

# INDUSTRY WAGE SURVEY

## Petroleum Refining

DECEMBER 1965

**Bulletin No. 1526**

UNITED STATES DEPARTMENT OF LABOR  
W. Willard Wirtz, Secretary

BUREAU OF LABOR STATISTICS  
Arthur M. Ross, Commissioner



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## Preface

This bulletin summarizes the results of a Bureau of Labor Statistics survey of wages and supplementary benefits of production and related workers in petroleum refineries in December 1965.

A preliminary release on this survey was issued in July 1966. Copies are available from the Bureau of Labor Statistics, Washington, D. C., 20212, or any of its regional offices.

This study was conducted in the Bureau's Division of Occupational Pay, Toivo P. Kanninen, Chief, under the general direction of L. R. Linsenmayer, Assistant Commissioner for Wages and Industrial Relations. The analysis was prepared by Edward J. Caramela under the immediate supervision of L. Earl Lewis. Field work for the survey was directed by the Assistant Regional Directors for Wages and Industrial Relations.

Other reports available from the Bureau's program of industry wage studies as well as the addresses of the Bureau's six regional offices are listed at the end of this bulletin.



## Contents

	Page
Summary -----	1
Industry characteristics -----	1
Products and processes -----	2
Location -----	2
Size of establishment -----	2
Unionization -----	2
Method of wage payment -----	3
Average hourly earnings -----	3
Occupational earnings -----	3
Establishment practices and supplementary wage provisions -----	5
Scheduled weekly hours and shift practices -----	5
Paid holidays -----	5
Paid vacations -----	5
Health, insurance, and retirement plans -----	5
Other selected benefits -----	5
 Tables:	
Average hourly earnings:	
1. By selected characteristics -----	6
Earnings distribution:	
2. All establishments -----	6
Occupational averages:	
3. All establishments -----	7
4. By size of community -----	9
5. By size of establishment -----	10
Occupational earnings:	
6. United States -----	12
7. East Coast -----	13
8. Western Pennsylvania-West Virginia -----	14
9. Midwest I -----	15
10. Midwest II -----	16
11. Texas-Louisiana Gulf Coast -----	17
12. Texas Inland-North Louisiana-Arkansas -----	18
13. Rocky Mountain -----	19
14. West Coast -----	20
Establishment practices and supplementary wage provisions:	
15. Method of wage payment -----	21
16. Scheduled weekly hours -----	21
17. Shift differential practices -----	22
18. Paid holidays -----	22
19. Paid vacations -----	23
20. Health, insurance, and retirement plans -----	24
21. Other selected benefits -----	25
 Appendixes:	
A. Scope and method of survey -----	26
B. Occupational descriptions -----	30



# Industry Wage Survey—

## Petroleum Refining, December 1965

### Summary

Straight-time hourly earnings of production and related workers in petroleum refineries averaged \$3.45 in December 1965. All but 4 percent of the 73,318 workers (virtually all men) covered by the Bureau's survey<sup>1</sup> had earnings between \$2.50 and \$4 an hour—the middle half of the workers earned from \$3.22 to \$3.72.

Regionally,<sup>2</sup> the highest average earnings, \$3.58 an hour, was recorded for the East Coast. Workers in the Texas-Louisiana Gulf Coast region, a third of the industry's work force, averaged \$3.52 an hour—the same as workers in the Midwest I region, where one-sixth of the workers were employed. Average earnings in all but one (Western Pennsylvania-West Virginia) of the remaining regions were between \$3.26 and \$3.44 an hour.

Among the occupations studied separately, stillmen (chief operators) were the highest paid, with average hourly earnings ranging from \$3.83 to \$3.91 depending on the type of still. Average hourly earnings for the seven skilled maintenance trades studied separately ranged from \$3.59 to \$3.69. Laborers, numerically most important of the selected jobs, averaged \$2.74 an hour.

Paid holidays and paid vacations, as well as various types of health, insurance, and pension benefits, were available to virtually all production workers.

### Industry Characteristics

Petroleum refineries within scope of the survey<sup>3</sup> employed 73,318 production and related workers in December 1965—a decline in employment of about 27 percent since a similar survey in July 1959.<sup>4</sup> While the number of refineries covered by the two studies remained about the same, employment was down in over four-fifths of the 64 refineries common to both survey samples. The median employment decline among large refineries (those with 1,000 workers or more in 1959) was 35 percent, compared with 17 percent for smaller refineries.

Output per production worker man-hour in the industry increased nearly 40 percent between 1959 and 1964, the latest date for which information is available. The increase was accompanied by a decline of 17 percent in production worker man-hours and a 15 percent gain in output. Computer control, improved instrumentation, and new processing techniques, particularly among larger producing refineries, are among the factors contributing to the industry's increased productivity.

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<sup>1</sup> See appendix A for scope and method of study. Wage data presented in this bulletin exclude premium pay for overtime and for work on weekends, holidays, and late shifts.

<sup>2</sup> For definition of regions used in this survey, see table in appendix A.

<sup>3</sup> Those with 100 workers or more; smaller refineries accounted for less than a tenth of the industry's labor force.

<sup>4</sup> See Wage Structure: Petroleum Refining, July 1959 (BLS Report 158, 1960).

Technological changes over the past 6 years have also affected the relative employment in certain occupational categories. For example, still workers (stillmen, assistants, and helpers) on various types of equipment together comprised about one-tenth of the production labor force in 1959 compared with one-fifth in 1965, with most of the rise traceable to increases in the number of workers on cracking equipment, other than catalytic. This development reflects partly the use of new methods of cracking in the industry, including the introduction in 1960 of the hydrocracking process, which is expected to replace as much as 10 percent of the industry's catalytic cracking capacity by 1970.<sup>5</sup> Substantial employment declines were recorded, on the other hand, for some of the industry's relatively low skilled jobs, notably laborers (down nearly one-half) and maintenance trades helpers (down about two-thirds).

Products and Processes. Gasoline (including naphtha) was the major product in refineries employing more than nine-tenths of the workers within scope of the survey. Other important products of the industry include distillate fuel oil, residual fuel oil, lubricating oil, and asphalt. Western Pennsylvania-West Virginia (accounting for less than 3 percent of the industry's labor force) was the only region in which more than a tenth (58 percent) of the workers were in refineries primarily engaged in manufacturing products other than gasoline (mostly lubricating oils).

Technological development in the refining of petroleum has been making steady progress since the inception of the industry. Characteristically, petroleum refining is a relatively large-scale manufacturing operation in which fluids and gas are processed almost exclusively. From the receipt of crude oil to the shipment of the finished product, the flow of production is virtually continuous in closely interrelated refining units. These factors have influenced the high degree of diversification of product and automation in the industry.

Location. Four-fifths of the production workers were concentrated in four regions; the Texas-Louisiana Gulf Coast region accounted for one-third of the workers, the Midwest I and the East Coast each employed about one-sixth, and slightly more than one-eighth were employed in the West Coast region. Refineries in metropolitan areas<sup>6</sup> employed more than four-fifths of the industry's work force. The proportions of workers in metropolitan areas were nine-tenths or more in four regions; one-half in the Rocky Mountain region; two-fifths in the Midwest II region; about one-fifth in the Texas Inland-North Louisiana-Arkansas region; and less than one-tenth in Western Pennsylvania-West Virginia.

Size of Establishment. Refineries with a 1,000 workers or more employed a little less than half of the industry's work force. The proportions of workers in smaller refineries amounted to nearly three-tenths in the Texas-Louisiana Gulf Coast, one-third on the East Coast, nearly one-half on the West Coast, about two-thirds in the Midwest I, and nine-tenths or more in the other regions.

Unionization. Refineries having labor-management contracts covering a majority of their workers accounted for nine-tenths or more of the work force in 6 of the 8 regions; in the Midwest II and East Coast regions, the proportions were slightly smaller (84 and 87 percent, respectively). The Oil, Chemical and Atomic Workers International Union was the major union in the industry. A substantial number of refineries, particularly on the East Coast and the Texas-Louisiana Gulf Coast, had contracts with independent unions.

<sup>5</sup> Technological Trends in Major American Industries (BLS Bulletin 1474, 1966).

<sup>6</sup> The term "metropolitan area" as used in this bulletin, refers to the Standard Metropolitan Statistical Areas as defined by the U. S. Bureau of the Budget through March 1965.

Method of Wage Payment. All of the workers covered by this study were paid time rates, nearly always under formal systems providing a single rate for specific occupations (table 15). In a few instances, however, ranges of rates were applicable; in one region (West Coast) nearly one-tenth of the workers were paid rates based on the qualifications of the individual employee. In a number of refineries the same single rate applied to several occupations. In one refinery, for example, one rate applied to most journeyman maintenance jobs, and another to all stillmen, regardless of the type of still operated.

### Average Hourly Earnings

Earnings of the 73,318 production and related workers within scope of the survey averaged \$3.45 an hour in December 1965<sup>7</sup> (table 1). Regionally, the highest average hourly earnings were recorded for the East Coast (\$3.58). In both the Texas-Louisiana Gulf Coast and Midwest I regions (together comprising half of the industry's employment) earnings averaged \$3.52. Average earnings in all but one of the remaining regions were between \$3.26 and \$3.44 an hour. Earnings of workers in the Western Pennsylvania-West Virginia region averaged \$2.60 an hour.

Individual earnings of all but 4 percent of the workers were within a range of \$2.50 to \$4 an hour; earnings of the middle half were between \$3.22 and \$3.72 (table 2). Virtually all of the workers in the Western Pennsylvania-West Virginia region earned less than \$3 an hour, whereas about four-fifths of the workers or more in each of the other regions earned more than this amount.

### Occupational Earnings

Occupational classifications for which average straight-time hourly earnings are presented in table 3 accounted for slightly more than three-fifths of the production workers covered by the study. Stillmen on various types of equipment averaged from \$3.83 to \$3.91 an hour and were the highest paid workers among the jobs studied separately. They averaged approximately 30 cents an hour more than assistant stillmen (\$3.55 to \$3.62) and about 40 to 50 cents an hour more than stillmen helpers (\$3.37 to \$3.42). Earnings of the seven journeymen maintenance jobs<sup>8</sup> studied ranged from \$3.59 for mechanics to \$3.69 for instrument repairmen. Maintenance trades helpers averaged \$3.07 an hour. Laborers, numerically the most important job, averaged \$2.74—the same as the average recorded for janitors. Paraffin pressmen (found almost exclusively in the Western Pennsylvania-West Virginia region) had the lowest average earnings, \$2.68 an hour.

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<sup>7</sup> The straight-time average hourly earnings in this bulletin differ in concept from the gross average hourly earnings published in the Bureau's monthly hours and earnings series (\$3.56 in December 1965). Unlike the latter, the estimates presented here exclude premium pay for overtime, and for work on weekends, holidays, and late shifts. Average earnings were calculated by summing individual hourly earnings and dividing by the number of individuals; in the monthly series, the sum of the man-hour totals reported by establishments in the industry was divided into the reported payroll totals.

The estimate of the number of production workers within scope of the study is intended only as a general guide to the size and composition of the labor force included in the survey. It differs from the number published in the monthly series (84,900 in December 1965) by the exclusion of establishments employing fewer than 100 workers and by the fact that the advance planning necessary to make the survey required the use of lists of establishments assembled considerably in advance of data collection. Thus, establishments new to the industry are omitted, as are establishments originally classified in the petroleum refining industry but found to be in other industries at the time of the survey. Also omitted are refineries classified incorrectly in other industries at the time the lists were compiled.

<sup>8</sup> Maintenance craft consolidation plans, which eliminate rigid lines of craft duties and use a team approach with individuals performing a variety of maintenance tasks, were reported by about an eighth of the 110 refineries visited during the survey. The 750 workers covered by such plans were not classifiable in the specific occupations for which separate earnings information was developed.

Among the regions, occupational averages were usually highest in the East Coast, particularly for journeymen maintenance jobs, stillmen and assistant stillmen (table 3). However, as illustrated in the following tabulation, earnings in the Texas-Louisiana Gulf Coast and Midwest I regions sometimes equaled or exceeded the pay in the East Coast. Averages in the Western Pennsylvania-West Virginia region were generally about 25 percent below the national averages.

Occupation	Average hourly earnings as a percent of nationwide average							
	East Coast	Western Pennsylvania-West Virginia	Mid-west I	Mid-west II	Texas-Louisiana Gulf Coast	Texas Inland-North Louisiana-Arkansas	Rocky Mountain	West Coast
Maintenance:								
Electricians -----	103	76	99	95	102	95	96	101
Helpers, trades -----	102	81	102	98	102	93	103	98
Instrument repairmen -----	106	-	98	93	102	95	96	98
Machinists -----	102	76	99	95	101	94	98	100
Pipefitters -----	103	74	98	96	102	91	98	101
Welders, hand -----	105	75	101	96	101	93	98	100
Processing:								
Stillmen, catalytic cracking -----	104	-	102	96	103	-	98	100
Stillmen, cracking, other than catalytic -----	106	75	102	96	102	95	-	99
Stillmen, straight-run -----	104	74	99	92	-	90	-	97
Stillmen, combination units -----	107	-	104	96	104	95	96	100
Stillmen, assistant, catalytic cracking -----	105	-	101	96	102	-	98	98
Stillmen, assistant, cracking, other than catalytic -----	105	76	100	96	102	95	-	96
Stillmen, assistant, straight-run -----	103	75	99	93	-	93	96	96
Laborers -----	103	87	107	100	99	99	100	101
Pumpmen -----	106	74	104	94	103	91	95	92
Other:								
Routine testers, laboratory --	103	74	97	94	106	90	91	95
Truckdrivers -----	100	79	101	94	106	94	97	96
Janitors -----	104	77	102	95	100	91	93	103

NOTE: Dashes indicate no data reported, or data that do not meet publication criteria.

Occupational pay relationships also varied somewhat by region (table 3). Average earnings for laborers, for example, were slightly below those for janitors in three regions (East Coast, Texas-Louisiana Gulf Coast, and West Coast), whereas laborers in the other regions averaged from 4 to 13 percent more than janitors. Average earnings for pipefitters, a numerically important maintenance job, exceeded those of janitors by 27 to 39 percent among the regions.

Individual earnings of workers in the selected occupations were generally concentrated within comparatively narrow limits, even on a nationwide basis. For example, more than three-fourths of the 3,729 laborers had earnings within a 30-cent range, \$2.60 to \$2.90 an hour; four-fifths of the 3,569 pipefitters and more than nine-tenths of the 2,115 machinists earned between \$3.50 and \$3.80 an hour. The concentrations were more apparent in the regions, where the earnings of a majority of the workers in most jobs for which data are shown were clustered within ranges of 20 cents an hour or less. The widespread use of single-rate wage systems contributes in part to the comparatively narrow range of earnings for workers performing similar tasks.

## Establishment Practices and Supplementary Wage Provisions

Data were obtained on certain establishment practices for production workers, including work schedules, and shift differentials, and for selected supplementary wage benefits.

Scheduled Weekly Hours and Shift Practices. Work schedules of 40 hours a week were in effect in establishments employing virtually all the production workers (table 16). The only exception was in the Midwest I region, where a schedule of 42 hours a week applied to 10 percent of the workers.

Nearly half of the industry's production workers were assigned to rotating shifts, almost always under arrangements whereby individuals worked day, evening, and night schedules during alternating weeks (table 17). Workers on evening schedules typically received 8 cents an hour, and those on night schedules, 16 cents an hour above day rates. Workers on fixed extra shifts accounted for less than 2 percent of the production workers.

Paid Holidays. Paid holidays were provided to workers in all refineries visited (table 18). The most common provisions in all regions were for 8 days annually; however, one-fourth of the workers in the East Coast region were provided 10 paid holidays or more.

Paid Vacations. Paid vacations (after qualifying periods of service) were provided by all establishments in the survey (table 19). In all but one region, typical provisions for paid vacations were 2 weeks' pay after 1 year of service, 3 weeks after 5 years, 4 weeks after 10 years, and 5 weeks after 20 years. Vacation provisions were somewhat less liberal in the Western Pennsylvania-West Virginia region.

Health, Insurance, and Retirement Plans. Life, hospitalization, surgical, and medical insurance, for which employers paid at least part of the cost, were available to more than nine-tenths of the production workers (table 20). A similar proportion were provided paid sick leave (mostly full pay, no waiting period). Accidental death and dismemberment insurance was provided to about one-half of the workers, and catastrophe (major medical) insurance, to seven-tenths. The incidence of some of these plans varied considerably, by region. Catastrophe insurance, for example, applied to about two-fifths of the workers in the East Coast, compared with seven-tenths in Texas-Louisiana Gulf Coast, four-fifths in Midwest I, and virtually all in the Midwest II and Rocky Mountain regions.

Retirement pension plans (other than social security) which provide regular payments for the remainder of the retiree's life, were provided by refineries employing practically all of the production workers.

Other Selected Benefits. Thrift or savings plans, for which the employer made monetary contributions beyond administrative costs, were provided in establishments with nearly four-fifths of the workers (table 21). Plants employing seven-tenths of the workers had provisions for severance pay.<sup>9</sup> Formal plans providing pay for funeral leave and jury duty were available to nearly all production workers.

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<sup>9</sup> Pay to employees permanently separated from work through no fault of their own.

