.434	27.34	16.30
12	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Total	33	119	6.1	71.2	63.4	89.0	.363	25.85	23.02
Elevator tenders, male:									
Districts Nos. 1, 4, and 5	3	6	5.2	80.0	61.3	76.6	.373	29.84	22.82
Conveyor tenders, male:									
District No. 1	2	5	6.0	67.2	63.5	94.5	.495	33.26	31.44
2	3	5	5.8	68.6	60.7	88.5	.471	32.31	28.62
3	5	13	6.7	73.2	73.1	99.9	.326	23.86	23.80
4	5	17	5.1	65.9	61.6	93.5	.507	33.41	31.23
5	4	18	6.3	74.7	67.7	90.6	.420	31.37	28.41
6	2	2	6.5	71.8	70.0	97.5	.276	19.82	19.30
7	4	9	6.6	74.7	70.6	94.5	.397	29.66	28.03
8	2	6	6.7	70.0	65.7	93.9	.397	27.79	26.05
12	2	6	6.7	52.0	53.3	102.5	.540	28.08	28.78
Total	29	81	6.1	69.7	65.8	94.4	.427	29.76	28.05
Dryer tenders, male:									
District No. 1	6	17	6.3	73.3	65.2	88.9	.447	32.77	29.12
2	2	4	6.0	72.0	69.8	96.9	.450	32.40	31.39
3	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
4	6	20	5.8	52.2	56.0	107.3	.587	30.64	32.85
5	7	22	6.7	68.7	68.4	99.6	.425	29.20	29.05
6	6	11	6.4	67.5	60.5	89.6	.429	28.96	25.93
7	3	13	5.6	60.3	51.7	85.7	.442	26.65	22.84
8	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
12	2	6	6.5	56.0	50.3	89.8	.551	30.86	27.68
Total	34	98	6.2	64.2	61.0	95.0	.472	30.30	28.77
Dryer firemen, male:									
District No. 1	8	22	6.5	66.0	66.5	100.8	.482	31.81	32.06
2	3	6	6.3	61.3	65.8	107.3	.507	31.08	33.37
3	6	13	6.8	77.5	75.9	97.9	.472	36.58	35.84
4	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
5	5	17	5.6	65.9	49.5	75.1	.448	29.52	22.20
6	5	9	6.3	68.7	61.6	89.7	.384	26.38	23.66
7	4	13	6.8	71.1	72.0	101.3	.405	28.80	29.17
10	2	6	6.3	70.0	62.2	88.9	.459	32.13	28.55
Total	34	88	6.4	69.1	65.0	94.1	.450	31.10	29.26

[1] Data included in total to avoid identification of plant.

TABLE A.—*Average number of days on which employees worked in one week, average full time and actual hours and earnings per week, per cent of full time worked and average earnings per hour, 1929, by department, occupation, sex, and district*—Con.

Department, occupation, sex, and district	Establishments	Wage earners	Average— Days employees worked in one week	Full-time hours per week	Hours actually worked in one week	Per cent of full time worked	Average— Earnings per hour	Full-time earnings per week	Actual earnings in one week
Coal mill—Continued									
Crusher operators, male:									
District No. 1	2	5	6.8	67.2	67.2	100.0	$0.475	$31.92	$31.92
2	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
5	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
6	4	9	6.8	72.0	72.2	100.3	.415	29.88	29.94
8	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
12	2	7	6.9	56.0	54.9	98.0	.573	32.09	31.41
Total	12	28	6.3	65.7	61.7	93.9	.463	30.42	28.52
Grinder operators, male:									
District No. 1	16	46	6.6	67.2	67.6	100.6	.515	34.61	34.79
2	6	12	6.3	68.7	71.9	104.7	.525	36.07	37.73
3	9	25	6.4	72.8	69.5	95.5	.570	41.50	39.62
4	9	29	5.9	65.9	60.8	92.3	.592	39.01	36.01
5	9	27	6.3	69.5	65.4	94.1	.493	34.26	32.23
6	10	20	6.7	75.6	68.0	89.9	.449	33.94	30.54
7	6	17	6.8	69.2	68.5	99.0	.474	32.80	32.46
8	4	11	6.5	68.7	63.3	92.1	.448	30.78	28.35
10	4	11	6.9	61.1	60.3	98.7	.521	31.83	31.38
12	3	8	6.8	53.0	51.5	97.2	.607	32.17	31.26
Total	76	206	6.5	68.3	65.7	96.2	.519	35.45	34.12
Other employees, male:									
District No. 1	7	20	6.6	64.4	64.6	100.3	.509	32.78	32.89
2	2	9	6.7	64.4	70.1	108.9	.458	29.50	32.09
3	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
4	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
5	5	25	6.4	70.6	66.5	94.2	.459	32.41	30.48
6	4	10	6.4	67.2	56.9	84.7	.361	24.26	20.56
7	3	13	6.5	71.1	64.8	91.1	.419	29.19	27.17
10	2	5	5.6	67.2	54.2	80.6	.488	32.79	26.47
Total	25	85	6.4	68.3	64.3	94.1	.458	31.28	29.43
Shops and miscellaneous									
Machinists, male:									
District No. 1	15	115	5.0	57.4	49.0	85.4	.656	37.65	32.11
2	6	25	5.2	55.4	48.7	87.9	.585	32.41	28.47
3	10	38	6.1	58.5	57.8	98.8	.683	39.96	39.44
4	8	34	5.3	51.8	50.2	96.9	.747	38.69	37.51
5	10	56	5.8	53.0	51.3	96.8	.652	34.56	33.41
6	13	41	5.7	64.1	56.3	87.8	.609	39.04	34.32
7	6	42	6.0	54.9	56.7	103.3	.579	31.79	32.81
8	7	24	6.0	54.3	56.5	104.1	.568	30.84	32.07
9	3	6	6.0	61.0	59.5	97.5	.643	39.22	38.28
10	5	11	6.2	54.5	51.3	94.1	.644	35.10	33.03
11	9	32	6.1	51.1	50.3	98.4	.734	37.51	36.91
12	7	9	5.4	50.1	47.3	94.4	.835	41.83	39.50
Total	99	433	5.6	56.0	52.3	93.4	.651	36.46	34.03
Repairmen, male:									
District No. 1	16	312	6.3	62.0	60.9	98.2	.565	35.03	34.41
2	6	94	6.0	64.9	59.9	92.3	.534	34.66	32.00
3	10	136	6.3	67.2	65.7	97.8	.576	38.71	37.81
4	9	111	5.8	59.0	57.2	96.9	.655	38.65	37.44
5	11	161	5.8	60.7	55.7	91.8	.558	33.87	31.09
6	12	87	6.0	63.2	61.8	97.8	.522	32.99	32.28
7	6	111	6.4	62.3	62.6	100.5	.525	32.71	32.87
8	7	82	6.2	58.9	59.3	100.7	.506	29.80	29.97
9	3	29	6.2	72.0	69.6	96.7	.437	31.46	30.42
10	6	41	6.7	59.4	57.3	96.5	.539	32.02	30.92
11	9	135	6.4	52.8	54.4	103.0	.716	37.80	38.94
12	6	30	6.4	54.8	52.7	96.2	.663	36.33	34.91
Total	101	1,329	6.2	61.3	59.7	97.4	.572	35.06	34.17

[1] Data not included in total to avoid identification of plant.

TABLE A.—*Average number of days on which employees worked in one week, average full time and actual hours and earnings per week, per cent of full time worked and average earnings per hour, 1929, by department, occupation, sex, and district*—Con.

Department, occupation, sex, and district	Establishments	Wage earners	Average— Days employees worked in one week	Average— Full-time hours per week	Average— Hours actually worked in one week	Per cent of full time worked	Average— Earnings per hour	Average— Full-time earnings per week	Average— Actual earnings in one week
Shops and miscellaneous—Contd.									
Laborers, male:									
District No. 1	15	236	5.3	59.1	53.4	90.7	$0.422	$24.94	$22.52
2	5	28	5.5	56.4	52.3	92.7	.439	24.76	22.96
3	8	123	5.5	56.0	53.9	96.3	.421	23.58	22.69
4	8	85	5.7	58.0	56.5	97.4	.447	25.93	25.25
5	9	148	5.5	56.1	51.7	92.2	.361	20.25	18.64
6	13	170	5.4	62.1	53.3	85.8	.262	16.27	13.99
7	6	121	5.6	66.5	58.2	87.5	.350	23.28	20.39
8	7	89	5.5	54.6	51.6	94.5	.335	18.29	17.26
9	3	102	5.1	60.9	52.1	85.6	.281	17.11	14.64
10	5	43	6.4	56.4	54.3	96.3	.431	24.31	23.41
11	7	47	5.9	50.6	48.3	95.5	.435	22.01	20.99
12	4	20	5.3	52.7	46.0	87.3	.482	25.40	22.21
Total	90	1,212	5.5	58.7	53.4	91.0	.371	21.78	19.77
Other employees, male:									
District No. 1	16	618	5.3	57.6	51.1	88.7	.584	33.64	29.83
2	6	145	5.7	55.7	54.4	97.7	.559	31.14	30.40
3	10	251	6.1	58.0	59.1	101.9	.599	34.74	35.38
4	9	123	5.8	59.2	58.5	98.8	.602	35.64	35.25
5	10	307	5.8	55.3	52.8	95.5	.558	30.86	29.49
6	13	255	5.9	62.2	57.5	92.4	.511	31.78	29.39
7	6	247	6.1	59.2	58.9	99.5	.511	30.25	30.11
8	7	193	6.0	56.2	55.9	99.5	.499	28.04	27.88
9	3	89	5.9	61.2	61.9	101.1	.457	27.97	28.24
10	6	59	6.5	58.8	55.8	94.9	.561	32.99	31.30
11	8	199	6.4	52.3	53.6	102.5	.650	34.00	34.81
12	7	73	6.0	52.7	50.2	95.3	.677	35.68	33.97
Total	101	2,559	5.8	57.4	55.0	95.8	.562	32.26	30.95
Clinker									
Burners, first, male:									
District No. 1	16	67	6.5	62.6	62.6	100.0	.630	39.44	39.44
2	6	14	6.6	64.6	70.5	109.1	.623	40.25	43.95
3	10	30	6.7	70.0	70.0	100.0	.664	46.49	46.49
4	8	22	6.1	64.4	61.2	95.0	.722	46.50	44.19
5	10	31	6.5	63.2	61.2	96.8	.617	38.99	37.76
6	13	30	6.9	62.8	61.8	98.4	.632	39.69	39.04
7	6	25	6.6	68.3	70.3	102.9	.558	38.11	39.17
8	7	18	6.8	65.3	67.2	102.9	.526	34.35	35.32
9	3	6	6.8	84.0	82.2	97.9	.467	39.23	38.35
10	6	17	6.9	59.3	58.2	98.1	.619	36.71	35.99
11	9	43	7.0	61.9	61.6	99.5	.656	40.61	40.41
12	7	19	6.7	60.6	58.8	97.0	.691	41.87	40.67
Total	101	322	6.7	64.2	64.0	99.7	.628	40.32	40.16
Burners, second, male:									
District No. 1	8	58	6.6	59.8	58.6	98.0	.579	34.62	33.95
2	3	12	5.7	62.0	55.5	89.5	.524	32.49	29.07
3	7	18	6.9	63.8	65.7	103.0	.573	36.56	37.63
4	4	12	6.3	84.0	74.7	88.9	.462	38.81	34.48
5	10	56	6.2	68.5	62.5	91.2	.531	36.37	33.21
6	5	11	6.4	67.5	62.6	92.7	.534	36.05	33.43
7	3	29	6.6	59.9	59.3	99.0	.535	32.05	31.75
8	2	14	6.4	72.0	64.7	89.9	.460	33.12	29.76
9	2	4	6.5	84.0	78.0	92.9	.351	29.48	27.38
10	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
11	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Total	46	220	6.5	65.3	61.8	94.6	.534	34.87	33.03

[1] Data included in total to avoid identification of plant.

TABLE A.—*Average number of days on which employees worked in one week, average full time and actual hours and earnings per week, per cent of full time worked and average earnings per hour, 1929, by department, occupation, sex, and district*—Con.

Department, occupation, sex, and district	Establishments	Wage earners	Average— Days employees worked in one week	Average— Full-time hours per week	Average— Hours actually worked in one week	Per cent of full time worked	Average— Earnings per hour	Average— Full-time earnings per week	Average— Actual earnings in one week
Clinker—Continued									
Cooler tenders, male:									
District No. 1	3	8	6.4	84.0	81.1	96.5	$0.434	$36.46	$35.14
2	2	4	6.3	72.0	75.3	104.6	.464	33.41	34.90
3	5	12	5.9	67.7	60.3	89.1	.513	34.73	30.94
4	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
5	3	7	6.7	56.0	56.3	100.5	.489	27.38	27.52
6	2	3	6.0	75.8	64.6	85.2	.354	26.83	22.88
7	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
8	3	8	6.6	63.0	61.2	97.1	.392	24.70	23.99
9	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
10	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
11	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
12	2	4	6.8	54.0	54.0	100.0	.549	29.65	29.65
Total	25	57	6.4	69.3	65.7	94.8	.456	31.60	29.95
Mixers, male:									
District No. 1	5	16	5.9	73.1	67.5	92.3	.505	36.92	34.09
2	4	10	6.3	66.4	69.7	105.0	.447	29.68	31.14
3	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
4	4	15	5.7	63.5	58.7	92.4	.549	34.86	32.19
5	3	16	6.6	63.0	62.8	99.7	.471	29.67	29.54
6	3	7	5.9	85.5	71.0	83.0	.331	28.30	23.48
7	2	15	5.7	57.9	49.6	85.7	.440	25.48	21.85
8	4	11	6.9	61.1	69.4	113.6	.377	23.03	26.17
9	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
10	4	9	6.7	62.2	59.0	94.9	.489	30.42	28.87
Total	31	104	6.2	65.7	62.7	95.4	.456	28.59	28.58
Elevator tenders, male:									
District No. 4	2	5	5.6	84.0	67.2	80.0	.369	31.00	24.78
6	3	10	6.2	61.6	57.6	93.5	.330	20.33	19.03
7	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
8	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
11	2	3	6.7	78.0	79.0	101.3	.415	32.37	32.75
Total	9	23	6.3	69.8	64.8	92.8	.366	25.55	23.70
Conveyor tenders, male:									
District No. 1	7	28	6.2	77.8	71.4	91.8	.442	34.39	31.56
2	2	5	6.4	62.4	62.8	100.6	.445	27.77	27.92
3	6	20	5.6	78.4	65.2	83.2	.441	34.57	28.75
4	6	22	5.9	64.4	56.4	87.6	.555	35.74	31.30
5	7	33	6.2	71.3	63.6	89.2	.450	32.09	28.63
6	6	12	6.2	70.0	64.0	91.4	.365	25.55	23.38
7	4	17	6.5	70.8	66.9	94.5	.414	29.31	27.64
8	7	19	6.9	64.8	64.6	99.7	.388	25.14	25.05
9	3	8	6.1	84.0	73.9	88.0	.331	27.80	24.50
10	3	13	6.8	64.6	61.0	94.4	.482	31.14	29.40
11	7	24	6.9	59.3	59.3	100.0	.475	28.16	28.16
12	3	5	6.6	51.2	55.2	107.8	.531	27.19	29.32
Total	61	206	6.3	69.4	63.9	92.1	.445	30.88	28.44
Clinker grinders, male:									
District No. 1	16	90	6.0	67.1	61.1	91.1	.517	34.69	31.56
2	6	27	6.1	64.0	59.6	93.1	.500	32.00	29.81
3	10	47	6.4	69.1	65.4	94.6	.512	35.38	33.46
4	9	33	5.7	61.9	57.1	92.2	.627	38.81	35.82
5	10	60	6.1	66.7	61.3	91.9	.483	32.22	29.63
6	10	35	6.4	65.5	59.1	90.2	.426	27.90	25.19
7	6	24	6.3	67.7	66.1	97.6	.446	30.19	29.51
8	7	24	6.7	65.3	63.6	97.4	.458	29.91	29.15
9	3	9	6.6	84.0	80.3	95.6	.321	26.96	25.75
10	4	11	6.7	56.0	56.7	101.3	.546	30.58	30.96
11	7	23	6.6	62.5	60.3	96.5	.544	34.00	32.80
12	5	13	6.7	69.2	66.4	96.0	.477	33.01	31.69
Total	93	396	6.2	66.3	61.9	93.4	.498	33.02	30.82

[1] Data included in total to avoid identification of plant.

TABLE A.—*Average number of days on which employees worked in one week, average full time and actual hours and earnings per week, per cent of full time worked and average earnings per hour, 1929, by department, occupation, sex, and district*—Con.