Table 1. Average Hourly Earnings: By Selected Characteristics

(Number and average straight-time hourly earnings<sup>1</sup> of production workers in petroleum refineries by selected characteristics, United States and regions, December 1965)

Item	United States		East Coast		Western Pennsylvania—West Virginia		Midwest I		Midwest II		Texas—Louisiana—Gulf Coast		Texas Inland—North Louisiana—Arkansas		Rocky Mountain		West Coast	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
All workers <sup>2</sup> -----	73,318	\$3.45	11,066	\$3.58	1,983	\$2.60	12,641	\$3.52	7,468	\$3.26	24,481	\$3.52	3,847	\$3.26	2,066	\$3.39	9,766	\$3.44
Size of community:																		
Metropolitan areas <sup>3</sup> -----	60,210	3.50	9,929	3.56	-	-	11,561	3.53	2,983	3.30	24,481	3.52	-	-	1,049	3.37	9,271	3.44
Nonmetropolitan areas -----	13,108	3.23	-	-	1,876	2.60	-	-	4,485	3.23	-	-	3,018	3.28	-	-	-	-
Size of establishment:																		
100-999 workers -----	37,547	3.39	3,779	3.61	1,983	2.60	7,902	3.54	6,621	3.26	6,893	3.48	3,847	3.26	2,066	3.39	4,456	3.43
1,000 workers or more -----	35,771	3.52	7,287	3.56	-	-	4,739	3.49	-	-	17,588	3.54	-	-	-	-	5,310	3.45

<sup>1</sup> Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.  
<sup>2</sup> Virtually all production workers were men.  
<sup>3</sup> Standard Metropolitan Statistical Areas as defined by the U.S. Bureau of the Budget through March 1965.

NOTE: Dashes indicate no data reported or data that do not meet publication criteria.

Table 2. Earnings Distribution: All Establishments

(Percent distribution of production workers in petroleum refineries by average straight-time hourly earnings,<sup>1</sup> United States and regions, December 1965)

Average hourly earnings <sup>1</sup>	United States	East Coast	Western Pennsylvania—West Virginia	Midwest I	Midwest II	Texas—Louisiana—Gulf Coast	Texas Inland—North Louisiana—Arkansas	Rocky Mountain	West Coast
Under \$2.50 -----	1.1	( <sup>2</sup> )	<sup>3</sup> 26.9	0.4	0.6	0.4	1.5	1.2	( <sup>2</sup> )
\$2.50 and under \$2.60 -----	1.0	0.2	18.2	( <sup>2</sup> )	1.0	.6	1.9	.5	( <sup>2</sup> )
\$2.60 and under \$2.70 -----	1.8	.9	27.7	.1	2.3	1.7	1.2	1.8	0.1
\$2.70 and under \$2.80 -----	3.8	1.8	18.9	1.4	4.9	5.3	4.5	1.4	2.1
\$2.80 and under \$2.90 -----	2.8	2.9	4.8	2.1	7.5	1.7	5.8	4.1	1.1
\$2.90 and under \$3.00 -----	3.5	3.1	3.4	2.6	6.0	1.8	4.8	2.4	7.0
\$3.00 and under \$3.10 -----	4.8	3.2	-	3.3	7.2	5.2	11.2	2.7	4.7
\$3.10 and under \$3.20 -----	4.9	5.3	.1	4.4	10.7	2.6	9.5	5.5	5.3
\$3.20 and under \$3.30 -----	6.7	6.1	-	5.3	12.3	3.4	11.6	8.9	11.9
\$3.30 and under \$3.40 -----	6.5	3.5	-	10.6	10.0	3.9	9.1	6.7	8.3
\$3.40 and under \$3.50 -----	8.0	5.6	-	5.1	14.3	7.6	10.2	23.1	8.4
\$3.50 and under \$3.60 -----	11.4	9.0	-	15.7	11.6	6.5	14.3	18.8	20.4
\$3.60 and under \$3.70 -----	15.6	10.0	.1	23.3	3.9	25.3	1.6	6.6	7.6
\$3.70 and under \$3.80 -----	15.7	23.9	-	7.0	5.5	21.8	10.5	9.6	16.9
\$3.80 and under \$3.90 -----	5.3	10.4	-	11.1	.9	2.5	1.8	6.5	5.1
\$3.90 and under \$4.00 -----	4.4	4.9	-	6.0	1.1	7.2	-	.2	1.0
\$4.00 and over -----	2.6	9.3	-	1.5	.4	2.7	.5	-	.2
Total -----	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of workers -----	73,318	11,066	1,983	12,641	7,468	24,481	3,847	2,066	9,766
Average hourly earnings <sup>1</sup> -----	\$3.45	\$3.58	\$2.60	\$3.52	\$3.26	\$3.52	\$3.26	\$3.39	\$3.44

<sup>1</sup> Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.  
<sup>2</sup> Less than 0.05 percent.  
<sup>3</sup> Workers were distributed as follows: 15.8 percent at \$2.40 to \$2.50; 9.8 at \$2.30 to \$2.40; and 1.3 percent at less than \$2.30.

NOTE: Because of rounding, sums of individual items may not equal 100.

Table 3. Occupational Averages: All Establishments

(Number and average straight-time hourly earnings<sup>1</sup> of workers in selected occupations in petroleum refineries, United States and regions, December 1965)

Department and occupation	United States		East Coast		Western Pennsylvania— West Virginia		Midwest I		Midwest II	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
<b>Maintenance:</b>										
Carpenters .....	958	\$3.64	100	\$3.72	12	\$2.68	167	\$3.63	60	\$3.45
Electricians .....	1,419	3.65	178	3.77	18	2.77	294	3.61	105	3.47
Helpers, trades .....	2,141	3.07	203	3.14	73	2.50	442	3.12	212	3.01
Instrument repairmen .....	1,623	3.69	167	3.92	-	-	312	3.63	105	3.45
Machinists .....	2,115	3.67	199	3.75	17	2.80	294	3.62	122	3.49
Mechanics .....	1,143	3.59	285	3.75	18	2.68	223	3.64	99	3.38
Pipefitters .....	3,569	3.62	341	3.74	48	2.67	835	3.56	219	3.46
Welders, hand .....	1,722	3.64	210	3.84	41	2.72	283	3.68	170	3.48
<b>Processing:</b>										
Compounders .....	307	3.52	62	3.70	35	2.64	56	3.78	29	3.35
Filtermen .....	119	3.14	14	3.87	68	2.72	-	-	13	3.45
Gagers .....	659	3.46	-	-	8	2.50	90	3.48	43	3.15
Laborers .....	3,729	2.74	459	2.81	240	2.38	545	2.92	623	2.74
Loaders, tank cars or trucks .....	1,065	3.23	83	3.44	57	2.46	289	3.42	226	3.10
Package fillers, machine .....	367	3.00	65	3.03	28	2.51	37	3.29	48	3.06
Pressmen, paraffin .....	35	2.68	-	-	31	2.63	-	-	-	-
Pumpmen .....	1,699	3.60	246	3.80	71	2.66	382	3.76	215	3.39
Pumpmen's helpers .....	641	3.39	-	-	-	-	151	3.43	67	3.34
Stillmen (chief operators), catalytic cracking .....	996	3.86	163	4.02	-	-	187	3.92	125	3.70
Stillmen (chief operators), cracking, other than catalytic .....	1,281	3.85	236	4.07	18	2.90	375	3.91	233	3.68
Stillmen (chief operators), straight-run .....	1,493	3.91	245	4.08	29	2.88	173	3.88	111	3.58
Stillmen (chief operators), combination units .....	687	3.83	86	4.10	-	-	102	3.99	99	3.68
Stillmen, assistant (assistant operators), catalytic cracking .....	2,090	3.57	235	3.76	-	-	490	3.62	221	3.43
Stillmen, assistant (assistant operators), cracking, other than catalytic .....	2,531	3.55	289	3.73	12	2.70	906	3.55	355	3.41
Stillmen, assistant (assistant operators), straight-run .....	2,432	3.62	419	3.73	20	2.71	213	3.60	151	3.35
Stillmen, assistant (assistant operators), combination units .....	1,249	3.57	-	-	-	-	73	3.77	172	3.42
Stillmen's helpers (operators' helpers), catalytic cracking .....	659	3.38	59	3.50	-	-	145	3.48	98	3.13
Stillmen's helpers (operators' helpers), cracking, other than catalytic .....	513	3.42	73	3.59	-	-	253	3.49	-	-
Stillmen's helpers (operators' helpers), straight-run .....	649	3.40	89	3.45	-	-	155	3.47	60	3.14
Stillmen's helpers (operators' helpers), combination units .....	671	3.37	-	-	-	-	127	3.55	-	-
Treaters, light oils .....	513	3.63	80	3.79	26	2.72	135	3.76	62	3.48
Treaters' helpers, light oils .....	228	3.52	22	3.47	-	-	70	3.71	24	3.27
<b>Inspection and testing:</b>										
Routine testers, laboratory .....	2,963	3.48	529	3.60	89	2.58	416	3.39	319	3.27
<b>Recording and control:</b>										
Stock clerks .....	713	3.46	99	3.34	8	2.52	154	3.47	56	3.13
<b>Material movement:</b>										
Truckdrivers <sup>2</sup> .....	1,397	3.24	206	3.25	39	2.56	176	3.27	85	3.05
Light (under 1 1/2 tons) .....	124	3.07	-	-	-	-	-	-	18	3.00
Medium (1 1/2 to and including 4 tons) .....	326	3.14	-	-	10	2.45	84	3.23	51	3.03
Heavy (over 4 tons, other than trailer type) .....	96	3.20	-	-	-	-	-	-	-	-
Truckers, power (forklift) .....	244	3.05	57	3.08	21	-	-	3.18	35	3.00
<b>Custodial:</b>										
Guards .....	632	3.05	135	3.05	-	-	142	3.13	34	2.93
Janitors .....	762	2.74	88	2.86	14	2.11	179	2.80	79	2.60
Watchmen .....	96	2.79	-	-	16	2.36	30	3.01	26	2.90

See footnotes at end of table.

Table 3. Occupational Averages: All Establishments—Continued

(Number and average straight-time hourly earnings<sup>1</sup> of workers in selected occupations in petroleum refineries, United States and regions, December 1965)

Department and occupation	Texas— Louisiana Gulf Coast		Texas Inland— North Louisiana— Arkansas		Rocky Mountain		West Coast	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Maintenance:								
Carpenters-----	430	\$3.69	27	\$3.38	19	\$3.55	143	\$3.64
Electricians-----	576	3.72	46	3.48	39	3.51	163	3.69
Helpers, trades-----	808	3.12	96	2.85	52	3.16	255	3.00
Instrument repairmen-----	659	3.77	44	3.50	54	3.54	274	3.63
Machinists-----	1004	3.70	33	3.46	29	3.60	417	3.68
Mechanics-----	293	3.63	86	3.34	55	3.51	-	-
Pipefitters-----	1398	3.70	84	3.29	107	3.53	537	3.64
Welders, hand-----	689	3.69	70	3.38	78	3.58	181	3.65
Processing:								
Compounders-----	91	3.70	-	-	8	3.38	9	3.39
Filtermen-----	16	3.69	-	-	-	-	-	-
Gagers-----	350	3.50	39	3.35	-	-	-	-
Laborers-----	1540	2.72	112	2.72	115	2.73	95	2.78
Loaders, tank cars or trucks-----	143	3.38	131	3.04	72	3.30	64	3.15
Package fillers, machine-----	107	3.06	-	-	-	-	59	2.99
Pressmen, paraffin-----	-	-	-	-	-	-	-	-
Pumpmen-----	567	3.70	91	3.29	73	3.43	54	3.31
Pumpmen's helpers-----	236	3.47	-	-	-	-	87	3.18
Stillmen (chief operators), catalytic cracking-----	263	3.97	-	-	49	3.79	43	3.85
Stillmen (chief operators), cracking, other than catalytic-----	220	3.91	105	3.66	-	-	60	3.83
Stillmen (chief operators), straight-run-----	-	-	52	3.51	-	-	31	3.81
Stillmen (chief operators), combination units-----	116	3.98	120	3.65	27	3.66	121	3.82
Stillmen, assistant (assistant operators), catalytic cracking-----	694	3.63	-	-	110	3.50	117	3.49
Stillmen, assistant (assistant operators), cracking, other than catalytic-----	662	3.61	121	3.39	-	-	144	3.40
Stillmen, assistant (assistant operators), straight-run-----	-	-	54	3.38	112	3.49	125	3.47
Stillmen, assistant (assistant operators), combination units-----	158	3.68	-	-	39	3.55	457	3.52
Stillmen's helpers (operators' helpers), catalytic cracking-----	208	3.52	49	3.02	-	-	-	-
Stillmen's helpers (operators' helpers), cracking, other than catalytic-----	32	3.43	-	-	-	-	-	-
Stillmen's helpers (operators' helpers), straight-run-----	258	3.50	-	-	-	-	28	3.28
Stillmen's helpers (operators' helpers), combination units-----	-	-	85	3.20	-	-	205	3.33
Treaters, light oils-----	103	3.80	48	3.41	-	-	47	3.55
Treaters' helpers, light oils-----	59	3.60	-	-	-	-	-	-
Inspection and testing:								
Routine testers, laboratory-----	1142	3.70	150	3.13	112	3.18	206	3.29
Recording and control:								
Stock clerks-----	330	3.63	27	3.16	14	3.16	25	3.24
Material movement:								
Truckdrivers <sup>2</sup> -----	445	3.44	92	3.04	30	3.15	324	3.12
Light (under 1 1/2 tons)-----	83	3.11	6	2.64	9	3.08	-	-
Medium (1 1/2 to and including 4 tons)-----	69	3.22	38	2.99	20	3.18	50	3.19
Heavy (over 4 tons, other than trailer type)-----	-	-	17	3.12	-	-	49	3.29
Truckers, power (forklift)-----	69	3.14	-	-	-	-	50	3.01
Custodial:								
Guards-----	266	3.12	33	2.76	-	-	-	-
Janitors-----	290	2.75	27	2.50	17	2.54	68	2.81
Watchmen-----	-	-	-	-	-	-	-	-

<sup>1</sup> Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.<sup>2</sup> Includes all drivers regardless of size and type of truck operated.

NOTE: Dashes indicate no data reported or data that do not meet publication criteria.

Table 4. Occupational Averages: By Size of Community

(Number and average straight-time hourly earnings<sup>1</sup> of workers in selected occupations in petroleum refineries in metropolitan and nonmetropolitan areas, United States and regions, December 1965)

Department and occupation	United States		East Coast		Western Pennsylvania-West Virginia		Midwest I		Midwest II		Texas-Louisiana Gulf Coast		Texas Inland-North Louisiana-Arkansas		Rocky Mountain		West Coast					
	Metropolitan areas		Nonmetropolitan areas		Metropolitan areas		Nonmetropolitan areas		Metropolitan areas		Nonmetropolitan areas		Metropolitan areas		Nonmetropolitan areas		Metropolitan areas					
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings				
Maintenance:																						
Carpenters-----	861	\$3.66	97	\$3.40	96	\$3.72	11	\$2.68	161	\$3.63	25	\$3.45	35	\$3.45	430	\$3.69	24	\$3.41	11	\$3.47	134	\$3.65
Electricians-----	1,243	3.69	176	3.44	157	3.76	18	2.77	281	3.61	44	3.58	61	3.40	576	3.72	46	3.48	-	-	163	3.69
Helpers, trades-----	1,731	3.10	410	2.92	183	3.14	71	2.50	340	3.11	90	3.10	122	2.94	808	3.12	77	2.86	34	3.16	255	3.00
Instrument repairmen-----	1,384	3.72	239	3.52	136	3.95	-	-	273	3.63	35	3.51	70	3.42	659	3.77	44	3.50	-	-	253	3.64
Mechanists-----	1,917	3.68	198	3.51	162	3.73	17	2.80	271	3.62	56	3.53	66	3.46	1004	3.70	33	3.46	-	-	417	3.68
Mechanics-----	973	3.64	170	3.33	276	3.75	16	2.68	223	3.64	53	3.46	46	3.28	293	3.63	75	3.38	-	-	-	-
Pipefitters-----	3,125	3.64	444	3.47	241	3.71	44	2.67	829	3.56	90	3.51	129	3.42	1398	3.70	65	3.35	-	-	480	3.65
Welders, hand-----	1,377	3.69	345	3.46	167	3.84	41	2.72	255	3.69	57	3.52	113	3.46	689	3.69	56	3.45	29	3.49	166	3.66
Processing:																						
Compounders-----	244	3.66	63	2.97	62	3.70	34	2.64	52	3.80	15	3.37	14	3.32	91	3.70	-	-	-	-	9	3.39
Gagers-----	581	3.50	78	3.20	-	-	8	2.50	87	3.48	-	-	29	3.12	350	3.50	33	3.42	-	-	-	-
Laborers-----	2,973	2.77	756	2.62	419	2.80	219	2.38	506	2.92	304	2.80	319	2.68	1540	2.72	73	2.64	49	2.63	95	2.78
Loaders, tank cars or trucks-----	713	3.30	352	3.07	57	3.34	47	2.48	283	3.43	93	3.12	133	3.09	143	3.38	99	3.08	31	3.24	64	3.15
Package fillers, machine-----	296	3.07	71	2.72	65	3.03	26	2.51	37	3.29	24	3.14	24	2.98	107	3.06	-	-	-	-	59	2.99
Pumpmen-----	1,354	3.68	345	3.28	225	3.79	67	2.67	349	3.78	96	3.43	119	3.36	567	3.70	65	3.34	33	3.39	54	3.31
Pumpmen's helpers-----	556	3.40	85	3.31	-	-	-	-	137	3.46	-	-	-	-	236	3.47	-	-	-	-	87	3.18
Stillmen (chief operators), catalytic cracking-----	696	3.92	300	3.74	134	4.00	-	-	171	3.92	30	3.70	95	3.70	263	3.97	-	-	26	3.76	43	3.85
Stillmen (chief operators), cracking, other than catalytic-----	898	3.89	383	3.75	137	4.05	18	2.90	351	3.91	83	3.77	150	3.63	220	3.91	92	3.71	-	-	60	3.83
Stillmen (chief operators), straight-run-----	1,270	3.96	223	3.65	217	4.08	29	2.88	147	3.87	50	3.69	61	3.50	-	-	-	-	22	3.59	31	3.81
Stillmen (chief operators), combination units-----	478	3.89	209	3.69	86	4.10	-	-	90	4.02	-	-	34	3.63	116	3.98	96	3.68	19	3.56	-	-
Stillmen, assistant (assistant operators), catalytic cracking-----	1,623	3.62	467	3.41	203	3.77	-	-	449	3.62	97	3.44	124	3.43	694	3.63	-	-	25	3.57	117	3.49
Stillmen, assistant (assistant operators), cracking, other than catalytic-----	2,061	3.57	470	3.45	176	3.79	12	2.70	864	3.55	160	3.42	195	3.40	662	3.61	108	3.38	-	-	144	3.40
Stillmen, assistant (assistant operators), straight-run-----	2,176	3.65	256	3.39	395	3.74	20	2.71	182	3.61	83	3.41	68	3.28	-	-	-	-	-	-	125	3.47
Stillmen, assistant (assistant operators), combination units-----	927	3.59	322	3.50	-	-	-	-	73	3.77	-	-	45	3.45	158	3.68	-	-	-	-	334	3.55
Stillmen's helpers (operators' helpers), catalytic cracking-----	508	3.43	151	3.21	51	3.47	-	-	109	3.52	-	-	88	3.13	208	3.52	14	3.10	-	-	-	-
Stillmen's helpers (operators' helpers), cracking, other than catalytic-----	384	3.46	129	3.29	49	3.53	-	-	205	3.53	-	-	-	-	32	3.43	-	-	-	-	-	-
Stillmen's helpers (operators' helpers), straight-run-----	515	3.45	134	3.20	77	3.41	-	-	113	3.53	-	-	51	3.13	258	3.50	-	-	-	-	28	3.28
Stillmen's helpers (operators' helpers), combination units-----	520	3.40	151	3.27	-	-	-	-	115	3.56	-	-	-	-	-	-	55	3.26	-	-	-	-
Treaters, light oils-----	338	3.73	175	3.43	35	3.87	26	2.72	135	3.76	14	3.49	48	3.48	103	3.80	34	3.48	-	-	35	3.54
Inspection and testing:																						
Routine testers, laboratory-----	2,460	3.56	503	3.10	498	3.60	83	2.59	383	3.40	152	3.38	167	3.16	1142	3.70	117	3.16	64	3.28	182	3.30
Recording and control:																						
Stock clerks-----	635	3.51	78	3.09	99	3.34	8	2.52	144	3.48	28	3.16	28	3.10	330	3.63	22	3.12	-	-	25	3.24
Material movement:																						
Truckdrivers <sup>2</sup> -----	1,166	3.29	231	2.97	188	3.25	39	2.56	158	3.28	28	3.18	57	2.98	445	3.44	83	3.02	14	3.18	324	3.12
Medium (1 1/2 to and including 4 tons)-----	230	3.22	96	2.95	-	-	-	-	84	3.23	19	3.18	32	2.94	69	3.22	28	2.99	8	3.26	50	3.19
Truckers, power (forklift)-----	225	3.08	19	2.72	57	3.08	-	-	21	3.18	-	-	-	-	69	3.14	-	-	-	-	50	3.01
Custodial:																						
Guards-----	537	3.09	95	2.84	110	3.09	-	-	132	3.14	17	2.99	-	-	266	3.12	33	2.76	-	-	-	-
Janitors-----	623	2.80	139	2.49	66	2.83	14	2.11	156	2.87	36	2.74	43	2.48	290	2.75	27	2.50	7	2.59	68	2.81

<sup>1</sup> Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

<sup>2</sup> Includes all drivers regardless of size and type of truck operated.

NOTE: Dashes indicate no data reported or data that do not meet publication criteria.

Table 5. Occupational Averages: By Size of Establishment

(Number and average straight-time hourly earnings<sup>1</sup> of workers in selected occupations in petroleum refineries by size of establishment, United States and selected regions, December 1965)

Department and occupation	United States				East Coast				Western Pennsylvania--West Virginia		Midwest I	
	Establishments with—											
	100-999 workers		1,000 workers or more		100-999 workers		1,000 workers or more		100-999 workers		100-999 workers	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Maintenance:												
Carpenters.....	344	\$ 3.57	614	\$3.67	-	-	85	\$3.73	12	\$2.68	83	\$3.68
Electricians.....	547	3.58	872	3.70	44	\$3.74	134	3.78	18	2.77	143	3.65
Helpers, trades.....	1,239	3.05	902	3.09	-	-	141	3.13	73	2.50	379	3.13
Instrument repairmen.....	763	3.61	860	3.77	48	3.77	119	3.98	-	-	208	3.65
Machinists.....	684	3.62	1,431	3.69	61	3.77	138	3.74	17	2.80	104	3.68
Mechanics.....	529	3.51	614	3.66	-	-	276	3.75	18	2.68	171	3.67
Pipefitters.....	1,439	3.57	2,130	3.65	146	3.77	195	3.73	48	2.67	336	3.66
Welders, hand.....	859	3.57	863	3.71	58	3.82	152	3.85	41	2.72	217	3.70
Processing:												
Compounders.....	150	3.28	157	3.75	28	3.54	34	3.84	35	2.64	-	-
Gagers.....	314	3.40	345	3.52	-	-	-	-	8	2.50	61	3.58
Laborers.....	1,983	2.73	1,746	2.76	93	2.91	366	2.78	240	2.38	369	2.90
Loaders, tank cars or trucks.....	868	3.21	197	3.31	-	-	42	3.35	57	2.46	230	3.44
Package fillers, machine.....	115	2.87	252	3.06	-	-	58	3.03	28	2.51	-	-
Pumpmen.....	1,032	3.50	667	3.75	45	3.78	201	3.80	71	2.66	257	3.72
Pumpmen's helpers.....	424	3.37	217	3.42	-	-	-	-	-	-	116	3.47
Stillmen (chief operators), catalytic cracking.....	732	3.81	264	4.02	94	3.92	69	4.15	-	-	158	3.92
Stillmen (chief operators), cracking, other than catalytic.....	893	3.80	388	3.97	144	4.02	92	4.14	18	2.90	284	3.89
Stillmen (chief operators), straight-run.....	705	3.79	788	4.02	133	4.04	-	-	29	2.88	162	3.88
Stillmen (chief operators), combination units.....	578	3.78	109	4.08	-	-	-	-	-	-	91	4.01
Stillmen, assistant (assistant operators), catalytic cracking.....	1,234	3.53	856	3.64	-	-	186	3.77	-	-	336	3.65
Stillmen, assistant (assistant operators), cracking, other than catalytic.....	1,038	3.48	1,493	3.59	-	-	-	-	12	2.70	265	3.60
Stillmen, assistant (assistant operators), straight-run.....	1,023	3.54	1,409	3.68	-	-	138	3.78	20	2.71	204	3.60
Stillmen, assistant (assistant operators), combination units.....	1,005	3.53	244	3.70	-	-	-	-	-	-	69	3.78
Stillmen's helpers (operators' helpers), catalytic cracking.....	519	3.35	140	3.48	25	3.58	34	3.44	-	-	121	3.47
Stillmen's helpers (operators' helpers), cracking, other than catalytic.....	368	3.42	145	3.41	-	-	-	-	-	-	186	3.55
Stillmen's helpers (operators' helpers), straight-run.....	491	3.37	158	3.48	49	3.43	40	3.47	-	-	128	3.47
Stillmen's helpers (operators' helpers), combination units.....	537	3.36	134	3.41	-	-	-	-	-	-	97	3.56
Treaters, light oils.....	376	3.56	137	3.80	-	-	21	3.96	26	2.72	100	3.77
Inspection and testing:												
Routine testers, laboratory.....	1,576	3.32	1,387	3.66	214	3.47	315	3.69	89	2.58	257	3.43
Recording and control:												
Stock clerks.....	278	3.33	435	3.54	27	3.28	72	3.36	8	2.52	93	3.52
Material movement:												
Truckdrivers <sup>2</sup> .....	672	3.07	725	3.39	109	3.13	97	3.39	39	2.56	82	3.27
Medium (1½ to and including 4 tons).....	204	3.13	122	3.14	-	-	-	-	10	2.45	38	3.29
Truckers, power (forklift).....	54	2.88	190	3.10	-	-	-	-	-	-	-	-
Custodial:												
Guards.....	253	2.91	379	3.15	40	2.93	95	3.11	-	-	77	3.09
Janitors.....	303	2.65	459	2.80	33	2.89	55	2.84	14	2.11	101	2.71

See footnotes at end of table.

Table 5. Occupational Averages: By Size of Establishment—Continued

(Number and average straight-time hourly earnings<sup>1</sup> of workers in selected occupations in petroleum refineries by size of establishment, United States and selected regions, December 1965)

Department and occupation	Midwest II		Texas-Louisiana Gulf Coast				Texas Inland-North Louisiana-Arkansas		Rocky Mountain		West Coast	
	Establishments with—											
	100-999 workers		100-999 workers		1,000 workers or more		100-999 workers		100-999 workers		100-999 workers	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Maintenance:												
Carpenters .....	49	\$3.46	69	\$3.70	361	\$3.69	27	\$3.38	19	\$3.55	70	\$3.60
Electricians .....	95	3.46	104	3.71	472	3.72	46	3.48	39	3.51	-	-
Helpers, trades .....	207	3.01	340	3.12	468	3.13	96	2.85	52	3.16	30	3.12
Instrument repairmen .....	92	3.45	149	3.71	510	3.79	44	3.50	54	3.54	160	3.60
Machinists .....	109	3.50	159	3.70	845	3.70	33	3.46	29	3.60	172	3.64
Mechanics .....	79	3.37	57	3.69	236	3.62	86	3.34	55	3.51	-	-
Pipefitters .....	201	3.46	209	3.67	1,189	3.70	84	3.29	107	3.53	308	3.61
Welders, hand .....	156	3.48	146	3.69	543	3.69	70	3.38	78	3.58	93	3.62
Processing:												
Compounders .....	21	3.32	-	-	73	3.74	-	-	8	3.38	-	-
Gagers .....	29	3.12	138	3.44	212	3.54	39	3.35	-	-	-	-
Laborers .....	528	2.74	462	2.71	1,078	2.72	112	2.72	115	2.73	64	2.81
Loaders, tank cars or trucks .....	215	3.10	83	3.39	60	3.36	131	3.04	72	3.30	39	3.17
Package fillers, machine .....	40	3.05	-	-	103	3.06	-	-	-	-	-	-
Pumpmen .....	199	3.39	246	3.70	321	3.70	91	3.29	73	3.43	50	3.30
Pumpmen's helpers .....	67	3.34	106	3.46	130	3.47	-	-	-	-	83	3.18
Stillmen (chief operators), catalytic cracking .....	121	3.70	113	3.94	150	3.99	-	-	49	3.79	-	-
Stillmen (chief operators), cracking, other than catalytic .....	213	3.68	48	3.87	172	3.92	105	3.66	-	-	47	3.81
Stillmen (chief operators), straight-run .....	95	3.56	121	3.93	-	-	52	3.51	-	-	23	3.80
Stillmen (chief operators), combination units .....	99	3.68	108	3.98	-	-	120	3.65	27	3.66	-	-
Stillmen, assistant (assistant operators), catalytic cracking .....	200	3.45	234	3.62	460	3.64	-	-	110	3.50	82	3.46
Stillmen, assistant (assistant operators), cracking, other than catalytic .....	321	3.41	-	-	624	3.61	121	3.39	-	-	113	3.34
Stillmen, assistant (assistant operators), straight-run .....	114	3.35	129	3.56	-	-	54	3.38	112	3.49	109	3.46
Stillmen, assistant (assistant operators), combination units .....	172	3.42	130	3.68	-	-	-	-	39	3.55	402	3.51
Stillmen's helpers (operators' helpers), catalytic cracking .....	98	3.13	140	3.52	68	3.52	49	3.02	-	-	-	-
Stillmen's helpers (operators' helpers), cracking, other than catalytic .....	-	-	-	-	-	-	-	-	-	-	-	-
Stillmen's helpers (operators' helpers), straight-run .....	60	3.14	-	-	75	3.52	-	-	-	-	-	-
Stillmen's helpers (operators' helpers), combination units .....	-	-	-	-	-	-	85	3.20	-	-	-	-
Treaters, light oils .....	58	3.48	39	3.73	64	3.85	48	3.41	-	-	34	3.53
Inspection and testing:												
Routine testers, laboratory .....	253	3.26	393	3.52	749	3.80	150	3.13	112	3.18	108	3.27
Recording and control:												
Stock clerks .....	44	3.16	56	3.46	274	3.66	27	3.16	14	3.16	9	3.14
Material movement:												
Truckdrivers <sup>2</sup> .....	77	3.05	58	3.28	387	3.47	92	3.04	30	3.15	185	3.00
Medium (1½ to and including 4 tons) .....	47	3.03	19	3.47	-	-	38	2.99	20	3.18	28	3.26
Truckers, power (forklift) .....	-	-	-	-	68	3.14	-	-	-	-	-	-
Custodial:												
Guards .....	34	2.93	51	2.94	215	3.16	33	2.76	-	-	-	-
Janitors .....	65	2.57	40	2.73	250	2.76	27	2.50	17	2.54	-	-

<sup>1</sup> Excludes premium pay for overtime and for work on weekends, holidays and late shifts.

<sup>2</sup> Includes all drivers regardless of size and type of truck operated.

NOTE: Dashes indicate no data reported or data that do not meet publication criteria.

Table 6. Occupational Earnings: United States

(Distribution of workers in selected occupations in petroleum refineries by straight-time hourly earnings,<sup>1</sup> December 1965)

Department and occupation	Number of workers	Average hourly earnings <sup>1</sup>	Number of workers receiving straight-time hourly earnings <sup>1</sup> of—																		
			Under \$2.30	\$2.30 and under \$2.40	\$2.40	\$2.50	\$2.60	\$2.70	\$2.80	\$2.90	\$3.00	\$3.10	\$3.20	\$3.30	\$3.40	\$3.50	\$3.60	\$3.70	\$3.80	\$3.90	\$4.00
			2.30	2.40	2.50	2.60	2.70	2.80	2.90	3.00	3.10	3.20	3.30	3.40	3.50	3.60	3.70	3.80	3.90	4.00	over
All production workers .....	73,318	\$3.45	119	251	435	703	1342	2420	2057	2530	3514	3580	4903	4739	5693	8348	11471	11523	3919	3237	1934
Maintenance:																					
Carpenters .....	958	\$3.64	-	-	2	1	3	4	2	-	4	5	2	18	39	190	348	310	28	2	-
Electricians .....	1,419	3.65	-	-	-	3	-	12	2	3	-	3	8	19	61	187	401	658	48	14	-
Helpers, trades .....	2,141	3.07	-	-	37	46	18	83	47	418	417	531	471	26	47	-	-	-	-	-	-
Instruments repairmen .....	1,623	3.69	-	-	-	1	-	7	-	-	-	-	16	5	2	66	358	487	380	190	24
Mechanics .....	1,115	3.67	-	-	-	-	3	8	1	5	-	4	5	2	66	356	695	905	33	32	108
Mechanics .....	1,143	3.59	-	-	-	6	4	7	2	5	14	24	22	25	85	293	263	355	38	-	-
Pipefitters .....	3,569	3.62	-	-	-	6	26	16	8	-	14	31	15	242	151	637	1159	1121	69	74	-
Welders, hand .....	1,722	3.64	-	-	-	3	5	33	-	2	10	12	20	28	88	235	616	495	90	34	51
Processing:																					
Compounders .....	307	3.52	-	-	3	1	31	-	-	-	-	12	17	30	36	5	12	75	56	21	8
Filtermen .....	119	3.14	-	-	-	-	22	37	8	1	-	-	-	18	8	-	-	6	10	9	-
Gagers .....	659	3.46	-	-	2	9	1	4	4	27	23	39	37	195	131	141	27	4	-	11	-
Laborers .....	3,729	2.74	36	146	172	106	476	1556	829	262	114	-	8	-	24	-	-	-	-	-	-
Loaders, tank cars or trucks .....	1,065	3.23	8	-	27	12	19	3	48	28	168	168	133	132	130	150	9	12	18	-	-
Package fillers, machine .....	367	3.00	-	4	14	20	4	-	48	60	109	39	34	24	5	-	6	-	-	-	-
Pressmen, paraffin .....	35	2.68	-	-	8	4	6	8	5	-	4	-	-	-	-	-	-	-	-	-	-
Pumpmen .....	1,699	3.60	-	-	-	14	33	19	21	12	2	89	80	108	129	90	347	319	167	237	32
Pumpmen's helpers .....	641	3.39	-	-	-	-	-	-	1	-	29	65	156	40	140	177	24	9	-	-	-
Stillmen (chief operators), catalytic cracking .....	996	3.86	-	-	-	-	-	-	-	8	-	-	8	-	8	43	61	242	148	325	153
Stillmen (chief operators), cracking, other than catalytic .....	1,281	3.85	-	-	-	-	-	-	5	13	8	-	16	48	25	74	215	328	381	168	-
Stillmen (chief operators), straight-run .....	1,493	3.91	-	-	-	-	-	-	16	13	8	-	-	1	50	46	60	82	245	718	254
Stillmen (chief operators), combination units .....	687	3.83	-	-	-	-	-	8	-	8	-	-	4	14	24	47	24	157	173	64	164
Stillmen, assistant (assistant operators), catalytic cracking .....	2,090	3.57	-	-	-	-	-	24	-	8	-	17	77	336	201	205	655	467	92	8	-
Stillmen, assistant (assistant operators), cracking, other than catalytic .....	2,531	3.55	-	-	-	-	-	8	4	-	-	3	13	195	470	282	213	985	294	51	13
Stillmen, assistant (assistant operators), straight-run .....	2,432	3.62	-	-	-	-	12	12	-	-	6	11	74	195	167	194	337	1361	59	4	-
Stillmen, assistant (assistant operators), combination units .....	1,249	3.57	-	-	-	-	8	8	-	-	4	11	-	128	347	119	239	314	71	-	-
Stillmen's helpers (operators' helpers), catalytic cracking .....	659	3.38	-	-	-	-	-	10	-	-	48	71	108	69	150	103	35	65	-	-	-
Stillmen's helpers (operators' helpers), cracking, other than catalytic .....	513	3.42	-	-	-	-	-	2	-	4	37	48	109	32	37	156	-	88	-	-	-
Stillmen's helpers (operators' helpers), straight-run .....	649	3.40	-	-	-	-	-	14	-	3	35	76	56	69	181	95	42	78	-	-	-
Stillmen's helpers (operators' helpers), combination units .....	671	3.37	-	-	-	-	-	1	-	-	12	38	148	230	125	109	-	8	-	-	-
Treaters, light oils .....	513	3.63	-	-	-	-	13	13	2	-	2	4	42	71	16	22	84	83	57	84	20
Treaters' helpers, light oils .....	228	3.52	-	-	-	-	2	-	3	-	-	-	42	3	45	27	54	28	24	-	-
Inspection and testing:																					
Routine testers, laboratory .....	2,963	3.48	1	2	16	16	47	20	28	43	166	178	280	395	349	342	445	213	81	68	273
Recording and control:																					
Stock clerks .....	713	3.46	-	-	3	4	1	-	4	27	38	47	58	91	114	140	73	19	44	18	32
Material movement:																					
Truckdrivers <sup>2</sup> .....	1,397	3.24	-	-	17	9	21	6	14	181	202	308	130	224	6	7	59	213	-	-	-
Light (under 1½ tons) .....	124	3.07	-	-	1	1	7	2	1	9	43	49	1	6	-	4	-	-	-	-	-
Medium (1½ to and including 4 tons) .....	326	3.14	-	-	10	-	-	4	13	24	74	95	50	38	6	3	-	9	-	-	-
Heavy (over 4 tons, other than trailer type) .....	96	3.20	-	-	-	8	-	-	-	4	2	17	11	51	-	-	3	-	-	-	-
Truckers, power (forklift) .....	244	3.05	-	-	-	11	-	1	-	34	78	107	13	-	-	-	-	-	-	-	-
Custodial:																					
Guards .....	632	3.05	8	1	7	29	9	8	35	41	202	101	163	27	1	-	-	-	-	-	-
Janitors .....	762	2.74	42	28	7	22	88	242	155	108	60	-	10	-	-	-	-	-	-	-	-
Watchmen .....	96	2.79	-	22	-	16	8	3	-	8	19	4	16	-	-	-	-	-	-	-	-