Department, occupation, sex, and district	Establishments	Wage earners	Average— Days employees worked in one week	Average— Full-time hours per week	Average— Hours actually worked in one week	Per cent of full time worked	Average— Earnings per hour	Average— Full-time earnings per week	Average— Actual earnings in one week
Clinker—Continued									
Oilers, male:									
District No. 1	13	56	6.3	72.0	68.6	$95.3	$0.463	$33.34	$31.81
2	5	14	6.2	70.3	64.8	92.2	.490	34.45	31.79
3	8	32	6.8	78.8	79.1	100.4	.469	36.96	37.14
4	5	15	6.5	76.5	71.5	93.5	.437	33.43	31.25
5	6	19	6.4	68.5	62.6	91.4	.438	30.00	27.45
6	10	31	6.9	67.6	69.1	102.2	.385	26.03	26.58
7	3	7	6.9	76.0	75.3	99.1	.394	29.94	29.70
8	5	18	6.9	71.6	71.8	100.3	.369	26.42	26.49
9	2	8	6.4	84.0	77.3	92.0	.282	23.69	21.82
10	6	23	6.8	58.4	56.8	97.3	.482	28.15	27.37
11	7	23	6.8	58.4	57.6	98.6	.572	33.40	32.95
12	5	16	6.4	57.5	51.8	90.1	.515	29.61	26.64
Total	75	262	6.6	69.4	67.1	96.7	.449	31.16	30.16
Laborers, male:									
District No. 1	14	74	6.1	67.4	66.3	98.4	.427	28.78	28.33
2	5	12	5.3	57.0	51.9	91.1	.426	24.28	22.10
3	6	30	6.3	71.3	70.4	98.7	.412	29.38	29.02
4	4	10	5.9	69.9	61.7	88.3	.406	28.38	25.03
5	9	56	5.9	66.8	54.4	81.4	.394	26.32	21.43
6	6	24	4.8	69.4	43.5	62.7	.303	21.03	13.19
7	4	12	6.6	66.7	68.5	102.7	.388	25.88	26.53
8	5	15	6.6	76.4	69.8	91.4	.351	26.82	24.48
9	3	10	6.7	84.0	84.2	100.2	.280	23.53	23.58
10	3	7	5.4	58.0	45.0	77.6	.458	26.56	20.60
11	7	61	6.7	62.9	46.1	73.3	.569	35.79	26.21
12	1	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Total	67	315	6.1	67.2	58.5	87.1	.422	28.36	24.66
Other employees, male:									
District No. 1	15	187	6.2	67.7	64.6	95.4	.510	34.53	32.93
2	6	51	6.3	59.7	59.0	98.8	.500	32.85	29.52
3	8	39	6.7	74.7	74.2	99.3	.587	43.85	43.54
4	6	31	6.3	78.7	73.4	93.3	.461	36.28	33.88
5	10	82	6.5	68.7	65.8	95.8	.493	33.87	32.44
6	10	60	6.6	71.9	62.6	87.1	.495	35.59	30.99
7	6	83	6.6	66.5	63.5	95.5	.452	30.06	28.68
8	7	53	6.5	68.8	67.7	98.4	.411	28.28	27.86
9	3	20	6.2	84.0	73.8	87.9	.373	31.33	27.51
10	4	8	6.6	56.0	53.0	94.6	.517	28.95	27.38
11	8	75	6.6	60.3	58.9	97.7	.572	34.49	33.68
12	2	12	6.7	52.7	53.9	102.3	.598	31.51	32.26
Total	85	701	6.4	67.7	64.5	95.3	.497	33.65	32.05
Cement									
Conveyor tenders, male:									
District No. 1	7	22	5.6	57.9	55.8	96.4	.462	26.75	25.79
2	3	8	5.8	60.0	63.3	105.5	.474	28.44	30.00
3	4	7	5.7	58.3	61.9	106.2	.509	29.67	31.49
4	3	7	6.3	69.4	70.9	102.2	.475	32.97	33.67
5	5	20	5.1	58.2	41.1	70.6	.407	23.69	16.72
6	5	11	5.5	62.5	55.0	88.0	.442	27.63	24.34
7	4	13	5.5	58.6	51.8	88.4	.368	21.56	19.08
8	3	10	5.6	56.4	54.8	97.2	.393	22.17	21.52
9	2	11	6.0	58.6	61.0	104.1	.321	18.81	19.58
10	5	5	6.8	52.0	60.0	115.4	.482	25.06	28.91
11	7	13	6.0	50.2	50.9	101.4	.489	24.55	24.87
12	4	5	5.6	50.4	45.7	90.7	.531	26.76	24.25
Total	52	132	5.7	57.8	54.3	93.9	.437	25.26	23.74

[1] Data included in total to avoid identification of plant.

TABLE A.—*Average number of days on which employees worked in one week, average full time and actual hours and earnings per week, per cent of full time worked and average earnings per hour, 1929, by department, occupation, sex, and district*—Con.

Department, occupation, sex, and district	Establishments	Wage earners	Average— Days employees worked in one week	Full-time hours per week	Hours actually worked in one week	Per cent of full time worked	Average— Earnings per hour	Full-time earnings per week	Actual earnings in one week
Cement—Continued									
Elevator tenders, male:									
Districts Nos. 5, 6, and 11	3	4	5.8	60.0	59.9	99.8	$0.434	$26.04	$26.00
Packers (sackers), male:									
District No. 1	16	352	5.4	57.3	46.5	81.2	.999	57.24	46.49
2	6	83	5.6	59.0	49.5	83.9	.891	52.57	44.09
3	10	132	5.3	56.8	46.0	81.0	1.094	62.14	50.33
4	8	71	4.8	60.6	46.3	76.4	.863	52.30	39.95
5	10	151	5.2	53.2	39.3	73.9	.952	50.65	37.42
6	11	97	4.9	58.5	41.6	71.1	.569	33.79	23.67
7	6	92	5.0	55.4	39.6	71.5	.904	50.08	35.78
8	5	81	5.1	56.4	42.5	75.4	.617	34.80	26.24
9	3	38	5.6	60.8	54.5	89.6	.524	31.86	28.53
10	6	28	6.4	50.9	52.9	103.9	.651	33.14	34.42
11	9	87	5.9	50.5	46.8	92.7	.663	33.48	31.01
12	6	37	5.4	49.3	40.2	81.5	.776	38.26	31.17
Total	96	1,249	5.3	56.1	44.8	79.9	.870	48.81	38.97
Sack tiers, male:									
District No. 1	9	23	5.7	57.9	52.3	90.3	.463	26.81	24.23
2	3	4	5.3	57.0	47.8	83.9	.602	34.31	28.75
3	4	10	4.4	56.0	43.0	76.8	.517	28.95	22.22
4	5	7	5.4	57.1	51.3	89.8	.516	29.46	26.46
5	8	10	5.3	55.2	44.3	80.3	.558	30.80	24.69
6	8	16	5.4	59.3	53.3	89.9	.400	23.72	21.35
7	4	9	5.1	54.7	40.4	73.9	.502	27.46	20.26
8	2	4	5.0	57.0	43.0	75.4	.560	31.92	24.08
9	3	5	4.6	61.8	45.6	73.8	.369	22.80	16.83
10	4	11	4.5	48.7	31.3	64.3	.429	20.89	13.41
11	9	22	6.1	51.6	53.3	103.3	.542	27.97	28.90
12	6	9	5.3	50.7	40.9	80.7	.591	29.96	24.21
Total	65	130	5.3	55.2	47.1	85.3	.495	27.32	23.32
Sack tiers, female:									
District Nos. 3 and 5	3	8	5.8	48.8	46.8	95.9	.492	24.01	23.00
Loaders, male:									
District No. 1	7	26	5.2	61.2	49.6	81.0	.586	35.86	29.06
2	4	39	4.3	58.5	44.0	75.2	.592	34.63	26.04
3	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
4	2	39	2.2	55.4	18.5	33.4	.726	40.22	13.40
5	2	19	4.6	54.9	41.0	74.7	.389	21.36	15.96
6	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
9	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
10	3	10	6.8	53.6	57.6	107.5	.537	28.78	30.93
11	2	5	6.0	48.0	49.2	102.5	.543	26.06	26.70
12	2	2	6.5	48.0	51.0	106.3	.577	27.70	29.45
Total	25	148	4.2	57.2	39.2	68.5	.560	32.03	21.95
Laborers, male:									
District No. 1	16	161	5.7	58.6	57.3	97.8	.453	26.55	25.96
2	6	46	5.3	58.4	52.7	90.2	.428	25.00	22.53
3	9	67	4.8	57.7	44.4	77.0	.452	26.08	20.05
4	7	81	5.0	62.6	49.6	79.2	.429	26.86	21.29
5	9	93	5.4	54.3	46.3	85.3	.395	21.45	18.30
6	9	61	5.0	61.3	48.5	79.1	.277	16.98	13.42
7	6	70	5.5	56.0	51.1	91.3	.392	21.95	20.03
8	5	31	4.8	57.6	46.4	80.6	.372	21.43	17.29
9	2	14	4.7	62.6	46.9	74.9	.352	22.04	16.50
10	6	37	5.8	48.8	46.4	95.1	.464	22.64	21.54
11	7	52	5.5	50.5	46.3	91.7	.429	21.66	19.87
12	5	15	5.2	51.2	45.5	88.9	.469	24.01	21.30
Total	87	728	5.3	57.2	50.0	87.4	.416	23.80	20.77

[1]Data included in total to avoid identification of plant.

TABLE A.—*Average number of days on which employees worked in one week, average full time and actual hours and earnings per week, per cent of full time worked and average earnings per hour, 1929, by department, occupation, sex, and district*—Con.

Department, occupation, sex, and district	Establishments	Wage earners	Average— Days employees worked in one week	Full-time hours per week	Hours actually worked in one week	Per cent of full time worked	Average— Earnings per hour	Full-time earnings per week	Actual earnings in one week
Cement—Continued									
Laborers, female:									
Districts Nos. 3 and 10	2	5	4.4	51.6	38.0	73.6	$0.312	$16.10	$11.84
Sack cleaners, male:									
District No. 1	3	9	5.7	55.8	55.2	98.9	.434	24.22	23.98
2	3	5	5.0	57.6	47.6	82.6	.446	25.69	21.24
3	4	12	4.5	57.3	44.5	77.7	.476	27.27	21.18
4	2	4	6.0	60.0	59.6	99.3	.441	26.46	26.29
5	6	14	5.4	55.7	45.9	82.4	.400	22.28	18.36
6	4	9	5.7	59.2	54.8	92.6	.326	19.30	17.85
7	3	10	4.8	55.2	43.6	79.0	.433	23.90	18.85
8	3	8	5.0	55.1	49.4	89.7	.371	20.44	18.34
9	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
10	2	8	5.4	49.5	44.8	90.5	.409	20.25	18.29
11	6	16	6.3	48.8	49.5	101.4	.476	23.23	23.54
12	3	8	4.8	49.0	37.2	75.9	.581	28.47	21.69
Total	40	106	5.4	54.5	48.4	88.8	.427	23.27	20.65
Sack cleaners, female:									
Districts Nos. 2, 5, and 7	3	14	5.3	51.4	44.6	86.8	.425	21.85	18.93
Inspectors, male:									
District No. 1	4	7	5.7	54.4	59.9	110.1	.428	23.28	25.65
2	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
4	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
5	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
6	7	31	5.1	59.4	48.7	82.0	.360	21.38	17.51
7	2	7	6.3	55.7	58.4	104.8	.430	23.95	25.14
8	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
9	3	5	6.4	60.6	72.9	120.3	.507	30.72	36.99
12	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Total	22	61	5.5	58.3	54.1	92.8	.420	24.49	22.71
Oilers, male:									
District No. 1	5	8	5.8	60.3	58.5	97.0	.461	27.80	26.98
2	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
5	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
6	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
7	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
11	5	6	6.3	55.3	53.3	96.4	.476	26.33	25.33
12	3	3	5.7	48.0	42.3	88.1	.561	26.93	23.75
Total	17	22	5.9	56.9	53.4	93.8	.466	26.52	24.89
Other employees, male:									
District No. 1	16	189	5.8	57.6	55.4	96.2	.590	33.98	32.68
2	6	53	5.7	59.3	59.2	99.8	.532	31.55	31.46
3	10	62	5.9	58.1	57.9	99.7	.562	32.65	32.53
4	9	49	5.7	59.3	57.0	96.1	.609	36.11	34.71
5	10	96	5.5	52.9	46.8	88.5	.529	27.98	24.80
6	12	81	5.9	60.1	58.3	97.0	.493	29.63	28.76
7	6	48	6.0	55.5	55.8	100.5	.506	28.08	28.23
8	6	47	6.1	56.9	57.1	100.4	.382	21.74	21.74
9	3	47	5.0	61.0	48.4	79.3	.340	20.74	16.47
10	3	6	5.0	49.3	41.0	83.2	.712	35.10	29.17
11	8	45	6.0	53.2	52.1	97.9	.585	31.12	30.47
12	5	20	5.5	48.6	44.2	90.9	.538	26.15	23.73
Total	94	743	5.7	57.0	54.2	95.1	.532	30.32	28.87

[1] Data included in total to avoid identification of plant.

TABLE A.—*Average number of days on which employees worked in one week, average full time and actual hours and earnings per week, per cent of full time worked and average earnings per hour, 1929, by department, occupation, sex, and district*—Con.

Department, occupation, sex, and district	Establishments	Wage earners	Average— Days employees worked in one week	Average— Full-time hours per week	Average— Hours actually worked in one week	Per cent of full time worked	Average— Earnings per hour	Average— Full-time earnings per week	Average— Actual earnings in one week
Cement—Continued									
Other employees, female:									
District No. 1	2	11	4.9	53.6	41.4	77.2	$0.356	$19.08	$14.74
2	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
4	4	11	5.3	56.7	48.9	86.2	.348	19.73	17.04
5	5	23	5.6	53.0	44.5	84.0	.350	18.55	15.61
7	2	35	5.8	54.0	51.3	95.0	.309	16.69	15.84
8	3	8	5.8	57.8	53.9	93.3	.399	23.06	21.54
9	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
10	4	8	5.8	49.0	45.4	92.7	.429	21.02	19.47
11	2	22	6.0	47.8	47.8	100.0	.528	25.24	25.24
12	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Total	26	130	5.5	52.2	47.1	90.2	.382	19.94	17.97
Power									
Laborers, male:									
District No. 1	7	12	6.0	64.3	65.1	101.2	.439	28.23	28.59
2	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3	3	8	6.6	76.3	73.8	96.7	.429	32.73	31.64
4	4	14	5.7	60.0	56.8	94.7	.439	26.34	24.92
5	5	21	5.1	58.3	47.2	81.0	.371	21.63	17.51
6	3	10	5.4	68.2	56.6	83.0	.235	16.03	13.31
8	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
10	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
11	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Total	26	71	5.7	63.2	57.6	91.1	.395	24.96	22.72
Firemen, male:									
District No. 1	5	31	6.2	61.0	59.6	97.7	.536	32.70	31.91
2	2	7	6.1	78.9	74.1	93.9	.491	38.74	36.40
3	5	16	6.8	63.0	62.5	99.2	.545	34.34	34.09
4	3	9	6.7	62.2	61.8	99.4	.600	37.32	37.08
5	4	25	6.8	56.0	53.3	95.2	.499	27.94	26.60
6	2	5	4.8	62.4	44.8	71.8	.371	23.15	16.63
7	2	9	6.7	74.7	72.0	96.4	.409	30.55	29.43
8	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
10	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
11	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Total	26	116	6.5	61.9	59.4	96.0	.523	32.37	31.05
Engineers, male:									
District No. 1	8	88	6.3	58.1	55.3	95.2	.590	34.28	32.66
2	4	28	6.5	58.3	59.0	101.2	.520	30.32	30.66
3	8	27	6.6	64.3	63.6	98.9	.642	41.28	40.82
4	6	20	6.2	68.8	67.0	97.4	.629	43.28	42.10
5	7	38	6.7	61.2	61.2	100.0	.564	34.52	34.52
6	4	10	6.8	64.8	66.4	102.5	.517	33.50	34.32
7	2	5	6.8	67.2	67.2	100.0	.543	36.46	36.46
8	5	14	6.6	64.0	61.4	95.9	.566	36.22	34.74
10	4	12	7.0	56.0	56.0	100.0	.651	36.46	36.46
11	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
12	2	7	7.0	58.3	64.0	109.8	.564	32.88	36.12
Total	51	253	6.5	60.7	59.7	98.4	.587	35.63	35.03

[1] Data included in total to avoid identification of plant.

TABLE A.—*Average number of days on which employees worked in one week, average full time and actual hours and earnings per week, per cent of full time worked and average earnings per hour, 1929, by department, occupation, sex, and district*—Con.