<sup>1</sup> Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.<sup>2</sup> Includes all drivers regardless of size and type of truck operated.

Table 7. Occupational Earnings: East Coast

(Distribution of workers in selected occupations in petroleum refineries by straight-time hourly earnings,<sup>1</sup> December 1965)

Department and occupation	Number of workers	Average hourly earnings <sup>1</sup>	Number of workers receiving straight-time hourly earnings <sup>1</sup> of—																	
			Under \$2.70	\$2.70 and under \$2.80	\$2.80	\$2.90	\$3.00	\$3.10	\$3.20	\$3.30	\$3.40	\$3.50	\$3.60	\$3.70	\$3.80	\$3.90	\$4.00	\$4.10	\$4.20	\$4.30
All production workers -----	11,066	\$ 3.58	127	204	318	338	358	584	676	386	619	992	1106	2640	1148	544	425	446	102	53
Maintenance:																				
Carpenters -----	100	\$ 3.72	-	-	-	-	-	-	-	-	-	-	13	85	-	2	-	-	-	-
Electricians -----	178	3.77	-	-	-	-	-	-	-	-	-	-	30	99	35	14	-	-	-	-
Helpers, trades -----	203	3.14	-	-	-	-	68	101	34	-	-	-	-	-	-	-	-	-	-	-
Instrument repairmen -----	167	3.92	-	-	-	-	-	-	-	-	1	7	30	45	25	22	-	-	5	32
Machinists -----	199	3.75	-	-	-	-	-	-	-	-	-	-	29	138	-	32	-	-	-	-
Mechanics -----	285	3.75	-	-	-	-	-	-	-	-	-	-	9	276	-	-	-	-	-	-
Pipefitters -----	341	3.74	-	-	-	-	-	-	-	-	-	-	72	195	-	74	-	-	-	-
Welders, hand -----	210	3.84	-	-	-	-	-	-	-	-	-	-	11	98	16	34	51	-	-	-
Processing:																				
Compounders -----	62	3.70	-	-	-	-	-	-	12	-	-	2	8	15	15	2	8	-	-	-
Filtermen -----	14	3.87	-	-	-	-	-	-	-	-	5	-	-	-	-	-	9	-	-	-
Laborers -----	459	2.81	3	201	207	9	31	-	8	-	-	-	-	-	-	-	-	-	-	-
Loaders, tank cars or trucks -----	83	3.44	-	-	-	-	4	7	14	8	21	19	-	4	6	-	-	-	-	-
Package fillers, machine -----	65	3.03	-	10	15	22	13	-	5	-	-	-	-	-	-	-	-	-	-	-
Pumpmen -----	246	3.80	-	-	-	-	-	-	-	21	6	10	30	39	36	88	16	-	-	-
Stillmen (chief operators), catalytic cracking -----	163	4.02	-	-	-	-	-	-	-	-	-	-	16	16	9	25	16	55	26	-
Stillmen (chief operators), cracking, other than catalytic -----	236	4.07	-	-	-	-	-	-	-	-	-	-	-	16	47	5	4	164	-	-
Stillmen (chief operators), straight-run -----	245	4.08	-	-	-	-	-	-	-	-	-	-	-	-	26	5	102	112	-	-
Stillmen (chief operators), combination units -----	86	4.10	-	-	-	-	-	-	-	-	-	-	16	-	-	5	-	17	48	-
Stillmen, assistant (assistant operators), catalytic cracking -----	235	3.76	-	-	-	-	-	-	-	-	-	-	32	145	50	8	-	-	-	-
Stillmen, assistant (assistant operators), cracking, other than catalytic -----	289	3.73	-	-	-	-	-	-	-	17	-	-	96	112	51	13	-	-	-	-
Stillmen, assistant (assistant operators), straight-run -----	419	3.73	-	-	-	-	-	-	-	4	-	-	20	349	42	4	-	-	-	-
Stillmen's helpers (operators' helpers), catalytic cracking -----	59	3.50	-	-	-	-	-	-	-	11	14	26	-	8	-	-	-	-	-	-
Stillmen's helpers (operators' helpers), cracking, other than catalytic -----	73	3.59	-	-	-	-	-	-	-	-	17	32	-	24	-	-	-	-	-	-
Stillmen's helpers (operators' helpers), straight-run -----	89	3.45	-	-	-	-	-	-	33	3	14	27	-	12	-	-	-	-	-	-
Treaters, light oils -----	80	3.79	-	-	-	-	-	-	-	-	-	-	42	14	7	13	-	-	4	-
Treaters' helpers, light oils -----	22	3.47	-	-	-	-	-	-	7	-	6	5	-	4	-	-	-	-	-	-
Inspection and testing:																				
Routine testers, laboratory -----	529	3.60	-	-	-	-	-	22	28	68	77	85	70	105	12	9	25	8	7	13
Recording and controll:																				
Stock Clerks -----	99	3.34	-	-	-	-	5	18	19	6	38	13	-	-	-	-	-	-	-	-
Material movement:																				
Truckdrivers <sup>2</sup> -----	206	3.25	-	-	-	-	8	117	38	11	-	-	-	32	-	-	-	-	-	-
Truck, power (forklift) -----	57	3.08	-	-	-	14	1	42	-	-	-	-	-	-	-	-	-	-	-	-
Custodial:																				
Guards -----	135	3.05	-	20	15	76	5	-	19	-	-	-	-	-	-	-	-	-	-	-
Janitors -----	88	2.86	<sup>3</sup> 21	44	2	11	-	10	-	-	-	-	-	-	-	-	-	-	-	-

<sup>1</sup> Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.  
<sup>2</sup> Includes all drivers regardless of size and type of truck operated.  
<sup>3</sup> All workers were at \$2.60 to \$2.70.

Table 8. Occupational Earnings: Western Pennsylvania—West Virginia

(Distribution of workers in selected occupations in petroleum refineries by straight-time hourly earnings, <sup>1</sup> December 1965)

Department and occupation	Number of workers	Average hourly earnings <sup>1</sup>	Number of workers receiving straight-time hourly earnings <sup>1</sup> of—								
			Under \$2.30	\$2.30 and under \$2.40	\$2.40 - \$2.50	\$2.50 - \$2.60	\$2.60 - \$2.70	\$2.70 - \$2.80	\$2.80 - \$2.90	\$2.90 - \$3.00	\$3.00 and over
All production workers .....	1,983	\$2.60	27	194	313	360	549	374	96	67	3
Maintenance:											
Carpenters .....	12	\$2.68	-	-	2	1	3	4	2	-	-
Electricians .....	18	2.77	-	-	-	3	-	12	2	-	1
Helpers, trades .....	73	2.50	-	-	27	46	-	-	-	-	-
Machinists .....	17	2.80	-	-	-	-	3	8	1	5	-
Mechanics .....	18	2.68	-	-	-	6	3	7	2	-	-
Pipefitters .....	48	2.67	-	-	-	6	26	16	-	-	-
Welders, hand .....	41	2.72	-	-	-	3	5	33	-	-	-
Processing:											
Compounders .....	35	2.64	-	-	3	1	31	-	-	-	-
Filtermen .....	68	2.72	-	-	-	-	22	37	8	1	-
Gagers .....	8	2.50	-	-	2	5	1	-	-	-	-
Laborers .....	240	2.38	8	127	102	3	-	-	-	-	-
Loaders, tank cars or trucks .....	57	2.46	8	-	27	12	7	3	-	-	-
Package fillers, machine .....	28	2.51	-	-	10	14	4	-	-	-	-
Pressmen, paraffin .....	31	2.63	-	-	8	4	6	8	5	-	-
Pumpmen .....	71	2.66	-	-	-	14	33	19	5	-	-
Stillmen (chief operators), cracking, other than catalytic .....	18	2.90	-	-	-	-	-	-	5	13	-
Stillmen (chief operators), straight-run .....	29	2.88	-	-	-	-	-	-	16	13	-
Stillmen, assistant (assistant operators), cracking, other than catalytic .....	12	2.70	-	-	-	-	8	4	-	-	-
Stillmen, assistant (assistant operators), straight-run .....	20	2.71	-	-	-	-	12	8	-	-	-
Treaters, light oils .....	26	2.72	-	-	-	-	13	13	-	-	-
Inspection and testing:											
Routine testers, laboratory .....	89	2.58	1	2	16	16	47	7	-	-	-
Recording and control:											
Stock clerks .....	8	2.52	-	-	3	4	1	-	-	-	-
Material movement:											
Truckdrivers <sup>2</sup> .....	39	2.56	-	-	17	8	14	-	-	-	-
Medium (1½ to and including 4 tons) .....	10	2.45	-	-	10	-	-	-	-	-	-
Custodial:											
Janitors .....	14	2.11	3	5	4	-	-	-	-	-	-
Watchmen .....	16	2.36	-	16	-	-	-	-	-	-	-

<sup>1</sup> Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.<sup>2</sup> Includes all drivers regardless of size and type of truck operated.<sup>3</sup> Workers were distributed as follows: 1 at \$1.30 to \$1.40; 4 at \$1.60 to \$1.70.

Table 9. Occupational Earnings: Midwest I

(Distribution of workers in selected occupations in petroleum refineries by straight-time hourly earnings,<sup>1</sup> December 1965)

Department and occupation	Number of workers	Average hourly earnings <sup>1</sup>	Number of workers receiving straight-time hourly earnings <sup>1</sup> of—														
			Under \$2.70	\$2.70 and under \$2.80	\$2.80 - \$2.90	\$2.90 - \$3.00	\$3.00 - \$3.10	\$3.10 - \$3.20	\$3.20 - \$3.30	\$3.30 - \$3.40	\$3.40 - \$3.50	\$3.50 - \$3.60	\$3.60 - \$3.70	\$3.70 - \$3.80	\$3.80 - \$3.90	\$3.90 - \$4.00	\$4.00 and over
All production workers -----	12,641	\$3.52	71	172	268	323	411	560	675	1346	651	1983	2945	886	1406	755	189
Maintenance:																	
Carpenters -----	167	\$3.63	-	-	-	-	-	-	-	-	5	46	84	4	28	-	-
Electricians -----	294	3.61	-	-	-	-	-	-	3	-	82	168	28	13	-	-	
Helpers, trades -----	442	3.12	12	54	-	-	29	145	181	21	-	-	-	-	-	-	
Instrument repairmen -----	312	3.63	-	-	-	-	-	-	-	6	-	70	189	6	41	-	
Machinists -----	294	3.62	-	-	-	-	-	-	-	-	-	76	183	2	33	-	
Mechanics -----	223	3.64	-	-	-	-	6	-	-	-	-	52	101	26	38	-	
Pipefitters -----	835	3.56	-	-	-	-	-	6	-	225	-	128	385	22	69	-	
Welders, hand -----	283	3.68	-	-	-	-	-	-	-	-	9	12	168	20	74	-	
Processing:																	
Compounders -----	56	3.78	-	-	-	-	-	1	9	-	-	-	4	2	21	19	
Gagers -----	90	3.48	-	-	-	4	-	-	10	17	21	-	28	10	-	-	
Laborers -----	545	2.92	-	79	216	168	58	-	-	-	24	-	-	-	-	-	
Loaders, tank cars or trucks -----	289	3.42	-	-	-	-	16	26	30	55	42	100	-	8	12	-	
Package fillers, machine -----	37	3.29	-	-	-	-	3	4	16	14	-	-	-	-	-	-	
Pumpmen -----	382	3.76	-	-	-	-	-	16	23	31	38	16	26	118	98	16	
Pumpmen's helpers -----	151	3.43	-	-	-	-	-	30	26	8	-	54	24	9	-	-	
Stillmen (chief operators), catalytic cracking -----	187	3.92	-	-	-	-	-	-	-	-	-	8	-	64	107	8	
Stillmen (chief operators), cracking, other than catalytic -----	375	3.91	-	-	-	-	-	-	-	-	-	16	-	164	195	-	
Stillmen (chief operators), straight-run -----	173	3.88	-	-	-	-	-	-	-	-	-	28	-	81	60	4	
Stillmen (chief operators), combination units -----	102	3.99	-	-	-	-	-	-	-	-	-	-	-	47	37	18	
Stillmen, assistant (assistant operators), catalytic cracking -----	490	3.62	-	-	-	-	-	12	12	58	8	37	183	142	38	-	
Stillmen, assistant (assistant operators), cracking, other than catalytic -----	906	3.55	-	-	-	-	-	-	-	265	16	40	571	14	-	-	
Stillmen, assistant (assistant operators), straight-run -----	213	3.60	-	-	-	-	-	-	12	8	16	25	119	16	17	-	
Stillmen, assistant (assistant operators), combination units -----	73	3.77	-	-	-	-	-	-	-	-	-	4	-	32	37	-	
Stillmen's helpers (operators' helpers), catalytic cracking -----	145	3.48	-	-	-	-	-	10	-	34	31	46	-	24	-	-	
Stillmen's helpers (operators' helpers), cracking, other than catalytic -----	253	3.49	-	-	-	-	-	16	37	32	-	104	-	64	-	-	
Stillmen's helpers (operators' helpers), straight-run -----	155	3.47	-	-	-	-	-	16	-	42	8	65	-	24	-	-	
Stillmen's helpers (operators' helpers), combination units -----	127	3.55	-	-	-	-	-	-	-	-	25	94	-	8	-	-	
Treaters, light oils -----	135	3.76	-	-	-	-	-	-	-	34	4	-	-	6	45	42	
Treaters' helpers, light oils -----	70	3.71	-	-	-	-	-	-	-	-	-	12	18	16	24	-	
Inspection and testing:																	
Routine testers, laboratory -----	416	3.39	-	-	-	4	32	-	57	96	96	124	7	-	-	-	
Recording and control:																	
Stock clerks -----	154	3.47	-	-	-	1	20	10	2	24	7	46	12	-	32	-	
Material movement:																	
Truckdrivers <sup>2</sup> -----	176	3.27	-	-	-	-	4	63	16	89	4	-	-	-	-	-	
Medium (1½ to and including 4 tons) -----	84	3.23	-	-	-	-	4	45	6	25	4	-	-	-	-	-	
Truckers, power (forklift) -----	21	3.18	-	-	-	-	8	-	13	-	-	-	-	-	-	-	
Custodial:																	
Guards -----	142	3.13	2	-	8	-	26	70	27	8	1	-	-	-	-	-	
Janitors -----	179	2.80	32	10	21	80	36	-	-	-	-	-	-	-	-	-	
Watchmen -----	30	3.01	6	-	-	-	4	4	16	-	-	-	-	-	-	-	

<sup>1</sup> Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.<sup>2</sup> Includes all drivers regardless of size and type of truck operated.<sup>3</sup> Workers were distributed as follows: 15 at \$1.90 to \$2; 12 at \$2.30 to \$2.40; 3 at \$2.40 to \$2.50; 2 at \$2.50 to \$2.60.

Table 10. Occupational Earnings: Midwest II

(Distribution of workers in selected occupations in petroleum refineries by straight-time hourly earnings,<sup>1</sup> December 1965)

Department and occupation	Number of workers	Average hourly earnings <sup>1</sup>	Number of workers receiving straight-time hourly earnings <sup>1</sup> of—																
			Under \$2.50	\$2.50 and under \$2.60	\$2.60	\$2.70	\$2.80	\$2.90	\$3.00	\$3.10	\$3.20	\$3.30	\$3.40	\$3.50	\$3.60	\$3.70	\$3.80	\$3.90	\$4.00
All production workers -----	7,468	\$3.26	43	71	169	364	560	448	538	796	915	747	1066	865	293	414	64	83	32
Maintenance:																			
Carpenters -----	60	\$3.45	-	-	-	-	-	-	-	2	2	14	22	11	9	-	-	-	-
Electricians -----	105	3.47	-	-	-	-	-	3	-	3	4	9	26	50	10	-	-	-	-
Helpers, trades -----	212	3.01	-	-	-	6	18	101	24	56	7	-	-	-	-	-	-	-	-
Instrument repairmen -----	105	3.45	-	-	-	-	-	-	-	-	10	16	48	30	2	-	-	-	1
Machinists -----	122	3.49	-	-	-	-	-	-	-	-	4	2	59	57	-	-	-	-	-
Mechanics -----	99	3.38	-	-	-	-	-	3	-	3	22	14	37	20	-	-	-	-	-
Pipefitters -----	219	3.46	-	-	-	-	-	-	-	10	13	9	85	102	-	-	-	-	-
Welders, hand -----	170	3.48	-	-	-	-	-	-	-	-	17	24	53	37	39	-	-	-	-
Processing:																			
Compounders -----	29	3.35	-	-	-	-	-	-	-	8	-	4	16	1	-	-	-	-	-
Filtermen -----	13	3.45	-	-	-	-	-	-	-	-	-	-	9	4	-	-	-	-	-
Gagers -----	43	3.15	-	-	-	-	-	-	17	6	20	-	-	-	-	-	-	-	-
Laborers -----	623	2.74	26	54	121	188	234	-	-	-	-	-	-	-	-	-	-	-	-
Loaders, tank cars or trucks -----	226	3.10	-	-	-	-	9	23	101	53	28	-	9	3	-	-	-	-	-
Package fillers, machine -----	48	3.06	-	-	-	-	14	4	6	15	5	4	-	-	-	-	-	-	-
Pumpmen -----	215	3.39	-	-	-	-	-	12	2	49	29	17	36	33	15	12	-	10	-
Pumpmen's helpers -----	67	3.34	-	-	-	-	1	-	3	4	22	7	30	-	-	-	-	-	-
Stillmen (chief operators), catalytic cracking -----	125	3.70	-	-	-	-	-	-	-	-	-	-	-	26	37	49	-	5	8
Stillmen (chief operators), cracking, other than catalytic -----	233	3.68	-	-	-	-	-	-	-	-	-	16	32	12	32	116	-	25	-
Stillmen (chief operators), straight-run -----	111	3.58	-	-	-	-	-	-	-	-	-	1	40	17	24	24	-	5	-
Stillmen (chief operators), combination units -----	99	3.68	-	-	-	-	-	-	-	-	4	-	-	12	-	83	-	-	-
Stillmen, assistant (assistant operators), catalytic cracking -----	221	3.43	-	-	-	-	-	-	-	-	24	63	73	61	-	-	-	-	-
Stillmen, assistant (assistant operators), cracking, other than catalytic -----	355	3.41	-	-	-	-	-	-	-	8	82	83	120	62	-	-	-	-	-
Stillmen, assistant (assistant operators), straight-run -----	151	3.35	-	-	-	-	-	-	6	6	40	49	37	13	-	-	-	-	-
Stillmen, assistant (assistant operators), combination units -----	172	3.42	-	-	-	-	-	-	4	-	-	102	21	45	-	-	-	-	-
Stillmen's helpers (operators' helpers), catalytic cracking -----	98	3.13	-	-	-	-	-	-	29	41	28	-	-	-	-	-	-	-	-
Stillmen's helpers (operators' helpers), straight-run -----	60	3.14	-	-	-	-	-	3	22	22	5	8	-	-	-	-	-	-	-
Treaters, light oils -----	62	3.48	-	-	-	-	-	-	2	-	18	11	8	4	-	15	-	4	-
Treaters' helpers, light oils -----	24	3.27	-	-	-	-	3	-	-	-	12	3	6	-	-	-	-	-	-
Inspection and testing:																			
Routine testers, laboratory -----	319	3.27	-	-	-	1	27	56	47	83	19	59	4	-	-	-	-	-	23
Recording and control:																			
Stock clerks -----	56	3.13	-	-	-	1	18	7	9	9	9	8	4	-	-	-	-	-	-
Material movement:																			
Truckdrivers <sup>2</sup> -----	85	3.05	-	3	2	12	15	17	22	5	9	-	-	-	-	-	-	-	-
Light (under 1 1/2 tons) -----	18	3.00	-	3	2	-	-	4	9	-	-	-	-	-	-	-	-	-	-
Medium (1 1/2 to and including 4 tons) -----	51	3.03	-	-	-	12	15	9	4	2	9	-	-	-	-	-	-	-	-
Truckers power (forklift) -----	35	3.00	-	-	-	-	17	18	-	-	-	-	-	-	-	-	-	-	-
Custodial:																			
Guards -----	34	2.93	-	-	5	-	7	12	10	-	-	-	-	-	-	-	-	-	-
Janitors -----	79	2.60	14	9	8	31	17	-	-	-	-	-	-	-	-	-	-	-	-
Watchmen -----	26	2.90	-	-	8	-	-	8	10	-	-	-	-	-	-	-	-	-	-

<sup>1</sup> Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

<sup>2</sup> Includes all drivers regardless of size and type of truck operated.

<sup>3</sup> Workers were distributed as follows: 6 under \$1.70; 2 at \$2 to \$2.10; 2 at \$2.20 to \$2.30; and 4 at \$2.30 and \$2.40.

Table 11. Occupational Earnings: Texas—Louisiana Gulf Coast

(Distribution of workers in selected occupations in petroleum refineries by straight-time hourly earnings,<sup>1</sup> December 1965)

Department and occupation	Number of workers	Average hourly earnings <sup>1</sup>	Number of workers receiving straight-time hourly earnings <sup>1</sup> of—																			
			Under \$2.60	\$2.60 and under \$2.70	\$2.70	\$2.80	\$2.90	\$3.00	\$3.10	\$3.20	\$3.30	\$3.40	\$3.50	\$3.60	\$3.70	\$3.80	\$3.90	\$4.00	\$4.10	\$4.20	\$4.30 and over	
			247	408	1303	405	435	1263	645	844	956	1868	1581	6187	5331	601	1753	290	127	37	200	
All production workers	24,481	\$3.52	247	408	1303	405	435	1263	645	844	956	1868	1581	6187	5331	601	1753	290	127	37	200	
Maintenance:																						
Carpenters	430	\$3.69	-	-	-	-	-	-	-	-	-	-	-	48	225	157	-	-	-	-	-	-
Electricians	576	3.72	-	-	-	-	-	-	-	-	-	3	-	-	153	420	-	-	-	-	-	-
Helpers, trades	808	3.12	-	-	16	1	99	221	207	212	5	47	-	-	-	-	-	-	-	-	-	-
Instrument repairmen	659	3.77	-	-	-	-	-	-	-	-	-	8	-	228	227	124	2	46	14	10	-	
Machinists	1,004	3.70	-	-	-	-	-	-	-	-	-	-	99	391	514	-	-	-	-	-	-	
Mechanics	293	3.63	-	-	-	-	-	-	-	-	3	4	92	150	44	-	-	-	-	-	-	
Pipefitters	1,398	3.70	-	-	-	-	-	-	-	-	3	4	102	607	682	-	-	-	-	-	-	
Welders, hand	689	3.69	-	-	-	-	-	-	-	-	4	-	64	347	274	-	-	-	-	-	-	
Processing:																						
Compounders	91	3.70	-	-	-	-	-	-	-	-	-	13	-	-	58	20	-	-	-	-	-	
Filtermen	16	3.69	-	-	-	-	-	-	-	-	-	4	4	-	-	-	8	-	-	-	-	
Gagers	350	3.50	4	-	4	-	-	-	-	-	8	20	145	47	106	16	-	-	-	-	-	
Laborers	1,540	2.72	93	313	961	115	34	24	-	-	-	-	-	-	-	-	-	-	-	-	-	
Loaders, tank cars or trucks	143	3.38	-	-	-	-	-	20	2	13	26	52	21	9	-	-	-	-	-	-	-	
Package fillers, machine	107	3.06	-	-	-	18	36	22	7	13	-	5	-	6	-	-	-	-	-	-	-	
Pumpmen	567	3.70	-	-	-	-	-	-	-	-	12	7	269	238	-	41	-	-	-	-	-	
Pumpmen's helpers	236	3.47	-	-	-	-	-	1	-	33	25	54	123	-	-	-	-	-	-	-	-	
Stillmen (chief operators), catalytic cracking	263	3.97	-	-	-	-	-	-	-	-	-	-	-	-	16	32	175	16	16	-	8	
Stillmen (chief operators), cracking, other than catalytic	220	3.91	-	-	-	-	-	-	-	-	-	-	-	-	12	52	156	-	-	-	-	
Stillmen (chief operators), combination units	116	3.98	-	-	-	-	-	-	-	-	-	-	-	-	-	36	15	65	-	-	-	
Stillmen, assistant (assistant operators), catalytic cracking	694	3.63	-	-	8	-	-	-	-	-	66	4	28	404	180	4	-	-	-	-	-	
Stillmen, assistant (assistant operators), cracking, other than catalytic	662	3.61	-	-	-	-	-	-	-	-	92	58	60	284	168	-	-	-	-	-	-	
Stillmen, assistant (assistant operators), combination units	158	3.68	-	-	-	-	-	-	-	-	2	-	18	72	66	-	-	-	-	-	-	
Stillmen's helpers (operators' helpers), catalytic cracking	208	3.52	-	-	-	-	-	-	-	15	6	88	31	35	33	-	-	-	-	-	-	
Stillmen's helpers (operators' helpers), cracking, other than catalytic	32	3.43	-	-	-	-	-	-	-	12	-	-	20	-	-	-	-	-	-	-	-	
Stillmen's helpers (operators' helpers), straight-run	258	3.50	-	-	-	-	-	3	-	-	16	152	3	42	42	-	-	-	-	-	-	
Treaters, light oils	103	3.80	-	-	-	-	-	-	-	-	6	-	6	21	33	-	25	8	-	-	4	
Treaters' helpers, light oils	59	3.60	-	-	-	-	-	-	-	-	-	11	4	36	8	-	-	-	-	-	-	
Inspection and testing:																						
Routine testers, laboratory	1,142	3.70	-	-	-	-	-	27	20	11	77	90	119	365	108	69	59	69	70	17	41	
Recording and control:																						
Stock clerks	330	3.63	-	-	-	-	-	-	2	8	36	65	79	59	19	12	18	6	7	5	14	
Material movement:																						
Truckdrivers <sup>2</sup>	445	3.44	-	-	-	-	4	110	73	8	9	-	4	56	181	-	-	-	-	-	-	
Light (under 1½ tons)	83	3.11	-	-	-	-	4	39	36	-	-	-	4	-	-	-	-	-	-	-	-	
Medium (1½ to and including 4 tons)	69	3.22	-	-	-	-	-	22	30	8	-	-	-	9	-	-	-	-	-	-	-	
Truckers, power (forklift)	69	3.14	-	-	-	-	1	3	65	-	-	-	-	-	-	-	-	-	-	-	-	
Custodial:																						
Guards	266	3.12	17	-	-	-	10	77	26	136	-	-	-	-	-	-	-	-	-	-	-	
Janitors	290	2.75	6	53	151	61	6	13	-	-	-	-	-	-	-	-	-	-	-	-	-	

<sup>1</sup> Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

<sup>2</sup> Includes all drivers regardless of size and type of truck operated.

Table 12. Occupational Earnings: Texas Inland—North Louisiana—Arkansas

(Distribution of workers in selected occupations in petroleum refineries by straight-time hourly earnings, <sup>1</sup> December 1965)

Department and occupation	Number of workers	Average hourly earnings <sup>1</sup>	Number of workers receiving straight-time hourly earnings <sup>1</sup> of—																
			Under \$2.40	\$2.40 and under \$2.50	\$2.50	\$2.60	\$2.70	\$2.80	\$2.90	\$3.00	\$3.10	\$3.20	\$3.30	\$3.40	\$3.50	\$3.60	\$3.70	\$3.80	\$3.90 and over
All production workers .....	3,847	\$3.26	29	29	74	48	173	222	184	431	364	447	350	392	550	63	403	70	18
Maintenance:																			
Carpenters .....	27	\$3.38	-	-	-	-	-	-	-	4	3	-	4	4	12	-	-	-	-
Electricians .....	46	3.48	-	-	-	-	-	-	-	-	4	4	17	17	4	-	-	-	-
Helpers, trades .....	96	2.85	-	10	-	6	7	26	30	17	-	-	-	-	-	-	-	-	-
Instrument repairmen .....	44	3.50	-	-	-	-	-	-	-	-	-	6	3	-	28	7	-	-	-
Machinists .....	33	3.46	-	-	-	-	-	-	-	-	4	1	-	5	23	-	-	-	-
Mechanics .....	86	3.34	-	-	-	1	-	-	2	8	21	-	8	16	30	-	-	-	-
Pipefitters .....	84	3.29	-	-	-	-	-	8	-	14	15	2	5	10	30	-	-	-	-
Welders, hand .....	70	3.38	-	-	-	-	-	-	2	10	12	3	-	8	25	10	-	-	-
Processing:																			
Gagers .....	39	3.35	-	-	-	-	-	4	-	10	-	-	-	-	24	1	-	-	-
Laborers .....	112	2.72	8	13	5	-	50	18	17	1	-	-	-	-	-	-	-	-	-
Loaders, tank cars or trucks .....	131	3.04	-	-	-	12	-	39	5	14	20	25	14	2	-	-	-	-	-
Pumpmen .....	91	3.29	-	-	-	-	-	16	-	-	28	1	18	8	-	7	-	13	-
Stillmen (chief operators), cracking, other than catalytic .....	105	3.66	-	-	-	-	-	-	-	8	-	-	-	16	5	-	48	28	-
Stillmen (chief operators), straight-run .....	52	3.51	-	-	-	-	-	-	-	8	-	-	-	-	29	-	15	-	-
Stillmen (chief operators), combination units .....	120	3.65	-	-	-	-	-	-	-	-	-	-	6	24	35	-	23	16	<sup>2</sup> 16
Stillmen, assistant (assistant operators), cracking, other than catalytic .....	121	3.39	-	-	-	-	-	-	-	3	5	34	1	58	17	3	-	-	-
Stillmen, assistant (assistant operators), straight-run .....	54	3.38	-	-	-	-	-	-	-	-	5	-	24	14	9	2	-	-	-
Stillmen's helpers (operators' helpers), catalytic cracking .....	49	3.02	-	-	-	-	10	-	-	19	20	-	-	-	-	-	-	-	-
Stillmen's helpers (operators' helpers), combination units .....	85	3.20	-	-	-	-	1	-	-	-	38	30	16	-	-	-	-	-	-
Treaters, light oils .....	48	3.41	-	-	-	-	-	2	-	4	12	12	4	-	5	5	4	-	-
Inspection and testing:																			
Routine testers, laboratory .....	150	3.13	-	-	-	-	13	12	6	31	30	27	13	8	10	-	-	-	-
Recording and control:																			
Stock clerks .....	27	3.16	-	-	-	-	-	-	4	4	5	12	-	-	2	-	-	-	-
Material movement:																			
Truckdrivers <sup>3</sup> .....	92	3.04	-	-	1	4	4	2	12	49	13	4	1	-	-	2	-	-	-
Light (under 1½ tons) .....	6	2.64	-	-	1	4	-	1	-	-	-	-	-	-	-	-	-	-	-
Medium (1½ to and including 4 tons) .....	38	2.99	-	-	-	-	4	1	8	25	-	-	-	-	-	-	-	-	-
Heavy (over 4 tons, other than trailer type) .....	17	3.12	-	-	-	-	-	-	4	-	13	-	-	-	-	-	-	-	-
Custodial:																			
Guards .....	33	2.76	-	-	16	4	-	-	13	-	-	-	-	-	-	-	-	-	-
Janitors .....	27	2.50	<sup>4</sup> 9	-	9	1	8	-	-	-	-	-	-	-	-	-	-	-	-

<sup>1</sup> Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.<sup>2</sup> All workers were at \$4 to \$4.10.<sup>3</sup> Includes all drivers regardless of size and type of truck operated.<sup>4</sup> Workers were distributed as follows: 2 at \$1.60 to \$1.70; and 7 at \$2.30 to \$2.40.