Department, occupation, sex, and district	Establishments	Wage earners	Average— Days employees worked in one week	Full-time hours per week	Hours actually worked in one week	Per cent of full time worked	Average— Earnings per hour	Full-time earnings per week	Actual earnings in one week
Power—Continued									
Pumpmen, male:									
District No. 1	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
2	2	5	5.8	65.6	61.8	94.2	$0.521	$34.18	$32.21
3	3	7	6.9	72.0	72.3	100.4	.456	32.83	32.93
4	3	12	5.8	65.7	60.3	91.8	.548	36.00	33.07
5	2	7	6.9	72.0	72.0	100.0	.417	30.00	30.00
6	6	8	6.5	70.8	70.6	99.7	.359	25.42	25.37
7	2	4	6.8	84.0	80.5	95.8	.411	34.52	33.07
8	2	5	7.0	67.2	67.2	100.0	.411	27.64	27.64
9	2	3	7.0	84.0	81.0	86.4	.302	25.37	24.43
10	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Total	24	57	6.5	69.3	67.5	97.4	.450	31.19	30.37
Oilers, male:									
District No. 1	4	22	6.5	71.3	68.8	96.5	.494	35.22	34.02
2	2	5	4.8	72.0	57.4	79.7	.536	38.59	30.76
3	4	8	6.8	82.3	80.3	97.6	.506	41.64	40.66
4	3	6	5.8	74.7	60.7	81.3	.473	35.33	28.67
5	6	14	6.6	63.7	63.3	99.4	.443	28.22	28.05
6	5	15	6.9	63.7	64.0	100.5	.436	27.77	27.90
7	2	12	6.8	84.0	81.0	96.4	.373	31.33	30.22
8	2	7	6.1	72.0	63.6	88.3	.434	31.25	27.62
10	3	9	6.9	56.0	56.0	100.0	.516	28.89	28.89
12	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Total	32	99	6.5	70.5	67.3	95.5	.461	32.50	31.03
Other employees, male:									
District No. 1	16	243	6.3	64.2	63.0	98.1	.563	36.14	35.45
2	6	77	6.0	65.8	43.4	66.0	.813	53.50	35.27
3	9	74	6.6	75.1	72.4	96.4	.535	40.18	38.75
4	8	71	6.0	62.7	60.3	96.2	.646	40.50	38.91
5	10	97	6.5	67.0	64.7	96.6	.536	35.91	34.71
6	13	95	6.4	69.4	64.9	93.5	.535	37.13	34.75
7	6	76	6.5	71.1	67.5	94.9	.486	34.55	32.77
8	7	76	6.5	68.8	66.3	96.4	.475	32.68	31.47
9	3	28	6.3	78.5	71.6	91.2	.465	36.50	33.31
10	2	16	6.6	56.0	53.0	94.6	.604	33.82	32.00
11	2	10	6.8	56.0	56.0	100.0	.543	30.43	30.43
Total	82	863	6.4	67.3	62.9	93.5	.557	37.49	35.06
All departments									
All employees, male:									
District No. 1	16	4,566	5.8	61.2	57.3	93.6	.554	33.90	31.74
2	6	1,230	5.7	60.7	55.8	91.9	.551	33.45	30.71
3	10	2,194	5.8	61.5	58.5	95.1	.558	34.32	32.64
4	9	1,409	5.6	63.1	56.8	91.5	.564	35.02	32.00
5	10	2,708	5.9	60.2	55.2	91.7	.495	29.80	27.30
6	13	2,043	5.7	64.0	55.6	86.7	.427	27.33	23.73
7	6	1,892	6.0	61.6	59.0	95.8	.479	29.51	28.22
8	7	1,292	6.0	60.0	57.4	95.7	.446	26.76	25.60
9	3	607	5.8	67.9	62.4	91.9	.373	25.33	23.31
10	6	617	6.4	56.8	54.1	95.2	.526	29.88	28.45
11	9	1,416	6.4	55.2	54.3	98.4	.587	32.40	31.88
12	7	570	6.0	53.9	50.1	92.9	.609	32.83	30.54
Total	102	20,544	5.9	60.8	56.7	93.3	.518	31.49	29.33

[1] Data included in total to avoid identification of plant.

TABLE A.—*Average number of days on which employees worked in one week, average full time and actual hours and earnings per week, per cent of full time worked and average earnings per hour, 1929, by department, occupation, sex, and district*—Con.

Department, occupation, sex, and district	Establishments	Wage earners	Average— Days employees worked in one week	Average— Full-time hours per week	Average— Hours actually worked in one week	Per cent of full time worked	Average— Earnings per hour	Average— Full-time earnings per week	Average— Actual earnings in one week
All departments—Continued									
All employees, female:									
District No. 1	2	11	4.9	53.6	41.4	77.2	$0.356	$19.08	$14.74
2	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
3	2	10	4.7	50.4	39.4	78.2	.448	22.58	17.65
4	4	11	5.3	56.7	48.9	86.2	.348	19.73	17.04
5	5	31	5.6	51.7	44.9	86.8	.370	19.13	16.63
7	2	39	5.7	54.6	51.2	93.8	.331	18.07	16.95
8	3	8	5.8	57.8	53.9	93.3	.399	23.06	21.54
9	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
10	5	10	5.3	48.8	42.0	86.1	.416	20.30	17.43
11	2	22	6.0	47.8	47.8	100.0	.528	25.24	25.24
12	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Total	28	157	5.5	52.0	46.6	89.6	.389	20.23	18.12
All employees, male and female:									
District No. 1	16	4,577	5.8	61.1	57.3	93.6	.553	33.79	31.70
2	6	1,241	5.7	60.6	55.7	91.9	.550	33.33	30.60
3	10	2,204	5.8	61.4	58.4	95.1	.558	34.26	32.57
4	9	1,420	5.6	62.0	56.7	91.5	.562	34.84	31.88
5	10	2,739	5.9	60.2	55.0	91.4	.494	29.74	27.18
6	13	2,043	5.7	64.0	55.6	86.7	.427	27.33	23.73
7	6	1,931	6.0	61.5	58.8	95.6	.476	29.27	27.99
8	7	1,300	6.0	60.0	57.4	95.7	.446	26.76	25.58
9	3	609	5.8	67.8	62.3	91.8	.373	25.29	23.25
10	6	627	6.4	56.7	53.9	95.1	.525	29.77	28.28
11	9	1,438	6.4	55.1	54.2	98.4	.586	32.29	31.78
12	7	572	6.0	53.9	50.1	92.9	.608	32.77	30.48
Total	102	20,701	5.9	60.8	56.6	93.1	.517	31.43	29.25

[1] Data included in total to avoid identification of plant.

TABLE B.—*Average and classified earnings per hour in 14 specified occupations, 1929, by department, sex, and district*

Department, occupation, sex, and district	Number of—		Average earnings per hour	Number of employees whose earnings (in cents) per hour were—																			
	Establishments	Employees		15, under 20	20, under 25	25, under 30	30, under 35	35, under 40	40, under 45	45, under 50	50, under 55	55, under 60	60, under 65	65, under 70	70, under 75	75, under 80	80, under 85	85, under 90	90, under 95	95, under 100	100, under 125	125, under 150	150, under 175	175, under 200
Quarry department																							
Drillers, male:																							
District No. 1	16	93	$0.528				1		5	41	27	7	9			1		1			1	1	1
2	5	38	.473						14	8	7	4	1	2		1							
3	8	68	.646						2	9	23		18		3	2			2	1	3	5	
4	3	15	.406					1	12	2													
5	9	60	.495				2	5	9	27	12				1		1	1				2	
6	11	55	.417			1	9	15	14	7	9												
7	5	76	.475					1	11	30	34												
8	7	31	.442					4	10	6	10		1										
9	2	8	.404			1		4	2							1							
10	5	13	.770						1		3	1	2			2			1	1		2	
11	8	61	.588							15	1	9	26	7			1				2		
12	6	26	.713									2	9			10	5						
Total	85	544	.525			2	12	30	80	145	126	23	66	9	4	16	7	2	3	2	6	10	1
Shovel engineers, male:																							
District No. 1	15	48	.701								6		9	5	15	7	2		4				
2	5	16	.809								2	1	1		1	2		6		3			
3	10	45	.800										5	5	5	13		5		12			
4	4	10	.677							3			1		1	3	2						
5	9	34	.655								4	8	5	3	5	3	5	1					
6	11	23	.659						3	3		4			2	5	4	2					
7	6	26	.762							3	1		1	1	4	7			4		5		
8	6	14	.621						1			5	5			1		2					
9	3	7	.636							1		2		2		1	1						
10	6	7	.730										1	1	1	3	1						
11	8	14	.909												2	2		1	3		6		
12	4	6	.832												1	1	1	2			1		
Total	87	250	.730						4	10	13	20	28	17	37	48	16	19	11	12	15		

Laborers, male:																							
District No. 1	15	186	.431					11	105	67	3												
2	5	44	.494					12	11	11	1				6	3							
3	10	182	.450						132	33	16	1											
4	4	35	.376					19	16														
5	10	145	.370			8	18	50	46	23													
6	12	209	.283		27	79	85	15	3														
7	6	161	.378			1		117	29	14													
8	7	75	.351				28	34	13														
9	3	41	.281			40	1																
10	6	25	.468				1		3	8	13												
11	7	69	.460					12	26	1	17	3	10										
12	6	41	.591							7	2	3	26	3									
Total	91	1,213	.395		27	128	133	270	384	164	52	7	36	3	6	3							
Raw department																							
Crusher operators, male:																							
District No. 1	15	48	.497						9	11	18	9	1										
2	5	10	.452						2	6	2												
3	9	19	.480						6	3	7	1	2										
4	4	20	.738						3	2		1						2	5	5	2		
5	9	25	.427				3	5	2	7	8												
6	10	16	.401		2		1	3	6		4												
7	5	15	.466					1	4	1	8	1											
8	7	11	.454					2	3	3	1	1	1										
9	2	5	.362			3			1		1												
10	5	8	.531							2	2	4											
11	8	11	.635								2	2	2	1	3					1			
12	6	18	.577						1		5	4	8										
Total	85	206	.503		2	3	4	11	37	35	58	23	14	1	3			2	5	6	2		
Grinder operators, male:																							
District No. 1	16	78	.527						5	14	11	42	6										
2	6	18	.490							15	1		2										
3	10	29	.536						4	5	8	2	4	6									
4	8	26	.565				1	4	6	2		2						2	3	3	3		
5	10	38	.487							13	24	1											
6	11	26	.431		2	3	1		3	7	8	2											
7	6	22	.443					4	6	10	2												
8	7	24	.445					2	7	12	3												
9	3	7	.361			1	1	4	1														
10	6	16	.542							3	3	8	1			1							
11	7	25	.568						4	3		5	8	2		1	1				1		
12	5	13	.519							2	5	6											
Total	95	322	.503		2	4	3	14	36	86	65	68	21	8		2	1	2	3	3	4		

TABLE B.—*Average and classified earnings per hour in 14 specified occupations, 1929, by department, sex, and district*—Continued

Department, occupation, sex, and district	Number of—		Average earnings per hour	Number of employees whose earnings (in cents) per hour were—																				
	Establishments	Employees		15, under 20	20, under 25	25, under 30	30, under 35	35, under 40	40, under 45	45, under 50	50, under 55	55, under 60	60, under 65	65, under 70	70, under 75	75, under 80	80, under 85	85, under 90	90, under 95	95, under 100	100, under 125	125, under 150	150, under 175	175, under 200
Raw department—Continued																								
Laborers, male:																								
District No. 1	13	77	$0.418				1	1	61	14														
2	4	10	.425					4	1	5														
3	8	31	.418						24	7														
4	7	59	.450					34	11					1			5	4	3	1				
5	8	44	.355				7	27	10															
6	7	35	.263		13	12	9	1																
7	6	26	.391					13	13															
8	6	27	.354				5	16	6															
9	3	18	.293			11	6		1															
10	5	29	.455					3	10	6	10													
11	8	62	.455				4		25	6	19	6	1	1										
12	4	16	.604							2	6	3	5											
Total	79	434	.403		13	23	32	99	162	40	35	9	6	1	1			5	4	3	1			
Shop and miscellaneous																								
Laborers, male:																								
District No. 1	15	236	.422			1	2	4	179	44	4	1						1						
2	5	28	.439					5	8	11	2	2												
3	8	123	.421					4	90	29														
4	8	85	.447					29	23	4	18		1					6	2	2				
5	9	148	.361				9	105	28	6														
6	13	170	.262	1	75	28	53	6	1	6														
7	6	121	.350				31	77	11	2														
8	7	89	.335				51	34	4															
9	3	102	.281			95	7																	
10	5	43	.431				2	7	17	8	9													
11	7	47	.435				6		17	12	12													
12	4	20	.482						1	7	12													
Total	90	1,212	.371	1	75	124	161	271	379	129	57	3	1					7	2	2				

Coal mill																									
Grinder operators, male:																									
District No. 1	16	46	.515							18	14	11			3										
2	6	12	.525							2	6	2	2												
3	9	25	.570					3	2	6			4	5	4	1									
4	9	29	.592				1	6	3	4	2					3		2	4	3	1				
5	9	27	.493						8	17	2														
6	10	20	.449			2	2	4	4	6	2														
7	6	17	.474				2	1	11			3													
8	4	11	.448				1	5	2	3															
10	4	11	.521						3	3	5														
12	3	8	.607								6	2													
Total	76	206	.519			2	6	19	53	59	30	11	5	7	4		2	4	3	1					
Laborers, male:																									
District No. 1	7	21	.411					21																	
3	3	8	.413					6	2																
5	7	34	.359				28	5	1																
6	7	21	.285		4	8	4	1	4																
7	4	22	.362					20	2																
8	1	(1)	(1)					(1)																	
10	3	5	.434					2	1	2															
12	1	(1)	(1)								(1)														
Total	33	119	.363		4	8	4	58	39	5	1														
Clinker																									
Burners, first, male:																									
District No. 1	16	67	.630						1	11	6	13	19	14			3								
2	6	14	.623								2	7	3	2											
3	10	30	.664							2	4	9	2	3	5		3			1	1				
4	8	22	.722							4	2	2	2	3							9				
5	10	31	.617								10	9	10	2											
6	13	30	.632						2	5	2	3	4	6	8										
7	6	25	.558					4	4	1		11	5												
8	7	18	.526					1		12	1	4													
9	3	6	.467					2	1	3															
10	6	17	.619								3	11		3											
11	9	43	.656					2	5			11	6	9	4	3	2				1				
12	7	19	.691									4	9	3	2						1				
Total	101	322	.628					9	13	38	30	84	60	45	19	3	8		1	12					

[1] Included in total to avoid identification of plant.

TABLE B.—*Average and classified earnings per hour in 14 specified occupations, 1929, by sex, department, and district*—Continued

Department, occupation, sex, and district	Number of—		Average earnings per hour	Number of employees whose earnings (in cents) per hour were—																				
	Establishments	Employees		15, under 20	20, under 25	25, under 30	30, under 35	35, under 40	40, under 45	45, under 50	50, under 55	55, under 60	60, under 65	65, under 70	70, under 75	75, under 80	80, under 85	85, under 90	90, under 95	95, under 100	100, under 125	125, under 150	150, under 175	175, under 200
Clinker—Continued																								
Clinker grinders, male:																								
District No. 1	16	90	$0.517						5	19	22	42	2											
2	6	27	.500							16	9		2											
3	10	47	.512						8	9	16	2	9	3										
4	9	33	.627						9	2	2	2				4		2	5	4	3			
5	10	60	.483						5	23	31	1												
6	10	35	.426		5			2	2	13	9	2												
7	6	24	.446						10	11	3													
8	7	24	.458				1	2	4	11	6													
9	3	9	.321			3	2	4																
10	4	11	.546							2	3	5				1								
11	7	23	.544						4	2	2	1	12	1			1							
12	5	13	.477						2	3	7	1												
Total	93	396	.498		5	3	5	8	49	111	110	56	25	4		5	1	2	5	4	3			
Laborers, male:																								
District No. 1	14	74	.427					1	59	14														
2	5	12	.426					3	3	6														
3	6	30	.412						30															
4	4	10	.406					6	3				1											
5	9	56	.394					19	31	1	5													
6	6	24	.303		6	5	10	2	1															
7	4	12	.388					6	6															
8	5	15	.351				5	7	3															
9	3	10	.280			10																		
10	3	7	.458					3	1		3													
11	7	61	.569				6		28	9	17	1												
12	1	(1)	(1)							(1)														
Total	67	315	.422		6	15	21	47	165	34	25	1	1											

Cement																									
Packers (sackers), male:																									
District No. 1	16	352	.999						2	2	2		2	8	11	24	50	42	14	25	114	51	5		
2	6	83	.891								6	1	1	1	2	4	7	10	22	14	14	1			
3	10	132	1.094								2	7			2	4	7	10	13	4	44	13	18	8	
4	8	71	.863						3					3	11		2	5	6	19	22				
5	10	151	.952									5	5	1		6	23	39	8	23	25	12	4		
6	11	97	.569			1	5	14	21	9	1	2	3	2	9	6	10	3	4	7					
7	6	92	.904					1		2	7	6	3	2	8	8	8	6	9	8	24				
8	5	81	.617					2	4	5	6	32	17	2		6	4	3							
9	3	38	.524				1	15			1	3	5	7	4	2									
10	6	28	.651								11		1	3	2	2	3	2	4						
11	9	87	.663						3	5	8	17	5	10	10	11	12	2	4						
12	6	37	.776								7	4	8	5	3					1	3	6			
Total	96	1,249	.870			1	6	32	33	25	51	77	50	44	62	73	126	120	84	101	246	83	27	8	
Laborers, male:																									
District No. 1	16	161	.453					1	1	81	49	18	3	6		1			1						
2	6	46	.428						11	18	15	1	1												
3	9	67	.452						3	46	12	2	2	1					1						
4	7	81	.429						30	22	17	6	2	3						1					
5	9	93	.395					1	44	34	9	3		2											
6	9	61	.277			16	19	19	4	2	1														
7	6	70	.392					6	40	7	14	1		1			1								
8	5	31	.372				1	4	18	7				1											
9	2	14	.352				6	2	2	3					1										
10	6	37	.464					1	7	13	2	8	2	2	1	1									
11	7	52	.429						12	20	11	8	1												
12	5	15	.469							3	6	3	3												
Total	87	728	.416			16	26	34	172	256	136	50	14	16	2	2	1		2	1					

[1] Included in total to avoid identification of plant.