Table 13. Occupational Earnings: Rocky Mountain

(Distribution of workers in selected occupations in petroleum refineries by straight-time hourly earnings, <sup>1</sup> December 1965)

Department and occupation	Number of workers	Average hourly earnings <sup>1</sup>	Number of workers receiving straight-time hourly earnings <sup>1</sup> of—																
			Under \$2.50	\$2.50 and under \$2.60	\$2.60 \$2.70	\$2.70 \$2.80	\$2.80 \$2.90	\$2.90 \$3.00	\$3.00 \$3.10	\$3.10 \$3.20	\$3.20 \$3.30	\$3.30 \$3.40	\$3.40 \$3.50	\$3.50 \$3.60	\$3.60 \$3.70	\$3.70 \$3.80	\$3.80 \$3.90	\$3.90 and over	
All production workers .....	2,066	\$ 3.39	24	11	37	28	85	49	55	114	184	139	477	389	136	199	135	4	
Maintenance:																			
Carpenters .....	19	\$ 3.55	-	-	-	-	-	-	-	-	-	-	8	4	1	6	-	-	-
Electricians .....	39	3.51	-	-	-	-	-	-	-	-	-	-	18	14	1	6	-	-	-
Helpers, trades .....	52	3.16	-	-	-	-	2	-	6	22	22	-	-	-	-	-	-	-	-
Instrument repairmen .....	54	3.54	-	-	-	-	-	-	-	-	-	-	20	19	3	12	-	-	-
Machinists .....	29	3.60	-	-	-	-	-	-	-	-	-	-	2	15	-	12	-	-	-
Mechanics .....	55	3.51	-	-	-	-	-	-	-	-	-	-	28	15	3	9	-	-	-
Pipefitters .....	107	3.53	-	-	-	-	-	-	-	-	-	-	52	23	5	27	-	-	-
Welders, hand .....	78	3.58	-	-	-	-	-	-	-	-	-	-	18	25	5	30	-	-	-
Processing:																			
Compounders .....	8	3.38	-	-	-	-	-	-	-	-	-	4	4	-	-	-	-	-	-
Laborers .....	115	2.73	9	9	32	12	39	14	-	-	-	-	-	-	-	-	-	-	-
Loaders, tank cars or trucks .....	72	3.30	-	-	-	-	-	-	3	12	23	23	4	7	-	-	-	-	-
Pumpmen .....	73	3.43	-	-	-	-	-	-	-	12	-	9	36	2	10	4	-	-	-
Stillmen (chief operators), catalytic cracking .....	49	3.79	-	-	-	-	-	-	-	-	-	-	-	-	-	22	27	-	-
Stillmen (chief operators), combination units .....	27	3.66	-	-	-	-	-	-	-	-	-	8	-	-	8	-	8	-	-
Stillmen, assistant (assistant operators), catalytic cracking .....	110	3.50	-	-	-	-	-	-	-	-	-	-	48	52	10	-	-	-	-
Stillmen, assistant (assistant operators), straight-run .....	112	3.49	-	-	-	-	-	-	-	-	8	-	48	56	-	-	-	-	-
Stillmen, assistant (assistant operators), combination units .....	39	3.55	-	-	-	-	-	-	-	-	-	-	17	8	14	-	-	-	-
Inspection and testing:																			
Routine testers, laboratory .....	112	3.18	-	-	-	-	15	6	20	19	18	12	19	-	3	-	-	-	-
Recording and control:																			
Stock clerks .....	14	3.16	-	-	-	-	3	-	2	3	3	1	-	-	2	-	-	-	-
Material movement:																			
Truckdrivers <sup>2</sup> .....	30	3.15	-	-	-	-	-	5	-	20	1	1	-	3	-	-	-	-	-
Light (under 1½ tons) .....	9	3.08	-	-	-	-	-	4	-	4	1	-	-	-	-	-	-	-	-
Medium (1½ to and including 4 tons) .....	20	3.18	-	-	-	-	-	1	-	16	-	-	-	3	-	-	-	-	-
Custodial:																			
Janitors .....	17	2.54	3	2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-

<sup>1</sup> Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

<sup>2</sup> Includes all drivers regardless of size and type of truck operated.

<sup>3</sup> Workers were distributed as follows: 3 at \$2 to \$2.10; and 1 at \$2.20 to \$2.30.

Table 14. Occupational Earnings: West Coast

(Distribution of workers in selected occupations in petroleum refineries by straight-time hourly earnings,<sup>1</sup> December 1965)

Department and occupation	Number of workers	Average hourly earnings <sup>1</sup>	Number of workers receiving straight-time hourly earnings <sup>1</sup> of—													
			Under \$ 2.70	\$ 2.70 and under \$ 2.80	\$ 2.80	\$ 2.90	\$ 3.00	\$ 3.10	\$ 3.20	\$ 3.30	\$ 3.40	\$ 3.50	\$ 3.60	\$ 3.70	\$ 3.80	\$ 3.90 and over
All production workers .....	9,766	\$ 3.44	19	202	103	686	458	515	1,162	815	820	1,988	740	1,650	495	113
Maintenance:																
Carpenters .....	143	\$ 3.64	-	-	-	-	-	-	-	-	-	69	16	58	-	-
Electricians .....	163	3.69	-	-	-	-	-	-	-	-	-	24	34	105	-	-
Helpers, trades .....	255	3.00	-	-	-	188	52	-	15	-	-	-	-	-	-	-
Instrument repairmen .....	274	3.63	-	-	-	-	-	-	-	-	-	154	30	90	-	-
Machinists .....	417	3.68	-	-	-	-	-	-	-	-	-	86	92	239	-	-
Pipefitters .....	537	3.64	-	-	-	-	-	-	-	-	-	252	90	195	-	-
Welders, hand .....	181	3.65	-	-	-	-	-	-	-	-	-	72	36	73	-	-
Processing:																
Compunders .....	9	3.39	-	-	-	-	-	-	4	-	3	2	-	-	-	-
Laborers .....	95	2.78	<sup>2</sup> 10	65	-	20	-	-	-	-	-	-	-	-	-	-
Loaders, tank cars or trucks .....	64	3.15	-	-	-	-	-	10	48	-	6	-	-	-	-	-
Package fillers, machine .....	59	2.99	-	-	4	5	50	-	-	-	-	-	-	-	-	-
Pumpmen .....	54	3.31	-	-	-	-	-	-	34	8	12	-	-	-	-	-
Pumpmen's helpers .....	87	3.18	-	-	-	-	19	20	48	-	-	-	-	-	-	-
Stillmen (chief operators), catalytic cracking .....	43	3.85	-	-	-	-	-	-	-	-	-	-	-	22	8	13
Stillmen (chief operators), cracking, other than catalytic .....	60	3.83	-	-	-	-	-	-	-	-	-	-	-	23	37	-
Stillmen (chief operators), straight-run .....	31	3.81	-	-	-	-	-	-	-	-	-	-	-	23	8	-
Stillmen (chief operators), combination units .....	121	3.82	-	-	-	-	-	-	-	-	-	-	-	51	66	-
Stillmen, assistant (assistant operators), catalytic cracking .....	117	3.49	-	-	-	-	-	-	8	17	53	17	22	-	-	-
Stillmen, assistant (assistant operators), cracking, other than catalytic .....	144	3.40	-	-	-	-	-	-	79	12	22	-	31	-	-	-
Stillmen, assistant (assistant operators), straight-run .....	125	3.47	-	-	-	-	-	-	6	34	40	29	16	-	-	-
Stillmen, assistant (assistant operators), combination units .....	457	3.52	-	-	-	-	-	-	-	-	304	-	153	-	-	-
Stillmen's helpers (operators' helpers), straight-run .....	28	3.28	-	-	-	-	-	8	13	-	7	-	-	-	-	-
Stillmen's helpers (operators' helpers), combination units .....	205	3.33	-	-	-	-	-	-	70	105	30	-	-	-	-	-
Treaters, light oils .....	47	3.55	-	-	-	-	-	-	12	-	30	12	13	10	-	-
Inspection and testing:																
Routine testers, laboratory .....	206	3.29	-	-	-	-	-	40	56	110	-	-	-	-	-	-
Recording and control:																
Stock clerks .....	25	3.24	-	-	-	4	-	-	5	16	-	-	-	-	-	-
Material movement:																
Truckdrivers <sup>3</sup> .....	324	3.12	-	-	-	145	14	-	58	104	2	-	1	-	-	-
Medium (1½ to and including 4 tons) .....	50	3.19	-	-	-	-	14	34	-	2	-	-	-	-	-	-
Heavy (over 4 tons, other than trailer type) .....	49	3.29	-	-	-	-	-	-	11	37	-	-	1	-	-	-
Truckers, power (forklift) .....	50	3.01	-	-	-	2	48	-	-	-	-	-	-	-	-	-
Custodial:																
Janitors .....	68	2.81	-	36	12	20	-	-	-	-	-	-	-	-	-	-

<sup>1</sup> Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.<sup>2</sup> All workers were at \$ 2.60 to \$ 2.70.<sup>3</sup> Includes all drivers regardless of size and type of truck operated.

Table 15. Method of Wage Payment

(Percent of production workers in petroleum refineries by method of wage payment,<sup>1</sup> United States and regions, December 1965)

Method of wage payment <sup>1</sup>	United States	East Coast	Western Pennsylvania—West Virginia	Midwest I	Midwest II	Texas—Louisiana Gulf Coast	Texas Inland—North Louisiana—Arkansas	Rocky Mountain	West Coast
All workers .....	100	100	100	100	100	100	100	100	100
Time-rate workers .....	100	100	100	100	100	100	100	100	100
Formal plans .....	99	100	99	100	100	99	99	100	91
Single rate .....	96	95	90	99	97	99	86	100	91
Range of rates .....	2	5	10	1	3	1	14	-	-
Individual rates .....	1	-	( <sup>2</sup> )	-	-	( <sup>2</sup> )	( <sup>2</sup> )	-	9

<sup>1</sup> For definition of methods of wage payment, see appendix A.

<sup>2</sup> Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals.

Table 16. Scheduled Weekly Hours

(Percent of production workers in petroleum refineries by scheduled weekly hours,<sup>1</sup> United States and regions, December 1965)

Weekly hours	United States	East Coast	Western Pennsylvania—West Virginia	Midwest I	Midwest II	Texas—Louisiana Gulf Coast	Texas Inland—North Louisiana—Arkansas	Rocky Mountain	West Coast
All workers .....	100	100	100	100	100	100	100	100	100
40 hours .....	98	100	100	90	100	100	100	100	100
42 hours .....	2	-	-	10	-	-	-	-	-

<sup>1</sup> Data relate to the predominant work schedule of full-time day-shift workers in each establishment.

Table 17. Shift Differential Practices

(Percent of production workers assigned to rotating shifts<sup>1</sup> in petroleum refineries by amount of shift differential, United States and regions, December 1965)

Shift differentials	United States			East Coast			Western Pennsylvania— West Virginia			Midwest I			Midwest II			Texas— Louisiana Gulf Coast			Texas Inland— North Louisiana— Arkansas			Rocky Mountain			West Coast					
	Schedules—																													
	Day	Eve- ning	Night	Day	Eve- ning	Night	Day	Eve- ning	Night	Day	Eve- ning	Night	Day	Eve- ning	Night	Day	Eve- ning	Night	Day	Eve- ning	Night	Day	Eve- ning	Night	Day	Eve- ning	Night	Day	Eve- ning	Night
Workers assigned to rotating shifts	16.1	16.1	16.0	16.2	16.2	15.9	12.8	12.7	12.6	16.3	16.3	16.3	16.5	16.1	16.1	15.6	15.6	15.5	15.8	15.8	15.8	17.5	17.5	17.5	17.4	17.4	17.4	17.4	17.4	17.4
Receiving shift differential	1.3	15.8	15.8	-	16.2	15.9	-	11.5	11.4	.8	16.0	16.0	.3	16.1	16.1	3.4	15.2	15.0	-	15.8	15.8	-	17.5	17.5	-	17.4	17.4	-	17.4	17.4
Uniform cents per hour	.2	14.5	14.6	-	16.2	15.9	-	11.5	11.4	.8	16.0	16.0	.3	16.1	16.1	-	11.3	11.6	-	15.8	15.8	-	17.5	17.5	-	17.4	17.4	-	17.4	17.4
8 cents	.2	14.2	.2	-	16.2	-	-	11.5	-	.8	16.0	.8	.3	16.1	1.1	-	10.3	-	-	15.0	-	-	17.5	-	-	17.4	-	-	-	-
9 cents	-	.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.3	-	-	.8	-	-	-	-	-	-	-	-	-	-
13 cents	-	.2	.2	-	-	-	-	-	-	-	-	-	-	-	-	-	.7	.7	-	-	-	-	-	-	-	-	-	-	-	-
15 cents	-	-	.1	-	-	-	-	-	2.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16 cents	-	-	14.0	-	-	15.9	-	-	8.5	-	-	15.2	-	-	15.0	-	-	10.7	-	-	15.0	-	-	17.5	-	-	17.4	-	-	17.4
18 cents	-	-	.1	-	-	-	-	-	-	-	-	-	-	-	-	-	.3	-	-	.8	-	-	-	-	-	-	-	-	-	-
Uniform percentage	1.1	1.1	1.1	-	-	-	-	-	-	-	-	-	-	-	-	3.4	3.4	3.4	-	-	-	-	-	-	-	-	-	-	-	-
5 percent	1.1	1.1	1.1	-	-	-	-	-	-	-	-	-	-	-	-	3.4	3.4	3.4	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.5	-	-	-	-	-	-	-	-	-	-	-	-	-

<sup>1</sup> Workers assigned to rotating shifts successively worked on the day, evening, and night schedules. Workers employed on fixed extra shifts accounted for less than 2 percent of the labor force.

NOTE: Because of rounding, sums of individual items may not equal totals.

Table 18. Paid Holidays

(Percent of production workers in petroleum refineries with formal provisions for paid holidays, United States and regions, December 1965)

Number of paid holidays	United States	East Coast	Western Pennsylvania— West Virginia	Midwest I	Midwest II	Texas— Louisiana Gulf Coast	Texas Inland— North Louisiana— Arkansas	Rocky Mountain	West Coast
All workers	100	100	100	100	100	100	100	100	100
Workers in establishments providing paid holidays	100	100	100	100	100	100	100	100	100
7 days	1	-	-	2	8	-	-	-	-
8 days	92	67	100	93	88	99	93	100	100
9 days	2	-	-	5	4	1	7	-	-
9 days plus 1 half day	1	7	-	-	-	-	-	-	-
10 days	2	11	-	-	-	-	-	-	-
12 days	2	15	-	-	-	-	-	-	-

Table 19. Paid Vacations

(Percent of production workers in petroleum refineries with formal provisions for paid vacations after selected periods of service, United States and regions, December 1965)

Vacation policy	United States	East Coast	Western Pennsylvania- West Virginia	Midwest I	Midwest II	Texas- Louisiana Gulf Coast	Texas Inland- North Louisiana- Arkansas	Rocky Mountain	West Coast
All workers-----	100	100	100	100	100	100	100	100	100
<u>Method of payment</u>									
Workers in establishments providing paid vacations-----	100	100	100	100	100	100	100	100	100
Length-of-time payment-----	96	79	100	97	100	100	100	100	100
Percentage payment-----	1	-	-	3	-	-	-	-	-
Other-----	3	21	-	-	-	-	-	-	-
<u>Amount of vacation pay<sup>1</sup></u>									
<u>After 1 year of service</u>									
1 week-----	8	6	84	5	21	-	26	7	-
Over 1 and under 2 weeks-----	1	-	-	-	8	-	-	-	-
2 weeks-----	92	94	16	95	71	100	74	93	100
<u>After 2 years of service</u>									
1 week-----	2	-	46	5	-	-	-	-	-
Over 1 and under 2 weeks-----	(2)	-	-	-	4	-	-	-	-
2 weeks-----	97	100	54	95	92	100	100	100	100
Over 2 and under 3 weeks-----	(2)	-	-	-	4	-	-	-	-
<u>After 5 years of service</u>									
Over 1 and under 2 weeks-----	(2)	-	-	-	4	-	-	-	-
2 weeks-----	15	6	100	16	9	15	27	46	-
Over 2 and under 3 weeks-----	(2)	-	-	-	4	-	-	-	-
3 weeks-----	84	94	-	84	83	85	73	54	100
<u>After 10 years of service</u>									
Over 1 and under 2 weeks-----	(2)	-	-	-	4	-	-	-	-
2 weeks-----	2	-	56	-	-	-	-	-	-
Over 2 and under 3 weeks-----	(2)	-	-	-	4	-	-	-	-
3 weeks-----	14	6	44	16	9	17	27	46	-
4 weeks-----	84	94	-	84	83	83	73	54	100
<u>After 15 years of service</u>									
3 weeks-----	13	6	100	13	9	10	20	46	-
4 weeks-----	87	94	-	87	91	90	80	54	100
<u>After 20 years of service</u>									
3 weeks-----	2	-	62	-	-	1	4	-	-
4 weeks-----	11	6	38	13	9	10	16	46	-
5 weeks-----	87	94	-	87	91	89	80	54	100
<u>After 25 years of service</u>									
3 weeks-----	1	-	-	-	-	1	4	-	-
4 weeks-----	7	-	100	5	9	1	16	29	-
5 weeks-----	93	100	-	95	91	97	80	71	100

<sup>1</sup> Vacation payments, such as percent of annual earnings, were converted to an equivalent time basis. Periods of service were arbitrarily chosen and do not necessarily reflect the individual establishment provisions for progressions. For example, the changes in proportions indicated at 10 years may include changes occurring between 5 and 10 years.

<sup>2</sup> Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals.