TABLE C.—*Average and classified* **full-time hours** *per week in 14 specified occupations, 1929, by department, sex, and district*

Department, occupation, sex, and district	Number of—		Average full-time hours per week	Number of employees whose **full-time hours** per week were—														
	Establishments	Employees		40	48	Over 48, under 54	54	55	56	Over 56, under 60	60	Over 60, under 70	70	Over 70, under 77	77	80½	84	86	94½
Quarry																			
Drillers, male:																			
District No. 1	16	93	57.9		11		10	19		9	26	14			4				
2	5	38	58.7				21				4	13							
3	8	68	54.8		24		9	6			27		2						
4	3	15	60.0								15								
5	9	60	56.7		13				19		22	6							
6	11	55	61.4					8		4	30		13						
7	5	76	56.1		28		4				38		6						
8	7	31	54.8		2		23				6								
9	2	8	60.0								8								
10	5	13	55.7		3				5		5								
11	8	61	54.6		32		12		6		2				9				
12	6	26	54.2		11				9			6							
Total	85	544	56.9		124		79	33	39	13	183	39	21		13				
Shovel engineers, male:																			
District No. 1	15	48	57.8		7		7	8		6	12	5			3				
2	5	16	57.4				10				3	3							
3	10	45	57.2		10		6	3			21	2		3					
4	4	10	63.6								7			3					
5	9	34	56.2		6	6			4		16	2							
6	11	23	62.0					3	1	2	9	2	6						
7	6	26	57.8		5		6				11		4						
8	6	14	55.7		2		6				6								
9	3	7	60.0								7								
10	6	7	53.1		3				3		1								
11	8	14	53.8		7		2		2		2				1				
12	4	6	50.5		5							1							
Total	87	250	57.5		45	6	37	14	10	8	95	15	10	6	4				

Laborers, male:																			
District No. 1	15	186	57.8		13		39	39		23	54	8			10				
2	5	44	58.8				25				3	16							
3	10	182	56.7		37		8	21			116								
4	4	35	62.7								31						4		
5	10	145	56.2		44				24		64	13							
6	12	209	60.8					24		16	135		34						
7	6	161	56.8		46		15				87		13						
8	7	75	55.0		6		50				19								
9	3	41	60.0								41								
10	6	25	52.3		13				9		3								
11	7	69	53.5		32		7		19		8				3				
12	6	41	53.5		17				19			5							
Total	91	1,213	57.4		208		144	84	71	39	561	42	47		13		4		
Raw																			
Crusher operators, male:																			
District No. 1	15	48	57.0		4		6		19	3	9	7							
2	5	10	66.6		2		1					2		3			2		
3	9	19	61.9		4		1		3		5	2					4		
4	4	20	46.0	14							6								
5	9	25	56.9		4	1			8		8	4							
6	10	16	64.5					1	1	1	7	2	1	2					1
7	5	15	57.5		6		4				2		1				2		
8	7	11	55.1		1		7				3								
9	2	5	60.0								5								
10	5	8	56.5						7		1								
11	8	11	59.9		2		2		4						3				
12	6	18	49.3		15				3										
Total	85	206	56.9	14	38	1	21	1	45	4	46	17	2	5	3		8		1
Grinder operators, male:																			
District No. 1	16	78	64.9				5		46	1					4		22		
2	6	18	65.0						9			1		6			2		
3	10	29	69.4		4				10								15		
4	8	26	72.0	11													13	2	
5	10	38	69.3						20								14	4	
6	11	26	69.9					2	8		2	2		1			10		1
7	6	22	68.7						12								10		
8	7	24	66.5						15								9		
9	3	7	84.0														7		
10	6	16	59.5						14								2		
11	7	25	61.1		4				14			2					5		
12	5	13	59.1		2				7								2		
Total	95	322	66.8	11	10		5	2	157	1	2	5		7	4		111	6	1

TABLE C.—*Average and classified* **full-time hours** *per week in 14 specified occupations, 1929, by department, sex, and district*—Continued

Department, occupation, sex, and district	Number of—		Average full-time hours per week	Number of employees whose **full-time hours** per week were—														
	Establishments	Employees		40	48	Over 48, under 54	54	55	56	Over 56, under 60	60	Over 60, under 70	70	Over 70, under 77	77	80½	84	86	94½
Raw—Continued																			
Laborers, male:																			
District No. 1	13	77	68.2		3		2			12	29	8			13		10		
2	4	10	57.0				3		3		4								
3	8	31	58.7				10	5			9	6		1					
4	7	59	59.7	13							30			12			4		
5	8	44	66.9				10		11		6						17		
6	7	35	67.0					5		4	7	9		3			5		2
7	6	26	70.1		2				9				1	2			12		
8	6	27	63.5		6		11								1		9		
9	3	18	84.0														18		
10	5	29	60.1						23		2						4		
11	8	62	56.5		10		10		34		4						4		
12	4	16	52.0		8				8										
Total	79	434	63.5	13	29		46	10	88	16	91	23	1	18	14		83		2
Shops and miscellaneous																			
Laborers, male:																			
District No. 1	15	236	59.1		12		8	33		25	140	13					5		
2	5	28	56.4		1		15				12								
3	8	123	56.0				53	34			36								
4	8	85	58.0	10			19				44			12					
5	9	148	56.1		40		2			37	68						1		
6	13	170	62.1					8		14	99	11	38						
7	6	121	66.5		12	16					40		13				40		
8	7	89	54.6		10		60				19								
9	3	102	60.9								73	29							
10	5	43	56.4		5				28		9				1				
11	7	47	50.6		36				4		6	1							
12	4	20	52.7		10				9				1						
Total	90	1,212	58.7	10	126	16	157	75	41	76	546	54	52	12	1		46		

Coal mill																			
Grinder operators, male:																			
District No. 1	16	46	67.2				2		25						2		17		
2	6	12	68.7						4					6			2		
3	9	25	72.8						10								15		
4	9	29	65.9	10					3								16		
5	9	27	69.5						14								13		
6	10	20	75.6						4				4	2			8		2
7	6	17	69.2						9								8		
8	4	11	68.7						6								5		
10	4	11	61.1						9								2		
12	3	8	53.0		3				5										
Total	76	206	68.3	10	3		2		89				4	8	2		86		2
Laborers, male:																			
District No. 1	7	21	71.0				4		1	2		1	4				9		
3	3	8	59 9					5			2						1		
5	7	34	72.6						7		8						19		
6	7	21	69.7						4		1		7	7			1		1
7	4	22	73.8						8								14		
8	1	(1)	(1)														(1)		
10	3	5	63.0						3				1		1				
12	1	(1)	(1)		(1)														
Total	33	119	71.2		1		4	5	23	2	11	1	12	7	1		51		1
Clinker																			
Burners, first, male:																			
District No. 1	16	67	62.6				3		48								16		
2	6	14	64.6						8					4			2		
3	10	30	70.0						15								15		
4	8	22	64.4	6					6		2						8		
5	10	31	63.2						23								8		
6	13	30	62.8						22			1					7		
7	6	25	68.3						14								11		
8	7	18	65.3						12								6		
9	3	6	84.0														6		
10	6	17	59.3						15								2		
11	9	43	61.9						34								9		
12	7	19	60.6		3				12								4		
Total	101	322	64.2	6	3		3		209		2	1		4			94		

TABLE C.—*Average and classified* **full-time hours** *per week in 14 specified occupations, 1929, by department, sex, and district*—Continued

Department, occupation, sex, and district	Number of—		Average full-time hours per week	Number of employees whose **full-time hours** per week were—														
	Establishments	Employees		40	48	Over 48, under 54	54	55	56	Over 56, under 60	60	Over 60, under 70	70	Over 70, under 77	77	80½	84	86	94½
Clinker—Continued																			
Clinker grinders, male:																			
District No. 1	16	90	67.1				5		48						4		33		
2	6	27	64.0						15					10			2		
3	10	47	69.1						25								22		
4	9	33	61.9	14			1		3								15		
5	10	60	66.7						37								23		
6	10	35	65.5						18		2	4		3			7		1
7	6	24	67.7						14								10		
8	7	24	65.3						16								8		
9	3	9	84.0														9		
10	4	11	56.0						11										
11	7	23	62.5						17			1					5		
12	5	13	69.2		3				3								7		
Total	93	396	66.3	14	3		6		207		2	5		13	4		141		1
Laborers, male:																			
District No. 1	14	74	67.4		2		4			22	13	6	2		4		21		
2	5	12	57.0		3		4				3			2					
3	6	30	71.3					5			8		2			5	10		
4	4	10	69.9								5	1					4		
5	9	56	66.8		1				24		9	2					20		
6	6	24	69.4						2		2	4	11	2			3		
7	4	12	66.7						4		4						4		
8	5	15	76.4				1		3								11		
9	3	10	84.0														10		
10	3	7	58.0						6				1						
11	7	61	62.9						46								15		
12	1	(1)	(1)						(1)										
Total	67	315	67.2		6		9	5	89	22	44	13	16	4	4	5	98		

Cement																			
Packers (sackers), male:																			
District No. 1	16	352	57.3	------	54	------	43	------	------	65	174	16	------	------	------	------	------	------	------
2	6	83	59.0	------	------	------	14	------	------	------	69	------	------	------	------	------	------	------	------
3	10	132	56.8	------	17	------	20	21	------	------	74	------	------	------	------	------	------	------	------
4	8	71	60.6	6	------	------	------	------	------	------	47	18	------	------	------	------	------	------	------
5	10	151	53.2	------	85	------	------	------	------	------	66	------	------	------	------	------	------	------	------
6	11	97	58.5	------	6	------	12	------	------	6	71	2	------	------	------	------	------	------	------
7	6	92	55.4	------	12	------	40	8	------	------	32	------	------	------	------	------	------	------	------
8	5	81	56.4	------	------	15	26	------	------	------	40	------	------	------	------	------	------	------	------
9	3	38	60.8	------	------	------	------	------	------	14	------	24	------	------	------	------	------	------	------
10	6	28	50.9	------	20	------	------	------	4	------	4	------	------	------	------	------	------	------	------
11	9	87	50.5	------	57	------	18	------	9	------	3	------	------	------	------	------	------	------	------
12	6	37	49.3	------	33	------	------	------	------	------	4	------	------	------	------	------	------	------	------
Total	96	1,249	56.1	6	284	15	173	29	13	85	584	60	------	------	------	------	------	------	------
Laborers, male:																			
District No. 1	16	161	58.6	------	15	------	26	------	------	34	61	25	------	------	------	------	------	------	------
2	6	46	58.4	------	------	------	12	------	------	------	34	------	------	------	------	------	------	------	------
3	9	67	57.7	------	------	------	11	17	------	------	39	------	------	------	------	------	------	------	------
4	7	81	62.6	------	------	------	------	------	------	------	60	13	------	8	------	------	------	------	------
5	9	93	54.3	------	44	------	------	------	------	------	49	------	------	------	------	------	------	------	------
6	9	61	61.3	------	6	------	------	------	------	5	30	8	12	------	------	------	------	------	------
7	6	70	56.0	------	9	------	22	8	------	------	31	------	------	------	------	------	------	------	------
8	5	31	57.6	------	------	1	11	------	------	------	19	------	------	------	------	------	------	------	------
9	2	14	62.6	------	------	------	------	------	------	1	------	13	------	------	------	------	------	------	------
10	6	37	48.8	------	34	------	------	------	2	------	1	------	------	------	------	------	------	------	------
11	7	52	50.5	------	36	------	10	------	------	------	6	------	------	------	------	------	------	------	------
12	5	15	51.2	------	11	------	------	------	------	------	4	------	------	------	------	------	------	------	------
Total	87	728	57.2	------	155	1	92	25	2	40	334	59	12	8	------	------	------	------	------

[1] Included in total to avoid identification of plant.

TABLE D.—*Average and classified* **hours actually worked** *in one week in 14 specified occupations, 1929, by department, sex, and district*

Department, occupation, sex, and district	Number of—		Average hours actually worked in one week	Number of employees whose **hours of actual work** in one week were—																					
	Establishments	Employees		Under 24	24, under 32	32, under 40	40	Over 40, under 48	48	Over 48, under 50	50	Over 50, under 54	54	Over 54, under 60	60	Over 60, under 72	72	Over 72, under 84	84	Over 84, under 90	90	91	Over 91, under 96	96	Over 96, under 102	102 and over
Quarry																									
Drillers, male:																									
District No. 1	16	93	56.3	----	1	11	6	15	3	2	6	5	1	7	4	14	----	9	2	2	2	----	2	----	1	----
2	5	38	54.3	----	----	6	1	8	1	1	----	1	2	5	1	7	----	3	----	----	[1] 1	----	----	----	----	1
3	8	68	49.6	7	5	7	----	3	1	----	----	5	8	8	2	16	----	6	----	----	----	----	----	----	----	----
4	3	15	57.7	1	----	----	----	2	----	----	1	1	----	----	2	5	1	2	----	----	----	----	----	----	----	----
5	9	60	52.3	1	----	7	3	2	7	3	1	3	----	13	9	8	1	2	----	----	----	----	----	----	----	----
6	11	55	54.9	1	3	----	----	3	----	1	10	7	3	8	9	4	5	----	1	----	----	----	----	----	----	----
7	5	76	57.1	2	2	----	1	2	----	2	3	17	----	6	11	26	4	----	----	----	----	----	----	----	----	----
8	7	31	49.7	1	2	3	2	1	2	1	----	1	4	10	2	2	----	----	----	----	----	----	----	----	----	----
9	2	8	56.3	1	----	----	----	1	1	----	----	1	----	1	----	----	----	3	----	----	----	----	----	----	----	----
10	5	13	53.1	----	1	1	2	----	1	----	----	----	----	4	----	4	----	----	----	----	----	----	----	----	----	----
11	8	61	55.8	1	----	----	----	1	21	----	----	5	5	11	----	10	----	7	----	----	----	----	----	----	----	----
12	6	26	48.7	2	----	----	7	1	----	----	1	----	1	11	----	3	----	----	----	----	----	----	----	----	----	----
Total	85	544	54.0	17	14	35	22	39	37	10	22	46	24	84	40	99	11	32	3	2	[3] 3	----	2	----	1	1
Shovel engineers, male:																										
District No. 1	15	48	56.4	1	----	7	----	5	4	1	----	1	----	7	4	14	----	3	----	----	----	----	1	----	----	----
2	5	18	53.6	----	----	2	----	2	2	----	----	----	1	4	----	4	----	1	----	----	----	----	----	----	----	----
3	10	40	55.3	----	3	3	----	2	1	----	1	4	1	6	7	12	3	2	----	----	----	----	----	----	----	----
4	4	10	49.0	----	----	3	----	1	----	----	1	1	----	1	3	----	----	----	----	----	----	----	----	----	----	----
5	9	34	54.5	----	----	3	2	1	2	1	----	3	----	6	10	5	----	1	----	----	----	----	----	----	----	----
6	11	23	57.8	----	----	2	----	3	----	1	1	1	1	2	3	8	----	1	----	----	----	----	----	----	----	----
7	6	26	57.2	1	----	1	----	2	6	----	----	----	----	2	6	4	----	2	2	----	----	----	----	----	----	----
8	6	14	56.7	----	----	----	----	----	2	----	1	2	2	2	2	2	----	1	----	----	----	----	----	----	----	----
9	3	7	65.7	----	----	----	----	----	----	----	----	----	----	----	4	1	----	2	----	----	----	----	----	----	----	----
10	6	7	55.1	----	----	----	----	----	2	----	----	----	----	3	1	1	----	----	----	----	----	----	----	----	----	----
11	8	14	58.1	----	----	----	----	----	5	----	1	----	1	3	----	3	----	----	----	----	----	----	1	----	----	----
12	4	6	48.2	----	----	1	2	1	----	1	----	----	----	----	----	----	----	1	----	----	----	----	----	----	----	----
Total	87	250	55.8	2	3	22	4	17	24	4	5	12	6	36	40	54	3	14	2	----	----	----	2	----	----	----

Laborers, male:																											
District No. 1	15	186	51.4	7	5	35	3	19	2	13	7	11	7	22	5	39	2	4	2	2					1		
2	5	44	50.0			6	6	7		1	1	1	1	15	2	3		1									
3	10	182	54.5	8	3	8	17	9	5	4	9	10	4	17	21	55	2	10									
4	4	35	60.1	1		1		1			4	1	1	2	12	7			4		1						
5	10	145	51.3	2	3	22	2	18	6	2	6	5	2	29	22	25	1										
6	12	209	45.1	14	19	16	23	36		7	39	20		15	10	7		2	1								
7	6	161	53.2	8	4	2	3	12	17	1	14	14	2	10	44	27	2		1								
8	7	75	50.6	5	5	3		5	7	1	2	3	11	4	7	21		1									
9	3	41	52.0	1	1	3		6		3	2	5		13		6		1									
10	6	25	52.5			1			8			2		11	3												
11	7	69	52.5	2	1		3	2	27		2	1	5	14		9		2		1							
12	6	41	47.2	4		2	4	1	10		1	3		11		5											
Total	91	1,213	51.5	52	41	99	61	116	82	32	87	76	33	163	126	204	7	21	8	3	1				1		
Raw																											
Crusher operators, male:																											
District No. 1	15	48	56.7			4	1	2	7		3	1	1	15	2	7		4				1					
2	5	10	58.9	1			1					1		1	1	2	2					1					
3	9	19	65.1						2		1	2	1	2		5	2			3				1			
4	4	20	43.8			8	6				1				3	2											
5	9	25	55.0	1		1		2	3			1		5	5	6		1									
6	10	16	52.6	1		1		1			1	4		4	1	3											
7	5	15	56.3	1				2	4					3	1	1	1	1						1			
8	7	11	57.8			1			1					2	2	5											
9	2	5	68.8												2	1		2									
10	5	8	54.6						3			1		3			1										
11	8	11	63.2					1	2					2		3		1		2							
12	6	18	49.6				1	3	7		1	1		5													
Total	85	206	55.8	4		15	9	11	29		7	11	2	42	17	35	6	9		5			2	2			
Grinder operators, male:																											
District No 1	16	78	59.4	3		1	2	2	16			3	1	20	2	11	2	7		6		1			1		
2	6	18	59.8		1	1	1					3	1			7	2	2									
3	10	29	65.0		3	1		2	2					4		3	5	1	3					4		1	
4	8	26	62.0			5	6		1						1	1		3	6	1	2						
5	10	38	64.6		1	2	2	1	3			1		6	1	7	4	1	4		1			2		2	
6	11	26	59.9			2		3	2					5	2	6	2	2	1	1							
7	6	22	66.2						4					5	2	3	1	1	4		1			1			
8	7	24	62.3						2	1		2		8	2	3	2		4								
9	3	7	80.9													2		1	1	2		1					
10	6	16	57.5						4					9		2						1					
11	7	25	61.8						2					16		2			5								
12	5	13	60.2						2					5	2	2	1					1					
Total	96	322	62.1	3	5	12	11	8	38	1		9	2	78	12	48	20	18	28	10	4	4		7	1	3	

[1] Whose hours were 90.5.

[2] Includes 1 whose hours were 90.5.

TABLE D.—*Average and classified* **hours actually worked** *in one week in 14 specified occupations, 1929, by department, sex, and district*—Continued

Department, occupation, sex, and district	Number of—		Average hours actually worked in one week	Number of employees whose **hours of actual work** in one week were—																						
	Establishments	Employees		Under 24	24, under 32	32, under 40	40	Over 40, under 48	48	Over 48, under 50	50	Over 50, under 54	54	Over 54, under 60	60	Over 60, under 72	72	Over 72, under 84	84	Over 84, under 90	90	91	Over 91, under 96	96	Over 96, under 102	102 and over
Raw—Continued																										
Laborers, male:																										
District No. 1	13	77	65.2	1	1		2	1	4	5	3			9	8	19		15		3		[3] 2	3		1	
2	4	10	56.1			1			1		1	1	2		1	2		1								
3	8	31	46.5	8			1	2			1	1	1	4	3	9		1								
4	7	59	52.7	6	3	5	7	2			2	1		1	9	13	3	3	3				1			
5	8	44	58.1	2	2	2		2	2		1	5	1	7	4	6	2	1	7							
6	7	35	60.5	1	5						1	2		5	5	5	2	1	6	2						
7	6	26	68.3						7					1		4	4	2	7			1				
8	6	27	61.4			2		1	3			1	3	2		7	3	2	2		1					
9	3	18	78.3						1			1			1	1		6	2			3	2		1	
10	5	29	53.9		1	3	1	1	3			1		13	2	2		1						1		
11	8	62	57.3		1		2		11			3		27	5	7	1		4				1			
12	4	16	45.7	1		1	4	3	1					4		2										
Total	79	434	58.7	19	13	14	17	12	33	5	9	16	7	73	38	77	15	33	31	5	1	[3] 6	7	1	2	
Coal mill																										
Grinder operators, male:																										
District No. 1	16	46	67.6					1	7			1	1	8	6	5		7		7	1				1	1
2	6	12	71.9										1		1	2	3	3	1	1						
3	9	25	69.5		1			1	2			1		3		5	2	2	3		1	1		2		1
4	9	29	60.8		1	4	6							3		2	4	2	4	2	1					
5	9	27	65.4	1					3			3		4	3	4	1	1	4					1		2
6	10	20	68.0					2						6		2	2	5	2						1	
7	6	17	68.5						3					3		3	1	1	5			1				
8	4	11	63.3						1					4	2	1	1		2							
10	4	11	60.3						1					8		1								1		
12	3	8	51.5						2			1		4	1											
Total	76	206	65.7	1	2	4	6	4	19			6	2	43	13	25	14	21	21	10	3	2		4	2	4

Laborers, male:																										
District No. 1	7	21	62.7	2				1	1					2	1	9		3		1			1			
3	3	8	62.2									1		3	1	2			1							
5	7	34	66.4	1				1			1	1		6	6	2	6	1	8		1					
6	7	21	58.5	1	2	1			3					3		5	2	2	1	1						
7	4	22	70.0	1								1		1	1	6		6	3	1	1	1				
8	1	(4)	(4)	(4)													(4)		(4)							
10	3	5	37.7	2						1				1		1										
12	1	(4)	(4)							(4)																
Total	33	119	63.4	8	2	1		2	4	2	1	3		16	9	25	12	12	15	3	2	1	1			
Shops and miscellaneous																										
Laborers, male:																										
District No. 1	15	236	53.4	10	10	10	13	23	3	5	37	3	4	31	32	38		13		2		2				
2	5	28	52.3		2	3	1	4				2	4	3	1	8										
3	8	123	53.9	12	2	2		7			5	1	13	24	13	41		2		1						
4	8	85	56.5	1	1	8	5	5		2	1	3	8	4	15	20	12									
5	9	148	51.7	8	3	4	6	20	22	3	1	5	1	22	28	22	1	1	1							
6	13	170	53.3	10	7	8	6	16	2	2	7	9		31	31	30		8	1	2						
7	6	121	58.2	9	3	4	4	5	2	1	16	1		6	14	21	13	6	16							
8	7	89	51.6	5	4	8	3	9	4	1	4	3	8	9	9	17	1	3	1							
9	3	102	52.1	9	8	5		10		10	1	5		14	2	29		8								1
10	5	43	54.3	1		1			8	2	1	2	2	15	6	4		1								
11	7	47	48.3	2	1		1	2	29					8	3	1										
12	4	20	46.0	2	2	2		2	1		2	4	1	1	1	2										
Total	90	1,212	53.4	69	43	55	39	103	71	26	75	38	41	168	155	233	27	42	19	5		2				1
Clinker																										
Burners, first, male:																										
District No. 1	16	67	62.6				1	1	9	1		3	1	22	3	12		5		5	[2] 2				2	
2	6	14	70.5						1			2		1		2	1	2	3	1			1			
3	10	30	70.0						4					6	1	4	3	3	4	1				4		
4	8	22	61.2			3	3		2					3	2	1	1		6			1				
5	10	31	61.2		1	1			4			1		11	1	5	1		4		1					1
6	13	30	61.8						3					13	5	2	1	4	1		1					
7	6	25	70.3						2			1		5	1	2	4	1	7		1			1		
8	7	18	67.2				1		1		1			3	2	2		2	6							
9	3	6	82.2													1		1	2			2				
10	6	17	58.2						1					14		1						1				
11	9	43	61.6				1							31		2		2	7							
12	7	19	58.8			1			2					12		1		2						1		
Total	101	322	64.0		1	5	6	1	29	1	1	7	1	121	15	35	11	22	40	7	[3] 5	4	1	6	2	1

[3] Includes 1 whose hours were 90.5.

[2] Includes 1 whose hours were 90.9.

[4] Included in total to avoid identification of plant.

TABLE D.—*Average and classified* **hours actually worked** *in one week in 14 specified occupations, 1929, by department, sex, and district*—Continued

Department, occupation, sex, and district	Number of—		Average hours actually worked in one week	Number of employees whose **hours of actual work** in one week were—																						
	Establishments	Employees		Under 24	24, under 32	32, under 40	40	Over 40, under 48	48	Over 48, under 50	50	Over 50, under 54	54	Over 54, under 60	60	Over 60, under 72	72	Over 72, under 84	84	Over 84, under 90	90	91	Over 91, under 96	96	Over 96, under 102	102 and over
Clinker—Continued																										
Clinker grinders, male:																										
District No. 1	16	90	61.1	1	3	4	3	2	15	1	----	1	2	21	3	3	1	16	3	7	1	1	----	----	2	----
2	6	27	59.6	1	----	----	----	----	5	----	----	----	1	1	6	8	3	2	----	----	----	----	----	----	----	----
3	10	47	65.4	----	2	1	----	----	4	----	----	----	----	9	3	13	3	2	5	----	----	3	----	1	----	1
4	9	33	57.1	1	----	5	9	----	----	----	----	----	1	2	----	4	2	2	5	----	----	1	----	1	----	----
5	10	60	61.3	1	1	3	----	----	7	----	1	3	----	14	5	11	4	2	2	----	----	----	----	4	----	2
6	10	35	59.1	----	----	1	1	2	7	----	----	----	----	10	2	3	2	6	1	----	----	----	----	----	----	----
7	6	24	66.1	1	----	1	----	----	4	----	----	----	----	4	----	2	2	3	5	----	----	1	----	----	----	1
8	7	24	63.6	----	----	----	----	----	3	2	----	----	----	7	1	4	----	2	5	----	----	----	----	----	----	----
9	3	9	80.3	----	----	----	----	----	----	----	----	----	----	----	----	2	----	3	1	----	----	2	----	1	----	----
10	4	11	56.7	----	----	----	1	----	----	----	----	----	----	9	----	----	----	1	----	----	----	----	----	----	----	----
11	7	23	60.3	----	----	----	----	----	8	----	----	----	----	7	2	1	----	----	5	----	----	----	----	----	----	----
12	5	13	66.4	----	----	----	----	----	1	----	1	----	----	5	----	1	1	2	----	----	----	----	----	2	----	----
Total	93	396	61.9	5	6	15	14	4	54	3	2	4	4	89	22	52	18	41	32	7	1	8	----	9	2	4
Laborers, male:																										
District No. 1	14	74	66.3	1	1	----	1	1	3	----	----	2	5	5	8	26	----	11	2	4	----	----	1	----	2	1
2	5	12	51.9	----	1	1	----	----	2	----	2	1	1	2	----	1	----	1	----	----	----	----	----	----	----	----
3	6	30	70.4	1	----	----	----	----	1	----	----	----	1	3	----	9	1	5	7	1	----	----	1	----	----	----
4	4	10	61.7	----	1	----	----	----	----	1	----	1	----	----	----	5	----	----	2	----	----	----	----	----	----	----
5	9	56	54.4	3	6	5	----	4	2	1	3	----	----	7	8	6	----	4	5	----	1	----	----	----	----	1
6	6	24	43.5	3	3	5	2	3	----	----	----	----	----	1	----	6	----	----	1	----	----	----	----	----	----	----
7	4	12	68.5	----	----	----	----	----	1	----	----	1	----	1	1	3	----	1	4	----	----	----	----	----	----	----
8	5	15	69.8	----	----	----	----	----	----	----	----	1	----	4	2	1	----	1	6	----	----	----	----	----	----	----
9	3	10	84.2	----	----	----	----	----	----	----	----	----	----	----	1	1	----	1	1	3	----	1	1	----	----	1
10	3	7	45.0	1	1	----	----	----	1	----	----	----	----	3	----	1	----	----	----	----	----	----	----	----	----	----
11	7	61	46.1	----	----	----	----	1	10	----	----	----	----	34	1	5	----	1	9	----	----	----	----	----	----	----
12	1	(4)	(4)	----	----	----	----	----	----	----	----	----	----	(4)	----	(4)	----	----	----	----	----	----	----	----	----	----
Total	69	315	58.5	9	13	11	3	9	20	2	5	6	7	63	21	65	1	25	37	8	1	1	3	----	2	3

Cement																										
Packers (sackers), male:																										
District No. 1	16	352	46.5	14	41	47	5	64	3	8	10	33	21	57	5	37	----	7	----	----	----	----	----	----	----	----
2	6	83	49.5	4	1	9	2	25	3	6	2	2	----	16	5	8	----	----	----	----	----	----	----	----	----	----
3	10	132	46.0	13	19	11	2	16	----	----	----	24	2	7	2	36	----	----	----	----	----	----	----	----	----	----
4	8	71	46.3	15	2	4	4	3	----	1	1	10	1	5	5	15	1	3	----	----	1	----	----	----	----	----
5	10	151	39.3	33	3	16	6	46	13	5	----	20	----	5	2	2	----	----	----	----	----	----	----	----	----	----
6	11	97	41.6	9	24	13	2	10	----	----	6	6	----	17	3	7	----	----	----	----	----	----	----	----	----	----
7	6	92	39.6	13	8	12	----	14	1	----	4	5	3	25	3	4	----	----	----	----	----	----	----	----	----	----
8	5	81	42.5	7	9	16	----	10	1	2	4	11	9	7	3	2	----	----	----	----	----	----	----	----	----	----
9	3	38	54.5	1	----	1	----	5	----	1	1	4	3	14	1	6	----	1	----	----	----	----	----	----	----	----
10	6	28	52.9	----	----	2	2	----	6	1	----	2	----	12	----	3	----	----	----	----	----	----	----	----	----	----
11	9	87	46.8	1	4	11	3	13	23	----	1	3	10	18	----	----	----	----	----	----	----	----	----	----	----	----
12	6	37	40.2	2	4	10	5	5	1	----	1	8	----	1	----	----	----	----	----	----	----	----	----	----	----	----
Total	96	1,249	44.8	112	115	152	31	211	51	24	30	128	49	184	29	120	1	11	----	----	1	----	----	----	----	----
Laborers, male:																										
District No. 1	16	161	57.3	2	5	6	----	7	1	5	3	16	6	43	9	46	----	----	1	3	----	----	1	1	----	----
2	6	46	52.7	2	2	2	2	2	----	2	3	2	5	7	9	5	----	3	----	----	----	----	----	----	----	----
3	9	67	44.4	17	5	3	1	2	----	----	----	5	1	11	3	18	1	----	----	----	----	----	----	----	----	----
4	7	81	49.6	16	2	1	----	11	----	1	2	2	1	10	15	13	1	5	----	1	----	----	----	----	----	----
5	9	93	46.3	10	2	3	----	26	11	4	6	9	1	9	10	1	1	----	----	----	----	----	----	----	----	----
6	9	61	48.5	4	3	9	1	6	1	1	2	4	3	21	2	4	----	----	----	----	----	----	----	----	----	----
7	6	70	51.1	4	4	4	----	8	1	----	3	6	6	11	9	14	----	----	----	----	----	----	----	----	----	----
8	5	31	46.4	6	----	2	----	2	1	----	1	3	4	4	1	6	----	----	1	----	----	----	----	----	----	----
9	2	14	46.9	3	----	1	1	----	----	----	2	----	----	1	----	6	----	----	----	----	----	----	----	----	----	----
10	6	37	46.4	2	2	2	3	1	10	2	----	4	----	10	1	----	----	----	----	----	----	----	----	----	----	----
11	7	52	46.3	4	1	1	----	5	27	2	----	2	3	1	5	1	----	----	----	----	----	----	----	----	----	----
12	5	15	45.5	2	----	----	2	3	1	1	----	1	----	----	3	2	----	----	----	----	----	----	----	----	----	----
Total	87	728	50.0	72	26	34	10	73	53	18	22	54	30	128	67	116	3	14	2	4	----	----	1	1	----	----

[1] Included in total to avoid identification of plant.