Table 20. Health, Insurance, and Retirement Plans

(Percent of production workers in petroleum refineries with specified health, insurance, and retirement plans, United States and regions, December 1965)

Type of plan <sup>1</sup>	United States	East Coast	Western Pennsylvania—West Virginia	Midwest I	Midwest II	Texas—Louisiana Gulf Coast	Texas Inland—North Louisiana—Arkansas	Rocky Mountain	West Coast
All workers .....	100	100	100	100	100	100	100	100	100
Workers in establishments providing:									
Life insurance .....	99	100	100	100	100	100	94	100	100
Employer financed .....	29	23	57	32	35	14	36	39	49
Jointly financed .....	71	77	43	68	65	86	58	61	51
Accidental death and dismemberment insurance .....	52	27	80	44	53	62	75	51	49
Employer financed .....	19	7	41	17	14	25	36	27	7
Jointly financed .....	33	20	39	27	39	36	40	24	42
Sickness and accident insurance on sick leave or both <sup>2</sup> .....	98	100	90	100	100	97	89	93	100
Sickness and accident insurance .....	26	51	77	19	22	25	21	12	5
Employer financed .....	21	51	51	9	11	20	21	7	5
Jointly financed .....	5	-	25	11	11	5	-	5	-
Sick leave (full pay, no waiting period) .....	65	65	-	62	82	62	39	81	86
Sick leave (partial pay or waiting period) .....	27	29	85	34	17	26	50	12	9
Hospitalization insurance .....	100	100	100	100	100	100	100	100	100
Employer financed .....	10	8	20	14	-	-	27	-	34
Jointly financed .....	90	92	80	86	100	100	73	100	66
Surgical insurance .....	93	100	100	100	100	79	100	100	100
Employer financed .....	10	8	20	14	-	-	27	-	34
Jointly financed .....	83	92	80	86	100	79	73	100	66
Medical insurance .....	91	100	69	98	100	77	100	100	100
Employer financed .....	10	8	20	14	-	-	27	-	34
Jointly financed .....	81	92	49	84	100	77	73	100	66
Catastrophe insurance .....	72	43	46	81	100	69	93	100	66
Employer financed .....	4	1	12	9	-	3	20	-	-
Jointly financed .....	67	42	34	72	100	66	73	100	66
Retirement plans:									
Pensions .....	99	100	95	100	100	100	98	100	100
Employer financed .....	31	23	47	22	19	50	28	8	16
Jointly financed .....	69	77	48	78	81	50	70	92	84
Lump-sum payments .....	-	-	-	-	-	-	-	-	-

<sup>1</sup> Includes only those plans for which at least part of the cost is borne by the employer and excludes legally required plans such as workmen's compensation and social security; however, plans required by State temporary disability insurance laws are included if the employer contributes more than is legally required or the employees receive benefits in excess of the legal requirements.

<sup>2</sup> Unduplicated total of workers receiving sick leave or sickness and accident insurance shown separately.

NOTE: Because of rounding, sums of individual items may not equal totals.

Table 21. Other Selected Benefits

(Percent of production workers in petroleum refineries providing funeral leave pay, jury duty pay, severance pay, and thrift or savings plans, United States and regions, December 1965)

Item	United States	East Coast	Western Pennsylvania- West Virginia	Midwest I	Midwest II	Texas- Louisiana- Gulf Coast	Texas Inland- North Louisiana- Arkansas	Rocky Mountain	West Coast
Workers in establishments with provisions for:									
Funeral leave pay .....	99	100	100	100	92	100	96	100	100
Jury duty pay .....	100	100	100	100	100	100	100	100	100
Severance pay <sup>1</sup> .....	70	41	10	84	79	69	67	79	93
Thrift or savings plans <sup>2</sup> .....	78	73	-	85	71	96	59	58	60

<sup>1</sup> Pay to employees permanently separated from the company through no fault of their own.

<sup>2</sup> Includes only those plans to which the employer makes monetary contributions beyond administrative costs.

## Appendix A. Scope and Method of Survey

### Scope of Survey

The survey includes establishments primarily engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, and other products from crude petroleum, and its fractionation products either through straight distillation of crude oil, redistillation of unfinished petroleum derivatives, cracking or other processes. (Industry 2911 as defined in the 1957 edition of the Standard Industrial Classification Manual and 1963 Supplement, prepared by the U.S. Bureau of the Budget). Separate auxiliary units such as central offices and research laboratories are excluded.

The establishments studied were selected from those employing 100 workers or more at the time of reference of the data used in compiling the universe lists (unemployment insurance listings compiled by the various States).

The number of establishments and workers actually studied by the Bureau, as well as the number estimated to be within scope of the survey during the payroll period studied, are shown in the following table:

Estimated Number of Establishments and Workers Within Scope of Survey and Number Studied,  
Petroleum Refining Industry, December 1965

Region <sup>1</sup>	Number of establishments		Workers in establishments		
	Within scope of study <sup>2</sup>	Studied	Within scope of study		Studied
			Total <sup>3</sup>	Production workers	
United States -----	186	110	99,984	73,318	75,241
East Coast -----	19	12	15,023	11,066	13,184
Western Pennsylvania					
West Virginia -----	13	10	2,834	1,983	2,315
Midwest I -----	35	19	17,484	12,641	12,897
Midwest II -----	31	18	9,656	7,468	7,222
Texas-Louisiana Gulf Coast -----	33	19	33,334	24,481	23,622
Texas Inland-North Louisiana-----					
Arkansas -----	19	12	4,994	3,847	3,818
Rocky Mountain -----	15	9	2,922	2,066	1,760
West Coast -----	21	11	13,737	9,766	10,423

<sup>1</sup> The regions used in this study include: East Coast—Connecticut, Delaware, District of Columbia, Florida, Georgia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Rhode Island, South Carolina, Vermont, Virginia, and the following counties in Pennsylvania: Bradford, Columbia, Dauphin, Montour, Northumberland, Sullivan, York, and all counties east thereof; Western Pennsylvania-West Virginia—West Virginia and those counties in Pennsylvania not included in the East Coast region; Midwest I—Illinois, Indiana, Kentucky, Michigan, Ohio, and Tennessee; Midwest II—Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, Oklahoma, South Dakota, and Wisconsin; Texas-Louisiana Gulf Coast—the following counties in Texas: Aransas, Brazoria, Calhoun, Cameron, Chambers, Fort Bend, Galveston, Hardin, Harris, Jackson, Jasper, Jefferson, Kenedy, Kleberg, Liberty, Matagorda, Montgomery, Newton, Nueces, Orange, Polk, Refugio, San Jacinto, San Patricio, Tyler, Victoria, Waller, Wharton, and Willacy; the following parishes in Louisiana: Avoyelles, East Feliciana, Pointe Coupee, Tangipahoa, Vernon, Rapides, Washington, and West Feliciana, and all parishes south thereof; the following counties in Mississippi: George, Hancock, Harrison, Jackson, Pearl River, and Stone; and the following counties in Alabama: Baldwin and Mobile; Texas Inland-North Louisiana-Arkansas—Arkansas and New Mexico and those parts of the States of Alabama, Louisiana, Mississippi, and Texas not included in the Texas-Louisiana Gulf Coast; Rocky Mountain—Colorado, Idaho, Montana, Utah, and Wyoming; and West Coast—Arizona, California, Nevada, Oregon, and Washington. Alaska and Hawaii were excluded from the survey.

<sup>2</sup> Includes only establishments with 100 workers or more at the time of reference of the universe data.

<sup>3</sup> Includes executive, professional, office clerical, and other workers excluded from the production worker category shown separately.

### Method of Study

Data were obtained by personal visits of Bureau field economists under the direction of the Bureau's Assistant Regional Directors for Wages and Industrial Relations. The survey was conducted on a sample basis. To obtain appropriate accuracy at minimum cost, a greater proportion of large than of small establishments was studied. In combining the data, however, all establishments were given their appropriate weight. All estimates are presented, therefore, as relating to all establishments in the industry, excluding only those below the minimum size at the time of reference of the universe data.

### Establishment Definition

An establishment, for purposes of this study, is defined as a single physical location where industrial operations are performed. An establishment is not necessarily identical with the company, which may consist of one or more establishments. The terms "establishment" and "refinery" have been used interchangeably in this report.

### Employment

The estimates of the number of workers within the scope of the study are intended as a general guide to the size and composition of the labor force included in the survey. The advance planning necessary to make a wage survey requires the use of lists of establishments assembled considerably in advance of the payroll period studied.

### Production Workers

The term "production workers," as used in this report, includes working foremen and all nonsupervisory workers engaged in nonoffice functions. Administrative, executive, professional, and technical personnel, and force-account construction employees, who were utilized as a separate work force on the firm's own properties, were excluded.

### Occupations Selected for Study

Occupational classification was based on a uniform set of job descriptions designed to take account of interestablishment and interarea variations in duties within the same job. (See appendix B for these descriptions.) The occupations were chosen for their numerical importance, their usefulness in collective bargaining, or their representativeness of the entire job scale in the industry. Working supervisors, apprentices, learners, beginners, trainees, handicapped, part-time, temporary, and probationary workers were not reported in the data for selected occupations but were included in the data for all production workers.

### Wage Data

The wage information relates to average straight-time hourly earnings, excluding premium pay for overtime and for work on weekends, holidays, and late shifts. Cost-of-living bonuses were included as a part of the worker's regular pay; but nonproduction bonus payments such as Christmas or year-end bonuses were excluded.

Average (mean) hourly rates or earnings for each occupation or other group of workers, such as production workers, were calculated by weighting each rate (or hourly earnings) by the number of workers receiving the rate, totaling, and dividing by the number of individuals. The hourly earnings of salaried workers were obtained by dividing their straight-time salary by normal rather than actual hours.

### Size of Community

Tabulations by size of community pertain to metropolitan and nonmetropolitan areas. The term "metropolitan areas," as used in this bulletin, refers to the Standard Metropolitan Statistical Areas as defined by the U. S. Bureau of the Budget through March 1965.

Except in New England, a Standard Metropolitan Statistical Area is defined as a county or group of contiguous counties which contain at least one city of 50,000 inhabitants or more. Contiguous counties to the one containing such a city are included in a Standard Metropolitan Statistical Area, if, according to certain criteria, they are essentially metropolitan in character and are socially and economically integrated with the central city. In New England, where the city and town are administratively more important than the county, they are the units used in defining Standard Metropolitan Statistical Areas.

### Method of Wage Payment

Tabulations by method of wage payment relate to the number of workers paid under the various wage systems. Formal rate structures for time-rated workers provide single rates or a range of rates for individual job categories. In the absence of a formal rate structure, pay rates are determined primarily with reference to the qualifications of the individual worker. A single rate structure is one in which the same rate is paid to all experienced workers in the same job classification. Learners, apprentices, or probationary workers may be paid according to rate schedules which start below the single rate and permit the workers to achieve the full job rate over a period of time. Individual experienced workers may occasionally be paid above or below the single rate for special reasons, but such payments are regarded as exceptions. Range-of-rate plans are those in which the minimum and/or maximum rates paid experienced workers for the same job are specified. Specific rates of individual workers within the range may be determined by merit, length of service, or a combination of various concepts of merit and length of service.

### Scheduled Weekly Hours

Data on weekly hours refer to the predominant work schedule for full-time production workers employed on the day shift.

### Shift Practices

Data relate to shift practices of establishments during the payroll period studied, and are presented in terms of the proportion of production workers actually employed under the conditions specified. Workers assigned to rotating shifts variously work on day, evening, and night shifts and workers assigned to fixed shifts regularly work on their assigned shift.

### Supplementary Wage Provisions

Supplementary benefits were treated statistically on the basis that if formal provisions were applicable to half or more of the production workers in an establishment, the benefits were considered applicable to all such workers. Similarly, if fewer than half of the workers were covered, the benefit was considered nonexistent in the establishment. Because of length-of-service and other eligibility requirements, the proportion of workers receiving the benefits may be smaller than estimated.

Paid Holidays. Paid holiday provisions relate to full-day and half-day holidays provided annually.

Paid Vacations. The summary of vacation plans is limited to formal arrangements, excluding informal plans whereby time off with pay is granted at the discretion of the employer or the supervisor. Payments not on a time basis were converted; for example, a payment of 2 percent of annual earnings was considered the equivalent of 1 week's pay. The periods of service for which data are presented were selected as representative of the most common practices, but they do not necessarily reflect individual establishment provisions for progression. For example, the changes in proportions indicated at 10 years of service may include changes which occurred between 5 and 10 years.

Health, Insurance, and Retirement Plans. Data are presented for health, insurance, and retirement plans for which all or a part of the cost is borne by the employer, excluding programs required by law, such as workmen's compensation and social security. Among the plans included are those underwritten by a commercial insurance company and those paid directly by the employer from his current operating funds or from a fund set aside for this purpose.

Death benefits are included as a form of life insurance. Sickness and accident insurance is limited to that type of insurance under which predetermined cash payments are made directly to the insured on a weekly or monthly basis during illness or accident disability.

Information is presented for all such plans to which the employer contributes at least a part of the cost. However, in New York and New Jersey, where temporary disability insurance laws require employer contributions,<sup>10</sup> plans are included only if the employer (1) contributes more than is legally required or (2) provides the employees with benefits which exceed the requirements of the law.

Tabulations of paid sick leave plans are limited to formal plans which provide full pay or a proportion of the worker's pay during absence from work because of illness; informal arrangements have been omitted. Separate tabulations are provided according to (1) plans which provide full pay and no waiting period, and (2) plans providing either partial pay or a waiting period.

Medical insurance refers to plans providing for complete or partial payment of doctors' fees. Such plans may be underwritten by a commercial insurance company or a nonprofit organization, or they may be self-insured.

Catastrophe insurance, sometimes referred to as extended medical insurance, includes the plans designed to cover employees in case of sickness or injury involving an expense which goes beyond the normal coverage of hospitalization, medical, and surgical plans.

Tabulations of retirement pensions are limited to plans which provide, upon retirement, regular payments for the remainder of the worker's life. Data are presented separately for lump-sum retirement pay (one payment or a specified number over a period of time) made to employees upon retirement. Establishments providing both lump-sum payments and pensions to employees upon retirement were considered as having both retirement pension and lump-sum retirement pay. Establishments having optional plans providing employees a choice of either lump-sum retirement payments or pensions were considered as having only retirement pension benefits.

Paid Funeral and Jury Duty Leave. Data for paid funeral and jury duty leave are limited to formal plans which provide at least partial payment for time lost as a result of attending funerals of specified family members or serving as a juror.

Severance Pay. Data relate to formal plans providing for payments to employees permanently separated from the company through no fault of their own.

Thrift or Savings Plans. Thrift or savings plans are limited to those to which the employer made monetary contributions, beyond administrative costs.

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<sup>10</sup> The temporary disability insurance laws in California and Rhode Island do not require employer contributions.

## Appendix B. Occupational Descriptions

The primary purpose of preparing job descriptions for the Bureau's wage surveys is to assist its field staff in classifying into appropriate occupations workers who are employed under a variety of payroll titles and different work arrangements from establishment to establishment and area to area. This permits the grouping of occupational wage rates representing comparable job content. Because of this emphasis on interestablishment and interarea comparability of occupational content, the Bureau's job descriptions may differ significantly from those in use in individual establishments or those prepared for other purposes. In applying these job descriptions, the Bureau's field economists are instructed to exclude working supervisors, apprentices, learners, beginners, trainees, handicapped, part-time, temporary, and probationary workers.

### CARPENTER, MAINTENANCE

Performs the carpentry duties necessary to construct and maintain in good repair building woodwork and equipment such as bins, cribs, counters, benches, partitions, doors, floors, stairs, casings, and trim made of wood in an establishment. Work involves most of the following: Planning and laying out of work from blueprints, drawings, models, or verbal instructions; using a variety of carpenter's handtools, portable power tools, and standard measuring instruments; making standard shop computations relating to dimensions of work; and selecting materials necessary for the work. In general, the work of the maintenance carpenter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

### COMPOUNDER

(Blender)

Blends or compounds various lubricating oils and/or greases according to specifications. Work involves most of the following: Ascertaining location of various oils to be compounded and pumping or arranging for pumpman to transfer oils to proper lines; regulating valves to admit specified quantities of various ingredients to mixing tank, following prescribed formulas; setting air and heat controls on kettles and tanks as necessary; and maintaining record of composition, quantities of components used, density, and/or other pertinent information. May make simple control tests to determine whether products meet specifications. May also blend new mixtures of oils and submit them to laboratory for analysis.

### ELECTRICIAN, MAINTENANCE

Performs a variety of electrical trade functions such as the installation, maintenance, or repair of equipment for the generation, distribution, or utilization of electric energy in an establishment. Work involves most of the following: Installing or repairing any of a variety of electrical equipment such as generators, transformers, switchboards, controllers, circuit breakers, motors, heating units, conduit systems, or other transmission equipment; working from blueprints, drawings, layouts, or other specifications; locating and diagnosing trouble in the electrical system or equipment; working standard computations relating to load requirements of wiring or electrical equipment; and using a variety of electrician's handtools and measuring and testing instruments. In general, the work of the maintenance electrician requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

FILTERMAN

(Filter-house operator; filter-plant treater; filterer)

Tends one or more units of filtering equipment (clay-filled vats or tanks) to remove impurities and to improve color of the oil. Work involves most of the following: Mixing samples of clay and oil together to determine amount of clay necessary to obtain finished product of desired color; directing helper who charges clay into filters; opening valves or operating pumps to fill filter to proper level with oil; allowing oil to percolate through clay by gravity, or admitting additional oil under pressure to force percolation; gaging and recording amount of oil being filtered; inspecting oil for color; manipulating valves admitting air or steam to filter in order to promote flow of oil and to wash down used clay before it is dumped from filter; and blending several oils to obtain one of proper color. May also tend equipment for burning clay to restore for reuse.