TABLE E.—*Average and classified actual earnings in one week in 14 specified occupations, 1929, by department, sex, and district*

Department, occupation, sex, and district	Number of—		Average actual earnings in 1 week	Number of employees whose earnings per week were—																		
	Establishments	Employees		Under $5	$5 and under $10	$10 and under $15	$15 and under $20	$20 and under $25	$25 and under $30	$30 and under $35	$35 and under $40	$40 and under $45	$45 and under $50	$50 and under $55	$55 and under $60	$60 and under $65	$65 and under $70	$70 and under $75	$75 and under $80	$80 and under $85	$85 and under $90	$90 and over
Quarry																						
Drillers, male:																						
District No. 1	16	93	$29.70			1	12	25	17	20	1	8	5	2			1		1			
2	5	38	25.66				9	11	6	9	2	1										
3	8	68	32.05	2	3	3	4	6	19	14	8	1	2	1	2			1				2
4	3	15	23.43		1		1	7	6													
5	9	60	25.89	1		1	10	22	16	2	5	1					1	1				
6	11	55	22.90		1	4	13	22	7	4	4											
7	5	76	27.10	2		2		23	19	30												
8	7	31	21.98	1		1	9	15	4		1											
9	2	8	22.72		1	1	1	1	1	2	1											
10	5	13	40.85				2	1	1		4	1		1		1	1		1			
11	8	61	32.81			1		13	6	18	9	4	10									
12	6	26	34.72	1	1				7	3	2	9	2	1								
Total	85	544	28.38	7	7	14	61	146	109	102	37	25	19	5	2	1	3	2	2			2
Shovel engineers, male:																						
District No. 1	15	48	39.54			1		1	10	5	3	15	5	7			1					
2	5	16	43.35						5	1	3			3	3	1						
3	10	45	44.24				2	4	1	1	6	14	2	3	5	5		2				
4	4	10	33.19				3			1	3		3									
5	9	34	35.73				2	2		14	6	8	1	1								
6	11	23	38.10				1	3	4	1	4	2	3	4			1					
7	6	26	43.56		1					2	4	8	4	6	1							
8	6	14	35.24						4	4	3		3									
9	3	7	41.82						1			4	1	1								
10	6	7	40.24						1		1	3	2									
11	8	14	52.83								1	1	5	3	2		1				1	
12	4	6	40.07							4				1	1							
Total	87	250	40.74		1	1	8	10	26	33	34	55	29	29	12	6	3	2			1	

Laborers, male:																						
District No. 1	15	186	22.15	1	4	9	52	63	39	16	2											
2	5	44	24.69			6	14	8	6	1		9										
3	10	182	24.49	5	2	4	31	50	61	21	7	1										
4	4	35	22.63	1		1	3	23	2	4	1											
5	10	145	18.99	1	4	19	48	65	8													
6	12	209	12.78	5	35	110	48	9	1			1										
7	6	161	20.09	6	2	8	36	93	15	1												
8	7	75	17.74	5	5	5	33	24	3													
9	3	41	14.60	1	1	19	19	1														
10	6	25	24.59				4	9	12													
11	7	69	24.16	1	1	1	17	20	16	8	3	2										
12	6	41	27.85		3			7	10	8	12	1										
Total	91	1,213	20.17	26	57	182	305	372	173	59	25	13	1									
Raw																						
Crusher operators, male:																						
District No. 1	15	48	28.16				3	10	22	6	4	3										
2	5	10	26.60	1				3	3	2		1										
3	9	19	31.27					2	6	7	1	3										
4	4	20	32.30					1	5	7	6	1										
5	9	25	23.48		1	1	6	5	9	3												
6	10	16	21.11	1		1	5	4	4	1												
7	5	15	26.26		1			7	3	2	2											
8	7	11	26.21				2	3	3	2	1											
9	2	5	24.89				3			1		1										
10	5	8	28.98						6	1	1											
11	8	11	40.18					1		2	4	1	1	1		1						
12	6	18	28.64					4	6	5	3											
Total	85	206	28.05	2	2	2	19	40	67	39	22	10	1	1		1						
Grinder operators, male:																						
District No. 1	16	78	31.26	1	1	1	1	5	22	28	7	11	1									
2	6	18	29.32			1	2	4	2	6	2		1									
3	10	29	34.83			3	1		2	5	9	5	2	1	1							
4	8	26	35.03				1	1	2	5	12	3	2									
5	10	38	31.48				3	6	8	9	5	3	4									
6	11	26	25.82		1	1	7	3	5	5	2	2										
7	6	22	29.29					5	5	10	1		1									
8	7	24	27.70					5	14	5												
9	3	7	29.25					2	1	4												
10	6	16	31.20					1	8	4	1	1		1								
11	7	25	35.05						4	12	6	1	1		1							
12	5	13	31.26						5	6	1	1										
Total	95	322	31.21	1	2	6	15	32	78	99	46	27	12	2	2							

TABLE E.—*Average and classified actual earnings in one week in 14 specified occupations, 1929, by department, sex, and district*—Continued

Department, occupation, sex, and district	Number of—		Average actual earnings in 1 week	Number of employees whose earnings per week were—																		
	Establishments	Employees		Under $5	$5 and under $10	$10 and under $15	$15 and under $20	$20 and under $25	$25 and under $30	$30 and under $35	$35 and under $40	$40 and under $45	$45 and under $50	$50 and under $55	$55 and under $60	$60 and under $65	$65 and under $70	$70 and under $75	$75 and under $80	$80 and under $85	$85 and under $90	$90 and over
Raw—Continued																						
Laborers, male:																						
District No. 1	13	77	$27.27	-----	1	1	7	18	25	15	8	2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2	4	10	23.86	-----	-----	1	1	5	1	2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3	8	31	19.43	7	1	-----	3	6	12	2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4	7	59	23.72	2	3	3	6	16	17	5	7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5	8	44	20.65	1	2	2	16	11	12	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6	7	35	15.90	2	4	2	22	4	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7	6	26	26.72	-----	-----	-----	-----	9	11	6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
8	6	27	21.76	-----	-----	2	8	7	8	2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
9	3	18	22.98	-----	-----	-----	3	8	7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
10	5	29	24.55	-----	-----	3	4	8	10	3	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
11	8	62	26.05	-----	-----	1	6	26	11	16	1	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
12	4	16	27.58	-----	-----	-----	1	8	2	1	3	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----
Total	79	434	23.66	12	11	15	77	126	117	52	19	4	1	-----	-----	-----	-----	-----	-----	-----	-----	-----
Shops and miscellaneous																						
Laborers, male:																						
District No. 1	15	236	22.52	6	4	16	45	81	57	20	4	2	-----	1	-----	-----	-----	-----	-----	-----	-----	-----
2	5	28	22.96	-----	-----	2	5	11	5	5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3	8	123	22.69	4	8	2	7	51	42	8	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4	8	85	25.25	-----	1	3	7	26	33	9	5	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5	9	148	18.64	3	7	11	61	57	9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6	13	170	13.99	10	21	65	57	12	3	2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7	6	121	20.39	6	4	8	32	46	24	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
8	7	89	17.26	3	5	15	40	23	3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
9	3	102	14.64	7	12	28	45	9	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
10	5	43	23.41	-----	1	2	6	16	15	3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
11	7	47	20.99	1	1	1	15	23	6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
12	4	20	22.21	-----	-----	4	2	4	9	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Total	90	1,212	19.77	40	64	157	322	359	206	49	11	3	-----	1	-----	-----	-----	-----	-----	-----	-----	-----

Grinder operators, male:																						
District No. 1	16	46	34.89					1	15	9	9	9	2	1								
2	6	12	37.73						1	1	6	3	1									
3	9	25	39.62			1				6	7	6	3	1		1						
4	9	29	36.01				1		2	8	10	6	2									
5	9	27	32.23		1			3	9	5	2	4	3									
6	10	20	30.54				2	3	4	5	4	1	1									
7	6	17	32.46					2	4	5	5	1										
8	4	11	28.35					3	5	3												
10	4	11	31.38					1	5	3	1			1								
12	3	8	31.26						3	5												
Total	76	206	34.12		1	1	3	13	48	50	44	30	12	3		1						
Coal mill																						
Laborers, male:																						
District No. 1	7	21	25.76		2		1	4	10	2	2											
3	3	8	25.67					4	3	1												
5	7	34	23.82	1			5	11	16	1												
6	7	21	16.69	1	2	2	6	9	1													
7	4	22	25.35		1			8	10	3												
8	1	(1)	(1)	(1)					(1)	(1)												
10	3	5	16.38	2				2		1												
12	1	(1)	(1)					(1)														
Total	33	119	23.02	5	5	2	12	39	44	10	2											
Clinker																						
Burners, first, male:																						
District No. 1	16	67	39.44						2	17	24	13	7	2		2						
2	6	14	43.95							4	2	1	3	3			1					
3	10	30	46.49							2	7	7	3	7	3						1	
4	8	22	44.19					1		2	2	10	1	2	4							
5	10	31	37.76			1	1		2	10	5	5	3	2	2							
6	13	30	39.04					1		4	9	12	4									
7	6	25	39.17						2	5	13	1		2	1	1						
8	7	18	35.32					2	1	4	5	6										
9	3	6	38.35						1	1	1	2	1									
10	6	17	35.99							10	4	2		1								
11	9	43	40.41						1	1	24	9	7			1						
12	7	19	40.67					1		2	7	4		2	2	1						
Total	101	322	40.16			1	1	5	9	62	103	72	29	21	12	5	1				1	

[1] Included in total to avoid identification of plant.

TABLE E.—*Average and classified actual earnings in one week in 14 specified occupations, 1929, by department, sex, and district*—Continued

Department, occupation, sex, and district	Number of—		Average actual earnings in 1 week	Number of employees whose earnings per week were—																		
	Establishments	Employees		Under $5	$5 and under $10	$10 and under $15	$15 and under $20	$20 and under $25	$25 and under $30	$30 and under $35	$35 and under $40	$40 and under $45	$45 and under $50	$50 and under $55	$55 and under $60	$60 and under $65	$65 and under $70	$70 and under $75	$75 and under $80	$80 and under $85	$85 and under $90	$90 and over
Clinker grinders, male:																						
District No. 1	16	90	$31.56		1	3	4	6	20	25	16	14	1									
2	6	27	29.81		1			5	9	8	3		1									
3	10	47	33.46		1	1	1	3	9	14	10	3	3	2								
4	9	33	35.82		1				5	3	15	5	4									
5	10	60	29.63		1	1	3	11	24	6	6	5	3									
6	10	35	25.19		1	1	5	6	16	3	3											
7	6	24	29.51	1			1	4	5	7	4	2										
8	7	24	29.15					5	12	3	4											
9	3	9	25.75				1	3	4	1												
10	4	11	30.96				1		3	5	1	1										
11	7	23	32.80						8	11	3		1									
12	5	13	31.69						9		1	3										
Total	93	396	30.82	1	6	6	16	43	124	86	66	33	13	2								
Laborers, male:																						
District No. 1	14	74	28.33		1	1	2	13	32	13	8	3	1									
2	5	12	22.10			2	2	5	1	2												
3	6	30	29.02	1				6	8	12	2	1										
4	4	10	25.03		1		1	1	6		1											
5	9	56	21.43	3		9	8	19	13	3		1										
6	6	24	13.19	2	4	10	7	1														
7	4	12	26.53					5	3	4												
8	5	15	24.48				1	7	5	2												
9	3	10	23.58				2	5	2	1												
10	3	7	20.60	1	1			2	3													
11	7	61	26.21				6	22	22	10		1										
12	1	(1)	(1)						(1)													
Total	67	315	24.66	7	7	22	29	86	99	47	11	6	1									

Cement																					
Packers (sackers), male:																					
District No. 1	16	352	46.49	----	1	3	8	17	21	42	23	41	44	41	40	40	20	8	1	----	2	----
2	6	83	44.09	----	1	1	2	1	3	12	15	13	9	13	7	5	1	----	----	----	----	----
3	10	132	50.33	----	1	3	8	7	4	3	6	6	25	11	10	5	19	12	7	4	----	1
4	8	71	39.95	8	----	1	1	5	3	2	9	10	8	10	6	3	4	1	----	----	----	----
5	10	151	37.42	----	6	9	2	3	13	34	23	24	13	7	10	3	4	----	----	----	----	----
6	11	97	23.67	----	2	16	16	27	21	5	----	3	4	3	----	----	----	----	----	----	----	----
7	6	92	35.78	1	3	1	2	16	14	11	10	10	5	11	1	7	----	----	----	----	----	----
8	5	81	26.24	3	2	6	12	15	14	9	8	6	6	----	----	----	----	----	----	----	----	----
9	3	38	28.53	----	1	----	3	11	5	5	8	4	1	----	----	----	----	----	----	----	----	----
10	6	28	34.42	----	----	----	1	4	10	2	2	4	2	----	3	----	----	----	----	----	----	----
11	9	87	31.01	----	----	1	8	8	27	16	8	17	2	----	----	----	----	----	----	----	----	----
12	6	37	31.17	1	----	1	7	4	2	9	3	4	3	3	----	----	----	----	----	----	----	----
Total	96	1,249	38.97	13	17	42	70	118	137	150	115	142	122	99	77	63	48	21	8	4	2	1
Laborers, male:																						
District No. 1	16	161	25.96	1	1	7	9	53	57	19	12	1	----	1	----	----	----	----	----	----	----	----
2	6	46	22.53	2	----	4	8	18	9	4	1	----	----	----	----	----	----	----	----	----	----	----
3	9	67	20.05	8	9	7	4	10	16	10	2	----	1	----	----	----	----	----	----	----	----	----
4	7	81	21.29	8	7	4	10	28	6	9	8	1	----	----	----	----	----	----	----	----	----	----
5	9	93	18.30	----	10	3	39	37	4	----	----	----	----	----	----	----	----	----	----	----	----	----
6	9	61	13.42	3	12	26	13	6	1	----	----	----	----	----	----	----	----	----	----	----	----	----
7	6	70	20.03	4	----	4	20	37	2	2	----	1	----	----	----	----	----	----	----	----	----	----
8	5	31	17.29	5	1	3	9	10	1	2	----	----	----	----	----	----	----	----	----	----	----	----
9	2	14	16.50	1	2	----	8	1	2	----	----	----	----	----	----	----	----	----	----	----	----	----
10	6	37	21.54	----	4	----	5	21	4	2	1	----	----	----	----	----	----	----	----	----	----	----
11	7	52	19.87	1	3	2	20	17	9	----	----	----	----	----	----	----	----	----	----	----	----	----
12	5	15	21.30	----	2	----	2	8	3	----	----	----	----	----	----	----	----	----	----	----	----	----
Total	87	728	20.77	33	51	60	147	246	114	48	24	3	1	1	----	----	----	----	----	----	----	----

[1] Included in total to avoid identification of plant.

APPENDIXES

APPENDIX A.—DEFINITIONS OF OCCUPATIONS

QUARRY DEPARTMENT

[The definitions for each of the occupations in the industry as given here were formed from descriptions of the occupation as found in several representative mills and therefore do not necessarily apply in detail to all mills]

Drillers use power drilling rigs to drill holes in the rock for placing dynamite to blast the rock down.

Blasters place dynamite in the holes made by the drillers, tamping the dynamite in and setting off the charges.

Shovel engineers operate power shovels, controlling the swing and movement of the boom, to load the rock into cars for transportation to the crusher.

Shovel cranemen control the operation of the "ram" or "dipper stick" and dump on large power shovels.

Shovel firemen fire and tend the boilers on the steam shovels.

Locomotive engineers operate locomotives, usually of the "dinky" type, to haul cars of rock from the quarry to the crusher or rock dump and empty cars back to the quarry.

Locomotive firemen fire the boilers on the larger types of locomotives that are used in some quarries to haul rock to the crusher. The "dinky" type is usually fired by the engineer.

Laborers do unskilled work in the quarry, such as cleaning out dirt, laying track, helping to move machine equipment, etc.

Other employees include all workers not included in the specified occupations, such as couplers, cablemen, brakemen, ropemen, switchmen, track foremen, etc.

RAW DEPARTMENT

Unloaders, hand, unload raw materials, using a hand shovel.

Unloaders, mechanical, unload coal, limestone, gypsum, or other raw materials by using a mechanical device.

Crusher operators tend the crushers that reduce the rock almost to a powder as it comes from the quarry.

Elevator tenders tend the elevators, usually of the bucket type, that elevate crushed rock from the crushers to the storage bins.

Conveyor tenders tend the conveyors, belts, or trams that convey the crushed rock from the crushers to storage bins. Conveyors are often used where the mill is removed some distance from the quarry, while an elevator may be used if the mill adjoins the quarry.

Mixer tenders tend to the mixing of the crushed shale and limestone before it is conveyed to the grinding machines.

Dryer tenders tend the apparatus used to dry rock, clay, etc., so that it can be properly mixed with other ingredients before burning.

Dryer firemen fire the drying apparatus used to dry rock, clay, etc.

Grinder operators tend the grinders that grind the mix, shale, and limestone.

Raw finish mill operators tend the mills that finish grinding the mixture of shale and limestone, making it ready for the burning process.

Oilers oil the bearings and grease the guide tracks on the grinding machines.

Laborers do unskilled work, such as sweeping and cleaning.

Other employees include all workers not included in the specified occupations, such as tube-mill helpers, dryer-tender helpers, shale punchers, weighers, helpers, transfer engineers, etc.

COAL MILL DEPARTMENT

Laborers do unskilled work such as shoveling coal, sweeping and cleaning in the coal mill.

Elevator tenders operate elevators, usually of the bucket type, conveying coal from the storage pile to the coal crusher or grinder.

Conveyor tenders tend conveyors where a conveyor instead of an elevator is used to move coal from the stock pile to the crushers or grinders.

Dryer tenders tend the apparatus that dries the pulverized coal before it is delivered to the kilns.

Dryer firemen fire and tend boilers that furnish heat for the coal dryers.

Crusher operators operate the crushers that crush coal into small sizes.

Grinder operators operate grinding machines that reduce coal to a powder for use as fuel in the kilns.

Other employees include all workers not included in the specified occupations, such as miller's helpers, coal-dump operators, carmen, etc.

SHOPS AND MISCELLANEOUS DEPARTMENTS

Machinists are skilled workmen that make and replace worn parts and repair any of the machinery used in the plant.

Repairmen make repairs to broken or defective mill and yard equipment, such as railroad cars and quarry machinery, which do not involve the machining of parts.

Laborers handle materials and do other unskilled work around the shop and yard.

Other employees include all workers not included in the specified occupations such as tinners, blacksmiths, welders, plumbers, riggers, belt makers, painters, carpenters, lumber-shed men, brick masons, etc.

CLINKER DEPARTMENT

Burners, first, are in charge of the kilns in which the raw materials are burned to make clinker.

Burners, second, assist the first burners and under their direction regulate the flow of fuel, the amount of the blast, etc., that controls the heat and the distance of the zone of intense heat from the lower end of the kilns.

Cooler tenders look after the apparatus used to cool the hot clinker.

Mixers tend the machines that are used to mix gypsum with the clinker in the proper proportions before the clinker is ground.

Elevator tenders tend the elevators that are used in the clinker department to take the clinker from the kilns to the seasoning pile.

Conveyor tenders attend the belts that bring seasoned clinker to the grinders, or take the ground clinker to the storage bins in the cement department.

Clinker grinders attend a battery of machines that grind the clinker mixed with gypsum. The material after grinding to the proper fineness is Portland cement.

Oilers oil or grease the various machines and conveyors in the department.

Laborers do unskilled work, such as cleaning up around the mills.

Other employees include all workers not included in the specified occupations, such as coal-tank tenders, clinker dumpmen, weighers, cranemen, screenmen, pumpmen, gypsum men, etc.

CEMENT DEPARTMENT

Conveyor tenders attend the conveyors that carry the cement from the silos or storage bins to the packing machines and the bagged cement from the packing machines to the warehouse or loading platform.

Elevator tenders attend elevators in the cement department of plants in which the cement or the bags have to be elevated rather than conveyed to a desired location.

Packers (sackers) place empty bags on the nozzle of the packing machines which automatically fill the bags through a flap in the bottom with 94 pounds of cement and drops them upon a conveyor that takes them to the loading platform or warehouse. These workers usually alternate with the workers that load cars.

Sack tiers tie the open ends of the sacks or close them with a wiring device before the sacks go to the packing machine.

Loaders carry bags of cement by hand to load a freight car higher than truck high, or load boats and other means of conveyance. When the loading is done by workers that alternate with the packers, they usually work on a piecework basis and in this report are included with packers.

Laborers clean cars, carry empty bags, and do other unskilled work in the cement department.

Sack cleaners operate devices, such as cleaning cylinders, etc., for cleaning cloth bags that have had cement in them and have been returned to be used again.

Inspectors examine used bags to determine whether they are fit for further use.

Oilers oil and grease the bearings and guide tracks in the department.

Other employees include all workers not included in the specified occupations such as cement-pump operators, car sealers, sack sorters and menders, etc.

POWER DEPARTMENT

Firemen fire and tend the boilers that furnish steam for power.

Engineers operate steam engines that furnish power for the operation of air compressors and of the different machines in the mill.

Pumpmen operate the pumps that furnish water for boilers and spray for the cooler.

Oilers oil bearings of the engines and other equipment in the power department.
Laborers sweep and do other unskilled work in the power department.
Other employees include all workers not included in the specified occupations for the department such as switchboard men, instrument watchers, motor tenders, turbine operators, tube blowers, lancers, etc.

APPENDIX B.—THE HISTORY OF PORTLAND CEMENT[1]

Although the Portland cement industry has now attained great importance, it is less than a century old and its period of rapid growth did not really begin until within the last 35 years. The industry is very young in comparison with the manufacture of iron.

Lime mortar for all structural work continued to be used until very near the close of the eighteenth century, when a new series of cementing materials was developed at almost the same time in England and in France. These were the natural cements that have been marketed from time to time down to the present.

About the year 1756 Smeaton, an English engineer, began a series of experiments on lime mortars. His purpose was to devise a lime suitable for marine construction in the Eddystone Lighthouse. It was not until 35 years had elapsed that any record of these experiments were published.

In 1796, in England and in France, a cement similar to our present-day natural or Rosendale cement was invented. Parker, an Englishman, called his patent "Roman cement." This cement consisted chiefly of using clay and limy matter, burned and powdered, which when mixed into a paste with water would harden under water as well as in the open.

When the building of the Erie Canal was begun it was planned to use lime as the mortar, and since great quantities of lime were to be used many quarries were opened along the line of the canal's construction. The stone, taken from a quarry opened in the town of Sullivan, Madison County, N. Y., failed to slake. On examination, Benjamin Wright and Canvass White, who were familiar with European cements, discovered that this lime was really a high-grade natural cement that required only grinding to prepare it for use. A number of tests were conducted, and it was used in the locks and walls of the middle section of the canal during the years 1818 and 1819. When the lime was pulverized and used by mixing two parts of lime and one part of sand it was discovered that the mixture set under water even better than in the open. This discovery led to a search of the country for similar material.

About six years later (1824) Joseph Aspdin, of Leeds, England, received a British patent for a cementing product, which he named "Portland cement." The name was due to a resemblance between the set cement and a well-known English building stone—the oölitic limestone of the Isle or Portland. In his patent, Aspdin stated that a definite amount of clay and limestone was to be used, and then went on to describe the method to be followed in amalgamating and calcining these two materials to make his "Portland" cement.

Portland cement differs from natural cements at the present time in the following particulars: (1) Natural cements are not made from carefully prepared and finely ground artificial mixtures but from natural rock. (2) Natural cements are burned at a lower temperature than Portland cements, the mass in the kiln never being heated high enough to even approach the fusing or clinkering point. (3) Natural cements, after burning and grinding are, as a rule, yellow to brown in color and light in weight, having a specific gravity of 2.7 to 3.1, whereas Portland cement is commonly blue to gray in color and heavier, its specific gravity ranging from 3 to 3.2. (4) Natural cements set more rapidly than Portland cement but do not attain so high a tensile strength. (5) Portland cement is a definite product, its percentages of lime, silica, alumina, and iron oxide varying only between narrow limits, whereas brands of natural cements differ greatly in composition.

The uniformity of quality last noted became assured for Portland cement as a result of the meeting of a committee in June, 1911, composed of government engineers in conference with representative consumers and the manufacturers, and a special committee of the national engineering societies. They laid down certain definite specifications for all Portland cement bought and used by the United States Government. President Taft approved these specifications April 30, 1912. As improvements are made, the specifications are accordingly changed from time to time.

[1] Adapted from Willis, Henry Parker, and Byers, John R. B. Portland cement prices. New York, 1924.

The cement industry has made great strides in England and in Germany, but no real attempt was made to advance its manufacture in the United States until about 1872, when a plant was built at Kalamazoo, Mich. This project, from a commercial viewpoint, was a complete failure. In 1875, however, a true Portland cement was being made at a small plant located in western Pennsylvania, the raw materials being limestone and clay.

In the meantime, an entirely separate set of experiments laid the foundation of the great Portland cement industry in the Lehigh Valley district. Natural cement had long been manufactured in this region, and in the early seventies D. O. Saylor and his associates began selecting from the natural cement rock quarries the stone which would, on burning, yield Portland cement. The result was that a small quantity of Portland cement was produced in this district, but it really was a by-product of the natural cement industry. The Portland cement industry, having now gained a foothold in America, was soon to advance even beyond its European predecessors. This was almost entirely due to the improvements made from a technical point of view.

In the early part of the industry, the process used by practically all European manufacturers involved reducing the soft, natural, raw materials to powder or to a wet "slurry," mixing them to a paste with water; forming the mixture (after partial drying) into bricks or balls, charging these bricks (often by hand) in the vertical kiln in which they were burned, unloading the kiln by hand, and finally grinding the clinker in an ineffective and expensive way.

The early American mills attempted faithfully to follow this practice, but the producers in the Lehigh district quickly realized that with their hard, dry raw materials this wet European practice was too expensive. Also, the American experimenters realized that the relatively dear labor and cheap fuel of the United States, as contrasted with cheap labor and dear fuel of Europe, would necessitate changes in the technology of the industry if it were ever to be established on a firm commercial footing. Accepting the conditions they expended their greatest efforts in solving these problems. In order to meet conditions, the old stationary kilns and millstones were displaced by the rotary kilns and by the modern grinding machinery. The patents for the Ransome rotary kilns were taken out in Great Britain in 1885 and in the United States in 1886. The kilns now in use are the direct successors of the Ransome type.

It was at South Rondout, N. Y., in 1889, that a rotary kiln was first used in the United States. It was a large steel cylinder lined with fire brick and set at a slight inclination to the horizontal. The raw material was fed in at the upper end and traveled slowly downward by gravity as the kiln was revolved. The fuel was blown in at the lower end, and the burned clinker also fell out at this lower end. Petroleum was used as a fuel and for some years its use continued to be the current American practice. Another saving was made when it was found possible to charge the mixed and ground materials direct to the kiln without wetting. Thus, the two main types of present-day American practice were then in operation—(1) the dry process, used with limestone or cement rock, (2) the wet process, used with marl. Of the two, the dry process has proved far the more economical and at present is almost universally used.

The next step in the development of American Portland cement manufacturing methods began about 1895, when powdered coal was substituted for petroleum as fuel. Its use soon became standard practice throughout the United States, except at the few localities where petroleum and natural gas abounded. The use of coal brought about an economy in manufacturing costs because the industry was able to consume the fine coal, which at that time did not have any important use or market.

The latest complete report of the United States Geological Survey (1922) shows that of the 118 plants in operation, 90 burn coal in their kilns; 7 coal and crude oil; 1 coal and gas; 17 crude oil; 2 crude oil, coal and gas; and 1 natural gas.

The same report shows that the kilns varied in length as follows:

Length (feet)	Number of kilns
40 to 60	78
61 to 99	91
100 to 109	102
110	54
120	101
125	162
126 to 149	66
150 to 199	75
200 to 260	31

Thus the most recent improvement in the rotary kiln has been merely to increase its size and almost to center on coal as its fuel.

Parallel with the changes in type and capacity came the great changes in crushing and grinding machinery which have produced enormous tonnages of raw and finished material. The cracker crushers and millstones of the early industry have given place to larger and more economical reducers. This was due to the development of the gyratory crusher, the Griffin and Huntington mills, and the ball and tube mills. As these are still used in one stage or more, a description of their importance must be furnished as descriptive of present-day practice.

The raw materials used in the manufacture of Portland cement may be grouped as:

Cement materials proper, including limestone, marl, shells, cement rock, clay, shale, etc., which may be combined to form the actual cement mixture.

Fuels, including the coal, oil, or gas used to burn the cement plus the fuel usually required to furnish power for the plant.

Accelerators and retarders, including gypsum, lime, chloride, alkalies, fluorite, etc., which may be added to the cement or the cement mixture at different stages to accomplish certain purposes.

STAGES OF PRODUCTION

There are three distinct and separate operations from the preparation of the raw material to the finished product. The first process is mechanical and includes the assembling, preparing, grinding, and amalgamating of the raw material. The second process is chemical, during which the material prepared by the first process is calcined or roasted at a high temperature, bringing about chemical combination of the various ingredients. The third and final process is partly mechanical and partly chemical, in which the clinker resulting from the calcination, together with a small amount of retarding agent, is reduced to fine powder. The materials must be mixed in the exact proportions determined by tests, these proportions being changed as often as necessary to allow for any variation in the chemical composition of the raw materials.

The crushing of the rock is accomplished by means of immense gyratory or roll crushers, which reduce the huge masses of quarried rock to small-size pieces ready for the pulverizing or grinding machines. Before going to these machines, however, the rock is passed through dryers. These dryers are horizontal steel cylinders, which revolve as the crushed rock passes slowly through them. A current of heated air flows through the cylinder, thus removing from the rock by evaporation moisture that would prevent efficient pulverization.

The powdering or pulverizing of the raw material is one of the most important steps in the manufacture of the cement. Decided advances have been made during the past few years in the grinding and pulverizing machines, and types found to be most advantageous in the Portland cement industry are quite novel. Nearly all grinding machines work on the principle of striking or pounding the material between a hammer in some form and a solid metal mass. The ball mill, for example, is a horizontal iron cylinder 6 to 8 feet in diameter, and 4 to 6 feet long, revolving about its axis 23 to 25 revolutions per minute. This mill is partly filled with steel balls and is lined with steel plates fastened inside the cylinder and arranged in steps. In rolling around, the balls fall from these steps on to the material (fed in at one end) until it passes small screens fastened to the outer side of the cylinder and revolving with it. The particles too coarse to pass the screens are returned to the grinding chamber through the openings under the stepped grinding plates. The output of a machine ranges from 15 to 24 barrels per hour.

Other types of grinding machines are the Huntington mill and the Griffin mill, which consist essentially of a steel ring or die, against the inside of which a heavy steel crushing roll mounted on a pendulum suspended by a universal joint is made to roll by centrifugal force. The pendulum is rotated by a pulley, and the grinding zone is between the steel outside stationary ring and the revolving pendulum. The principle of this mill is more clearly illustrated by the simple and crude illustration of a boy swinging around and around over his head a weight tied to the end of a string. If this weight or ball were made to travel about the inside of a steel cylinder there would be a grinding action between the cylinder and the revolving ball on the end of the string or pendulum shaft. That is what takes place in the Griffin mill but, of course, under more favorable conditions. The output of one of these mills is about eight barrels of raw material per hour.

While the mills described grind the rock quite fine—the particles averaging in size one-fiftieth of an inch—it is further pulverized in the tube mills. A tube mill is a long steel cylinder that makes about 25 revolutions a minute. The cylinder is lined with very hard material, either iron or a specially hard natural stone, and is partly filled with flint pebbles, which also are extremely hard. When the partly ground rock is fed into the revolving tube mill, these pebbles are constantly rolling over and falling on one another, and the rock, being relatively softer, is so broken by this grinding action that when it reaches the discharge end it is pulverized to extreme fineness.

The crushing of the raw material is followed by the mixing and proportioning, which is done by means of automatic weighing machines that weigh out just the right quantity of cement rock and the right quantity of limestone. These automatic weighing machines are under the direct control of the chemists in charge of the operation throughout the day and night, so that with this control the mixture never varies.

The next process is burning, where the pulverized raw material passes into a new chemical compound known as "cement clinker." This is accomplished by using rotary kilns. The rotary kiln as used to-day differs very slightly from the earlier model, and will produce from 500 to 3,000 barrels per day, according to size; and, as already stated, this alone has been largely instrumental in reducing the cost of manufacture to such an extent as to make Portland cement an economical building material.

The kiln consists of steel cylinders varying from 60 feet long and 5 feet in diameter to 260 feet long and 12 feet in diameter. Present practice favors the use of longer kilns. These immense machines are inclined at a pitch of about three-fourths of an inch per foot of length and are supported by roller bearings at several points along their length. The upper end of the kiln is connected with a stack, the draft to which is controlled by a damper. The raw material is fed into the upper end of the kiln and because of the kiln's inclined position and its slow rotation of about three-fourths revolution per minute about its axis, the material slowly moves toward the lower or discharge end. The fuel chiefly used is finely pulverized, highly violatile, bituminous coal. This coal is blown in at the discharge end of the kiln and instantly ignites and maintains an intense combustion zone 10 to 20 feet from the lower end of the kiln. The hot gases pass through the kiln to the stack and heat the raw material as it passes. On entering the kiln at the upper end, the raw material continues to gather heat until the hot zone is reached, when the chemical combination forming Portland cement clinker takes place. The clinker after it passes over the remaining length of the kiln drops out in the form of red-hot nodules varying from bird-shot size to perhaps a 2-foot size. This hot clinker is then conveyed to rotary or stationary coolers.

The clinker is then ground and pulverized into the Portland cement of commerce. The process of grinding and the machines used are practically the same as those used for the grinding and pulverizing of the raw material. The cement is usually deposited in bulk bins, each bin having a capacity of several thousand barrels. Samples of the cement are taken from these bins and complete tests are made for fineness, setting, soundness, strength, and chemical analysis. Having passed these tests satisfactorily, the cement is ready for packing and shipment.

The packing of Portland cement is an important item in preparing it for the market. Because of the immense quantities annually used, economical methods have been devised for packing the cement in bags, cloth, or paper or in barrels. These containers are being continually tested and improved in order to insure safe delivery on the job. The cement is delivered from the storage bins to the packing house by conveyors and feeds down through hoppers and automatic weighing machines. Thus the exact quantity required is placed in each bag. Cloth bags are not filled through the top, for this is tied shut while the bag is empty, the cement being introduced into the bag through a valve in the bottom. These bags must be of the best material, and are of such fineness as to be very costly. One of the latest developments in marketing Portland cement for large building operations is the shipping of it in bulk—loose, in a box freight car. This has worked well, with even less loss of cement through wetting than when shipped in cloth or paper bags.

LIST OF BULLETINS OF THE BUREAU OF LABOR STATISTICS

The following is a list of all bulletins of the Bureau of Labor Statistics published since July, 1912, except that in the case of bulletins giving the results of periodic surveys of the bureau only the latest bulletin on any one subject is here listed.

A complete list of the reports and bulletins issued prior to July, 1912, as well as the bulletins published since that date, will be furnished on application. Bulletins marked thus (*) are out of print.

Conciliation and Arbitration (including strikes and lockouts).

*No. 124. Conciliation and arbitration in the building trades of Greater New York. [1913.]
*No. 133. Report of the industrial council of the British Board of Trade on its inquiry into industrial agreements. [1913.]
No. 139. Michigan copper district strike. [1914.]
*No. 144. Industrial court of the cloak, suit, and skirt industry of New York City. [1914.]
*No. 145. Conciliation, arbitration, and sanitation in the dress and waist industry of New York City. [1914.]
*No. 191. Collective bargaining in the anthracite-coal industry. [1916.]
*No. 198. Collective agreements in the men's clothing industry. [1916.]
No. 233. Operation of the industrial disputes investigation act of Canada. [1918.]
No. 255. Joint industrial councils in Great Britain. [1919.]
No. 283. History of the Shipbuilding Labor Adjustment Board, 1917 to 1919.
No. 287. National War Labor Board: History of its formation, activities, etc. [1921.]
*No. 303. Use of Federal power in settlement of railway labor disputes. [1922.]
No. 341. Trade agreement in the silk-ribbon industry of New York City. [1923.]
No. 402. Collective bargaining by actors. [1926.]
No. 468. Trade agreements, 1927.
No. 481. Joint industrial control in the book and job printing industry. [1928.]

Cooperation.

No. 313. Consumers' cooperative societies in the United States in 1920.
No. 314. Cooperative credit societies (credit unions) in America and in foreign countries. [1922.]
No. 437. Cooperative movement in the United States in 1925 (other than agricultural).

Employment and Unemployment.

*No. 109. Statistics of unemployment and the work of employment offices in the United States. [1913.]
No. 172. Unemployment in New York City, N. Y. [1915.]
*No. 183. Regularity of employment in the women's ready-to-wear garment industries. [1915.]
*No. 195. Unemployment in the United States. [1916.]
No. 196. Proceedings of the Employment Managers' Conference held at Minneapolis, Minn., January 19 and 20, 1916.
*No. 202. Proceedings of the conference of Employment Managers' Association of Boston, Mass., held May 10, 1916.
No. 206. The British system of labor exchanges. [1916.]
*No. 227. Proceedings of the Employment Managers' Conference, Philadelphia, Pa., April 2 and 3, 1917.
No. 235. Employment system of the Lake Carriers' Association. [1918.]
*No. 241. Public employment offices in the United States. [1918.]
No. 247. Proceedings of Employment Managers' Conference, Rochester, N. Y., May 9–11, 1918.
*No. 310. Industrial unemployment: A statistical study of its extent and causes. [1922.]
No. 409. Unemployment in Columbus, Ohio, 1921 to 1925.
No. 520. Social and economic character of unemployment in Philadelphia, April, 1929.

Foreign Labor Laws.

*No. 142. Administration of labor laws and factory inspection in certain European countries. [1914.]
No. 494. Labor legislation of Uruguay. [1929.]
No. 510. Labor legislation of Argentina. [1930.]

Housing.

*No. 158. Government aid to home owning and housing of working people in foreign countries. [1914.]
No. 263. Housing by employers in the United States. [1920.]
No. 295. Building operations in representative cities in 1920.
No. 524. Building permits in the principal cities of the United States in [1921 to] 1929.

Industrial Accidents and Hygiene.

*No. 104. Lead poisoning in potteries, tile works, and porcelain enameled sanitary ware factories. [1912.]
No. 120. Hygiene of painters' trade. [1913.]
*No. 127. Dangers to workers from dust and fumes, and methods of protection. [1913.]
*No. 141. Lead poisoning in the smelting and refining of lead. [1914.]
*No. 157. Industrial accident statistics. [1915.]
*No. 165. Lead poisoning in the manufacture of storage batteries. [1914.]
*No. 179. Industrial poisons used in the rubber industry. [1915.]
No. 188. Report of British departmental committee on the danger in the use of lead in the painting of buildings. [1916.]
*No. 201. Report of the committee on statistics and compensation insurance cost of the International Association of Industrial Accident Boards and Commissions. [1916.]
*No. 209. Hygiene of the printing trades. [1917.]
*No. 219. Industrial poisons used or produced in the manufacture of explosives. [1917.]
No. 221. Hours, fatigue, and health in British munition factories. [1917.]
No. 230. Industrial efficiency and fatigue in British munition factories. [1917.]
*No. 231. Mortality from respiratory diseases in dusty trades (inorganic dusts). [1918.]
*No. 234. Safety movement in the iron and steel industry, 1907 to 1917.
No. 236. Effects of the air hammer on the hands of stonecutters. [1918.]
No. 249. Industrial health and efficiency. Final report of British Health of Munition Workers' Committee. [1919.]
No. 251. Preventable death in the cotton-manufacturing industry. [1919.]
No. 256. Accidents and accident prevention in machine building. [1919.]
No. 267. Anthrax as an occupational disease. [1920.]
No. 276. Standardization of industrial accident statistics. [1920.]
No. 280. Industrial poisoning in making coal-tar dyes and dye intermediates. [1921.]
*No. 291. Carbon-monoxide poisoning. [1921.]
No. 293. The problem of dust phthisis in the granite-stone industry. [1922.]
No. 298. Causes and prevention of accidents in the iron and steel industry, 1910-1919.
No. 306. Occupational hazards and diagnostic signs: A guide to impairments to be looked for in hazardous occupations. [1922.]
No. 392. Survey of hygienic conditions in the printing trades. [1925.]
No. 405. Phosphorus necrosis in the manufacture of fireworks and in the preparation of phosphorus. [1926.]
No. 427. Health survey of the printing trades, 1922 to 1925.
No. 428. Proceedings of the Industrial Accident Prevention Conference, held at Washington, D. C., July 14-16, 1926.
No. 460. A new test for industrial lead poisoning. [1928.]
No. 466. Settlement for accidents to American seamen. [1928.]
No. 488. Deaths from lead poisoning, 1925-1927.
No. 490. Statistics of industrial accidents in the United States to the end of 1927.
No. 507. Causes of death by occupation. [1929.]

Industrial Relations and Labor Conditions.

No. 237. Industrial unrest in Great Britain. [1917.]
No. 340. Chinese migrations, with special reference to labor conditions. [1923.]
No. 349. Industrial relations in the West Coast lumber industry. [1923.]
No. 361. Labor relations in the Fairmont (W. Va.) bituminous-coal field. [1924.]
No. 380. Postwar labor conditions in Germany. [1925.]
No. 383. Works council movement in Germany. [1925.]
No. 384. Labor conditions in the shoe industry in Massachusetts, 1920–1924.
No. 399. Labor relations in the lace and lace-curtain industries in the United States. [1925.]

Labor Laws of the United States (including decisions of courts relating to labor).

No. 211. Labor laws and their administration in the Pacific States. [1917.]
No. 229. Wage-payment legislation in the United States. [1917.]
No. 285. Minimum wage laws of the United States: Construction and operation. [1921.]
No. 321. Labor laws that have been declared unconstitutional. [1922.]
No. 322. Kansas Court of Industrial Relations. [1923.]
No. 343. Laws providing for bureaus of labor statistics, etc. [1923.]
No. 370. Labor laws of the United States, with decisions of courts relating thereto. [1925.]
No. 408. Laws relating to payment of wages. [1926.]
No. 486. Labor legislation of 1928.
No. 517. Decisions of courts and opinions affecting labor, 1927–28.

Proceedings of Annual Conventions of the Association of Governmental Labor Officials of the United States and Canada. (Name changed in 1928 to Association of Government Officials in Industry of the United States and Canada.)

No. 266. Seventh, Seattle, Wash., July 12–15, 1920.
No. 307. Eighth, New Orleans, La., May 2–6, 1921.
No. 323. Ninth, Harrisburg, Pa., May 22–26, 1922.
*No. 352. Tenth, Richmond, Va., May 1–4, 1923.
*No. 389. Eleventh, Chicago, Ill., May 19–23, 1924.
*No. 411. Twelfth, Salt Lake City, Utah, August 13–15, 1925.
No. 429. Thirteenth, Columbus, Ohio, June 7–10, 1926.
*No. 455. Fourteenth, Paterson, N. J., May 31 to June 3, 1927.
No. 480. Fifteenth, New Orleans, La., May 21–24, 1928.
No. 508. Sixteenth, Toronto, Canada, June 4–7, 1929.

Proceedings of Annual Meetings of the International Association of Industrial Accident Boards and Commissions.

No. 210. Third, Columbus, Ohio, April 25–28, 1916.
No. 248. Fourth, Boston, Mass., August 21–25, 1917.
No. 264. Fifth, Madison, Wis., September 24–27, 1918.
*No. 273. Sixth, Toronto, Canada, September 23–26, 1919.
No. 281. Seventh, San Francisco, Calif., September 20–24, 1920.
No. 304. Eighth, Chicago, Ill., September 19–23, 1921.
No. 333. Ninth, Baltimore, Md., October 9–13, 1922.
*No. 359. Tenth, St. Paul, Minn., September 24–26, 1923.
No. 385. Eleventh, Halifax, Nova Scotia, August 26–28, 1924.
No. 395. Index to proceedings, 1914–1924.
No. 406. Twelfth, Salt Lake City, Utah, August 17–20, 1925.
No. 432. Thirteenth, Hartford, Conn., September 14–17, 1926.
*No. 456. Fourteenth, Atlanta, Ga., September 27–29, 1927.
No. 485. Fifteenth, Paterson, N. J., September 11–14, 1928.
No. 511. Sixteenth, Buffalo, N. Y., October 8–11, 1929.

Proceedings of Annual Meetings of the International Association of Public Employment Services.

No. 192. First, Chicago, December 19 and 20, 1913; second, Indianapolis, September 24 and 25, 1914; third, Detroit, July 1 and 2, 1915.
No. 220. Fourth, Buffalo, N. Y., July 20 and 21, 1916.
No. 311. Ninth, Buffalo, N. Y., September 7–9, 1921.
No. 337. Tenth, Washington, D. C., September 11–13, 1922.
No. 355. Eleventh, Toronto, Canada, September 4–7, 1923.
No. 400. Twelfth, Chicago, Ill., May 19–23, 1924.
No. 414. Thirteenth, Rochester, N. Y., September 15–17, 1925.
No. 478. Fifteenth, Detroit, Mich., October 25–28, 1927.
No. 501. Sixteenth, Cleveland, Ohio, September 18–21, 1928.

Productivity of Labor.

No. 356. Productivity costs in the common-brick industry. [1924.]
No. 360. Time and labor costs in manufacturing 100 pairs of shoes, 1923.
No. 407. Labor costs of production and wages and hours of labor in the paper boxboard industry. [1926.]
No. 412. Wages, hours, and productivity in the pottery industry, 1925.
No. 441. Productivity of labor in the glass industry. [1927.]
No. 474. Productivity of labor in merchant blast furnaces. [1928.]
No. 475. Productivity of labor in newspaper printing. [1929.]

Retail Prices and Cost of Living.

*No. 121. Sugar prices, from refiner to consumer. [1913.]
*No. 130. Wheat and flour prices, from farmer to consumer. [1913.]
*No. 164. Butter prices, from producer to consumer. [1914.]
No. 170. Foreign food prices as affected by the war. [1915.]
No. 357. Cost of living in the United States. [1924.]
No. 369. The use of cost-of-living figures in wage adjustments. [1925.]
No. 495. Retail prices, 1899 to 1928.

Safety Codes.

*No. 331. Code of lighting: Factories, mills, and other work places.
No. 336. Safety code for the protection of industrial workers in foundries.
No. 350. Specifications of laboratory tests for approval of electric headlighting devices for motor vehicles.
*No. 351. Safety code for the construction, care, and use of ladders.
No. 375. Safety code for laundry machinery and operations.
No. 378. Safety code for woodworking plants.
No. 382. Code for lighting school buildings.

Safety Codes—Continued.

No. 410. Safety code for paper and pulp mills.
No. 430. Safety code for power presses and foot and hand presses.
No. 433. Safety codes for the prevention of dust explosions.
No. 436. Safety code for the use, care, and protection of abrasive wheels
No. 447. Safety code for rubber mills and calenders.
No. 451. Safety code for forging and hot-metal stamping.
No. 463. Safety code for mechanical power-transmission apparatus—first revision.
No. 509. Textile safety code.
No. 512. Code for identification of gas mask canisters.
No. 519. Safety code for woodworking plants, as revised, 1930.

Vocational and Workers' Education.

*No. 159. Short-unit courses for wage earners, and a factory school experiment. [1915.]
*No. 162. Vocational education survey of Richmond, Va. [1915.]
*No. 199. Vocational education survey of Minneapolis, Minn. [1917.]
No. 271. Adult working-class education in Great Britain and the United States. [1920.]
No. 459. Apprenticeship in building construction. [1928.]

Wages and Hours of Labor.

*No. 146. Wages and regularity of employment and standardization of piece rates in the dress and waist industry of New York City. [1914.]
*No. 147. Wages and regularity of employment in the cloak, suit, and skirt industry. [1914.]
No. 161. Wages and hours of labor in the clothing and cigar industries, 1911 to 1913.
No. 163. Wages and hours of labor in the building and repairing of steam railroad cars, 1907 to 1913.
*No. 190. Wages and hours of labor in the cotton, woolen, and silk industries, 1907 to 1914.
No. 204. Street-railway employment in the United States. [1917.]
No. 225. Wages and hours of labor in the lumber, millwork, and furniture industries, 1915.
No. 265. Industrial survey in selected industries in the United States, 1919.
No. 297. Wages and hours of labor in the petroleum industry, 1920.
No. 356. Productivity costs in the common-brick industry. [1924.]
No. 358. Wages and hours of labor in the automobile-tire industry, 1923.
No. 360. Time and labor costs in manufacturing 100 pairs of shoes, 1923.
No. 365. Wages and hours of labor in the paper and pulp industry, 1923.
No. 394. Wages and hours of labor in metalliferous mines, 1924.
No. 407. Labor costs of production and wages and hours of labor in the paper boxboard industry. [1926.]
No. 412. Wages, hours, and productivity in the pottery industry, 1925.
No. 416. Hours and earnings in anthracite and bituminous coal mining, 1922 and 1924.
No. 472. Wages and hours of labor in the slaughtering and meat-packing industry, 1927.
No. 476. Union scales of wages and hours of labor, 1927. [Supplement to Bulletin 457.]
No. 484. Wages and hours of labor of common street laborers, 1928.
No. 487. Wages and hours of labor in woolen and worsted goods manufacturing, 1910 to 1928.
No. 492. Wages and hours of labor in cotton-goods manufacturing, 1910 to 1928.
No. 497. Wages and hours of labor in the lumber industry in the United States, 1928.
No. 498. Wages and hours of labor in the boot and shoe industry, 1910 to 1928.
No. 499. History of wages in the United States from colonial times to 1928.
No. 502. Wages and hours of labor in the motor-vehicle industry, 1928.
No. 503. Wages and hours of labor in the men's clothing industry, 1911 to 1928.
No. 504. Wages and hours of labor in the hosiery and underwear industries, 1907 to 1928.
No. 513. Wages and hours of labor in the iron and steel industry, 1929.
No. 514. Pennsylvania Railroad wage data. From Report of Joint Fact Finding Committee in wage negotiations in 1927.
No. 515. Union scales of wages, May 15, 1929.
No. 516. Hours and earnings in bituminous coal mining, 1929.
No. 522. Wages and hours of labor in foundries and machine shops, 1929.
No. 523. Wages and earnings in the manufacture of airplanes and aircraft engines, 1929. (In press.)

Welfare Work.

*No. 123. Employers' welfare work. [1913.]
No. 222. Welfare work in British munitions factories. [1917.]
*No. 250. Welfare work for employees in industrial establishments in the United States. [1919.]
No. 458. Health and recreation activities in industrial establishments, 1926.

Wholesale Prices.

No. 284. Index numbers of wholesale prices in the United States and foreign countries. [1921.]
No. 453. Revised index numbers of wholesale prices, 1923 to July, 1927.
No. 521. Wholesale prices, 1929.

Women and Children in Industry.

No. 116. Hours, earnings, and duration of employment of wage-earning women in selected industries in the District of Columbia. [1913.]
*No. 117. Prohibition of night work of young persons. [1913.]
*No. 118. Ten-hour maximum working-day for women and young persons. [1913.]
No. 119. Working hours of women in the pea canneries of Wisconsin. [1913.]
*No. 122. Employment of women in power laundries in Milwaukee. [1913.]
*No. 160. Hours, earnings, and conditions of labor of women in Indiana mercantile establishments and garment factories. [1914.]
*No. 167. Minimum-wage legislation in the United States and foreign countries. [1915.]
*No. 175. Summary of the report on conditions of woman and child wage earners in the United States. [1915.]
*No. 176. Effect of minimum-wage determinations in Oregon. [1915.]
*No. 180. The boot and shoe industry in Massachusetts as a vocation for women. [1915.]
*No. 182. Unemployment among women in department and other retail stores of Boston, Mass. [1916.]
No. 193. Dressmaking as a trade for women in Massachusetts. [1916.]
No. 215. Industrial experience of trade-school girls in Massachusetts. [1917.]
*No. 217. Effect of workmen's compensation laws in diminishing the necessity of industrial employment of women and children. [1918.]
*No. 223. Employment of women and juveniles in Great Britain during the war. [1917.]
No. 253. Women in the lead industries. [1919.]

Workmen's Insurance and Compensation (including laws relating thereto).

*No. 101. Care of tuberculous wage earners in Germany. [1912.]
*No. 102. British national insurance act, 1911.
No. 103. Sickness and accident insurance law in Switzerland. [1912.]
No. 107. Law relating to insurance of salaried employees in Germany. [1913.]
*No. 155. Compensation for accidents to employees of the United States. [1914.]
*No. 212. Proceedings of the conference of social insurance called by the International Association of Industrial Accident Boards and Commissions, Washington, D. C., December 5–9, 1916.
*No. 243. Workmen's compensation legislation in the United States and foreign countries, 1917 and 1918.
No. 301. Comparison of workmen's compensation insurance and administration. [1922.]
No. 312. National health insurance in Great Britain, 1911 to 1921.
No. 379. Comparison of workmen's compensation laws of the United States as of January 1, 1925.
No. 477. Public-service retirement systems, United States and Europe. [1929.]
No. 496. Workmen's compensation legislation of the United States and Canada as of January, 1929. (With text of legislation enacted in 1927 and 1928.)
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Miscellaneous series.

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