GAGER

(Battery gager; cracking gager; pressure-still gager; storage-area gager)

Gages quantity of oil in storage tanks and controls flow of oil into pipelines at wells, in the field, or at the refinery. Duties involve: Gaging and recording amount of oil in tanks; determining temperature of oils; drawing and marking samples of oil; and opening bleeder valves to drain off water. May operate pumps to circulate oil within tank or to effect transfer within tank block.

GUARD

Performs routine plant protection duties, either at fixed post or on tour, maintaining order, using arms or force where necessary. Includes gatemen who are stationed at gate and check on identity of employees and other persons entering.

HELPER, TRADES, MAINTENANCE

Assists one or more workers in the skilled maintenance trades, by performing specific or general duties of lesser skill, such as keeping a worker supplied with materials and tools, cleaning working area, machine, and equipment; assisting worker by holding materials or tools; and performing other semiskilled or unskilled tasks as directed by journeyman. The kind of work the helper is permitted to perform varies from trade to trade. In some trades, the helper is confined to supplying, lifting, and holding materials and tools, and cleaning working areas; and in others he is permitted to perform specialized machine operations, or parts of a trade that are also performed by workers on a full-time basis.

INSTRUMENT REPAIRMAN

Installs, maintains, adjusts, and repairs manual, pneumatic, electric, and/or electronic measuring, recording, and regulating instruments in a refinery. Work involves most of the following: Inspecting, testing, and adjusting instruments periodically, determining cause of trouble in instruments not functioning properly and making necessary repairs or adjustments; disconnecting inaccurate or damaged instruments and replacing them; examining mechanism and cleaning parts; replacing worn or broken parts; assembling instruments and installing them on testing apparatus; and calibrating instruments to established standards.

JANITOR

(Day porter; sweeper; charwoman; janitress)

Cleans and keeps in an orderly condition factory working areas and washrooms, or premises of an office, apartment house, or commercial or other establishment. Duties involve a combination of the following: Sweeping, mopping, and/or scrubbing and polishing floors; removing chips, trash, and other refuse; dusting equipment, furniture, or fixtures; polishing metal fixtures or trimmings; providing supplies and minor maintenance services; and cleaning lavatories, showers, and restrooms. Workers who specialize in window washing are excluded.

LABORER

Performs miscellaneous laboring tasks in plants or outside work areas, that require no formal training or previous experience. Generally, learning how to do the work is limited to gaining a familiarity with work areas, with acceptable ways of doing specific tasks, and with safety regulations. Usually average standards of performance are attained after a brief period of service. Specific assignments among laboring tasks include: Loading and unloading, stacking, interprocess moving of materials, cleaning work areas and equipment, digging and shoveling. Tools such as crowbars, picks, shovels, wheelbarrows, hand-trucks, and other lifting and excavating devices may be employed on specific assignments.

LOADER, TANK CARS OR TRUCKS

(Rackman; tank-car loader; topman; truck loader)

Loads gasoline, kerosene, and/or various oils into tank cars or trucks according to specifications. Work involves: Connecting or assisting in connecting hose to coupling, or swinging loading spout over dome; opening valves to allow liquid to flow into tank, or starting or notifying pumpman to start pumps, and filling tank to proper level. May perform a variety of other tasks relating to shipment of product. May gage or sample shipping tanks.

MACHINIST, MAINTENANCE

Produces replacement parts and new parts in making repairs of metal parts of mechanical equipment operated in an establishment. Work involves most of the following: Interpreting written instructions and specifications; planning and laying out of work; using a variety of machinist's handtools and precision measuring instruments; setting up and operating standard machine tools; shaping of metal parts to close tolerances; making standard shop computations relating to dimensions of work, tooling, feeds, and speeds of machining; knowledge of the working properties of the common metals and other materials; selecting standard materials, parts, and equipment required for his work; and fitting and assembling parts. In general, the machinist's work normally requires a rounded training in machine-shop practice usually acquired through a formal apprenticeship or equivalent training and experience.

MECHANIC, MAINTENANCE

Repairs machinery or mechanical equipment of an establishment. Work involves most of the following: Examining machines and mechanical equipment to diagnose source of trouble; dismantling or partly dismantling machines and performing repairs that mainly involve the use of handtools in scraping and fitting parts; replacing broken or defective parts with items obtained from stock; ordering the production of a replacement part by a machine shop or sending of the machine to a machine shop for major repairs; preparing written specifications for major repairs or for the production of parts ordered from machine shop; reassembling machines; and making all necessary adjustments for operation. In general, the work of a maintenance mechanic requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience. Excluded from this classification are workers whose primary duties involve setting up or adjusting machines.

PACKAGE FILLER, MACHINE

Tends the operation of an automatic or semiautomatic machine which fills containers with specified weight or amount of commodity being packaged. Work involves one or more of the following: Feeding empty containers to machine; making minor adjustments to weighting or dispensing devices in order to maintain proper operation; removing filled containers from machine. Workers who tend filling machines that also cap or close filled containers are included.

PIPEFITTER, MAINTENANCE

Installs or repairs water, steam, gas, or other types of pipe and pipefittings in an establishment. Work involves most of the following: Laying out of work and measuring to locate position of pipe from drawings or other written specifications; cutting various sizes of pipe to correct lengths with chisel and hammer or oxyacetylene torch or pipe-cutting machine; threading pipe with stocks and dies; bending pipe by hand-driven or power-driven machines; assembling pipe with couplings and fastening pipe to hangers; making standard shop computations relating to pressures, flow, and size of pipe required; and making standard tests to determine whether finished pipes meet specifications. In general, the work of the maintenance pipefitter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience. Workers primarily engaged in installing and repairing building sanitation or heating systems are excluded.

PRESSMAN, PARAFFIN

Removes from filter presses the accumulated wax extracted from paraffin distillate. Work involves: Removing bolts and sliding head of press back to release filter plates; scraping accumulated wax off filter plates; lifting leaking plates from press, and installing new plates in press; scraping wax in troughs into conveyor that carries it to melting pans; and sliding head against plates and closing press.

PUMPMAN

(Pumper; transfer pumper; water pumper)

Responsible for operating one or more power-driven pumps to produce forced circulation of petroleum products and water through units during processing, or to effect the movement of water, chemical solutions, or petroleum products from one tank or processing unit to another or between tanks and processing units to points of loading or unloading trucks, tank cars, or boats. Work involves most of the following: Interpreting specifications to determine which lines should be used for individual liquids; connecting lines from pumps to storage tanks or processing units; regulating pipeline valves so that liquids are pumped according to written specifications or oral instructions; checking measuring instruments or gaging contents of storage tanks; and maintaining operational records or log. May draw samples from tanks or pipelines for laboratory analysis, or may make specific gravity, visual color, or other tests to determine whether products are meeting specifications.

PUMPMAN'S HELPER

Opens and closes pipeline valves at direction of pumpman to divert flow of liquids to proper location. May assist in starting or stopping pumps. May gage contents of tanks, draw samples of products through bleeder valves on pipelines for laboratory analysis, or make specific gravity and color tests.

ROUTINE TESTER, LABORATORY

Performs various standard laboratory tests on different petroleum products to determine certain chemical and/or physical properties of the product, and submits results of the tests to operators of the various departments, by which they control the distillation and treating of the products. Work involves: Making various tests, such as viscosity, specific gravity, flash and fire points, color, pour, water and sediment, melting point, penetration, doctor solution, distillation and corrosion; and submitting results to chemist or to heads of processing units. May interpret results of tests. Chemists and laboratory laborers (bottle washers, etc.) are excluded.

STILLMAN

(Chief operator; first operator; process operator)

Responsible for the operation of one or a battery of stills in which crude or other oil is heated and separated into its various components. Work involves: Directing and coordinating the activities of the various crew members on the still; interpreting instructions and operational requirements keeping informed of operating conditions; patrolling entire

unit periodically to check on operating conditions; observing instrument indications and chart records of rates, pressures, temperatures, liquid levels, etc.; directing the drawing of periodic samples; interpreting results of tests; making or directing operation and control changes as necessary to maintain operations within specified tolerances; maintaining or directing the preparation of daily operational log or other records; and preparing equipment for maintenance work and directing repairs. Stillmen on one-man operations are excluded.

For wage study purposes, workers are classified by type of still, as follows:

Stillman (chief operator), catalytic cracking  
 Stillman (chief operator), cracking, other than catalytic  
 Stillman (chief operator), straight-run  
 Stillman (chief operator), combination units

#### STILLMAN, ASSISTANT

(Assistant operator; control man; first helper)

Helps stillman maintain operation of stills in which crude or other oil is heated and separated into its various components. Work involves most of the following: Patrolling unit or instrument panel regularly to check on operations; observing instrument indications of pressures, temperatures, liquid levels, etc., and recording readings on log or other operational records; maintaining desired liquid levels in equipment and controlling temperatures; adjusting or regulating manual or automatic controls to maintain operations within specified tolerances; drawing periodic samples and/or running tests such as specific gravity, viscosity, etc., reporting frequently to stillman as to operating condition of unit; and lubricating and cleaning equipment. May check operation and adjust speed of pumps which circulate products through unit, may make minor repairs to equipment.

For wage study purposes, workers are classified by type of still, as follows:

Stillman, assistant (assistant operator), catalytic cracking  
 Stillman, assistant (assistant operator), cracking, other than catalytic  
 Stillman, assistant (assistant operator), straight-run  
 Stillman, assistant (assistant operator), combination units

#### STILLMAN'S HELPER

(Operator helper; still fireman)

Tends operation of burners to maintain required temperature in furnace of a petroleum products still. Work involves most of the following: Following instructions received from stillman or stillman's helper of previous shift specifying temperature to be maintained; reading temperature, pressure, and flow gages to determine operation of still, and adjusting valves controlling flow of fuel to burners; observing color of burner flames or gas issuing from stack, and regulating supply of air to obtain correct combustion; recording gage and meter readings and/or other pertinent information on log sheet or other records; and reporting irregularities of still operation to stillman. May clean burners and/or remove and replace plates covering openings that provide access to interior of still for cleaning.

For wage study purposes, workers are classified by type of still, as follows:

Stillman's helper (operator's helper), catalytic cracking  
 Stillman's helper (operator's helper), cracking, other than catalytic  
 Stillman's helper (operator's helper), straight-run  
 Stillman's helper (operator's helper), combination units

#### STOCK CLERK

Receives, stores, and issues equipment, material, merchandise, or tools in a stockroom or storeroom. Work involves a combination of the following: Checking incoming orders; storing supplies; applying identifications to articles; issuing supplies; taking periodic inventory or keeping perpetual inventory; making up necessary reports; and requesting or ordering supplies when needed. Stockroom laborers, toolcrib attendants, and employees who supervise stock clerks and laborers are excluded.

TREATER

(Treater, first class)

Responsible for the treating of gasoline, kerosene, distilled oils, light oils, naphtha, wax, and other petroleum products with chemicals, steam, water, or air to remove sulphur and/or other impurities. Work involves most of the following: Interpreting instructions and operational requirements; making frequent inspections of units to check on operations; observing and recording readings of temperature, pressure, flow gages, and meters; making or directing operation and control changes as necessary to maintain operations; maintaining daily log or other operational records; preparing equipment for maintenance work and testing equipment after repairs have been made. May direct activities of one or more helpers, may operate pumps to circulate liquids through the units.

For wage study purposes, workers are classified by type of oils processed, as follows:

Treater, light oils (white products—gasoline, kerosene, naphtha, solvents, etc.)  
Treater, heavy oils (lube)

TREATER'S HELPER

(Treater, second class)

Assists treater in treating gasoline, kerosene, oils, wax and other petroleum products with chemicals, steam, water, or air to remove sulphur and/or other impurities. Work involves most of the following: Patrolling unit regularly to check on operations and/or equipment; making operating and control changes as directed; drawing off water and spent chemicals after treatment and separation by valve manipulation; mixing chemical treating solution and adding treating chemicals to oil; manipulating valves to charge equipment with oils to be treated and to maintain level of oil and solutions in equipment; and maintaining daily log or other operational records. May operate or regulate speed of pumps to circulate liquids through unit, or make chemical, specific gravity, color, or other tests to determine whether treating process is being carried on properly.

For wage study purposes, workers are classified by type of oils processed, as follows:

Treater's helper, light oils (white products—gasoline, kerosene, naphtha, solvents, etc.)  
Treater's helper, heavy oils (lube)

TRUCKDRIVER

Drives a truck within a city or industrial area to transport materials, merchandise, equipment, or men between various types of establishments such as: Manufacturing plants, freight depots, warehouses, wholesale and retail establishments and/or between retail establishments and customers' houses or places of business. May also load or unload truck with or without helpers, make minor mechanical repairs, and keep truck in good working order. Driver-salesman and over-the-road-drivers are excluded.

For wage study purposes, workers are classified by size and type of equipment, as follows: (Tractor-trailer would be rated on the basis of trailer capacity.)

Truckdriver (combination of sizes listed separately)  
Truckdriver, light (under 1 1/2 tons)  
Truckdriver, medium (1 1/2 to and including 4 tons)  
Truckdriver, heavy (over 4 tons, trailer type)  
Truckdriver, heavy (over 4 tons, other than trailer type)

TRUCKER, POWER

Operates a manually controlled gasoline- or electric-powered truck or tractor to transport goods and materials of all kinds about a warehouse, manufacturing plant, or other establishment.

For wage study purposes, workers are classified by type of truck, as follows:

Trucker, power (forklift)

Trucker, power (other than forklift)

WATCHMAN

Makes rounds of premises periodically in protecting property against fire, theft, and illegal entry.

WELDER, HAND, MAINTENANCE

Performs the welding duties necessary to maintain plant machinery and equipment in good repair, by fusing (welding) metal objects together in the fabrication of metal shapes and in repairing broken or cracked metal objects. Work involves most of the following: Planning and laying out of work from written or oral instructions and specifications; knowledge of welding properties of a variety of metals and alloys; setting up of work and determining operation sequence; welding a variety of items as necessary; ability to weld with gas and arc apparatus. In general, the work of the maintenance welder requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

## Industry Wage Studies

The most recent reports for industries included in the Bureau's program of industry wage surveys since January 1950 are listed below. Those for which a price is shown are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C., 20402, or any of its regional sales offices. Those for which a price is not shown may be obtained free as long as a supply is available, from the Bureau of Labor Statistics, Washington, D. C., 20212, or from any of the regional offices shown on the inside back cover.

### I. Occupational Wage Studies

#### Manufacturing

- Basic Iron and Steel, 1962. BLS Bulletin 1358 (30 cents).  
Candy and Other Confectionery Products, 1960. BLS Report 195.  
\*Canning and Freezing, 1957. BLS Report 136.  
Cigar Manufacturing 1964. BLS Bulletin 1436 (30 cents).  
Cigarette Manufacturing, 1965. BLS Bulletin 1472 (20 cents).  
Cotton Textiles, 1965. BLS Bulletin 1506 (40 cents).  
Distilled Liquors, 1952. Series 2, No. 88.
- Fabricated Structural Steel, 1964. BLS Bulletin 1463 (30 cents).  
Fertilizer Manufacturing, 1962. BLS Bulletin 1362 (40 cents).  
Flour and Other Grain Mill Products, 1961. BLS Bulletin 1337 (30 cents).  
Fluid Milk Industry, 1964. BLS Bulletin 1464 (30 cents).  
Footwear, 1965. BLS Bulletin 1503 (50 cents).  
Hosiery, 1964. BLS Bulletin 1456 (45 cents).
- Industrial Chemicals, 1955. BLS Report 103.  
Iron and Steel Foundries, 1962. BLS Bulletin 1386 (40 cents).  
Leather Tanning and Finishing, 1963. BLS Bulletin 1378 (40 cents).  
Machinery Manufacturing, 1965. BLS Bulletin 1476 (25 cents).  
Meat Products, 1963. BLS Bulletin 1415 (75 cents).  
Men's and Boys' Shirts (Except Work Shirts) and Nightwear, 1964.  
BLS Bulletin 1457 (40 cents).  
Men's and Boys' Suits and Coats, 1963. BLS Bulletin 1424 (65 cents).  
Miscellaneous Plastics Products, 1964. BLS Bulletin 1439 (35 cents).  
Miscellaneous Textiles, 1953. BLS Report 56.  
Motor Vehicles and Motor Vehicle Parts, 1963. BLS Bulletin 1393 (45 cents).
- Nonferrous Foundries, 1965. BLS Bulletin 1498 (40 cents).  
Paints and Varnishes, 1961. BLS Bulletin 1318 (30 cents).  
Paperboard Containers and Boxes, 1964. BLS Bulletin 1478 (70 cents).  
Petroleum Refining, 1959. BLS Report 158.  
Pressed or Blown Glass and Glassware, 1964. BLS Bulletin 1423 (30 cents).  
\*Processed Waste, 1957. BLS Report 124.  
Pulp, Paper, and Paperboard Mills, 1962. BLS Bulletin 1341 (40 cents).  
Radio, Television, and Related Products, 1951. Series 2, No. 84.  
Railroad Cars, 1952. Series 2, No. 86.  
\*Raw Sugar, 1957. BLS Report 136.
- Southern Sawmills and Planning Mills, 1962. BLS Bulletin 1361 (30 cents).  
Structural Clay Products, 1964. BLS Bulletin 1459 (45 cents).  
Synthetic Fibers, 1958. BLS Report 143.  
Synthetic Textiles, 1965. BLS Bulletin 1509 (40 cents).  
Textile Dyeing and Finishing, 1961. BLS Bulletin 1311 (35 cents).

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\* Studies of the effects of the \$1 minimum wage.

## I. Occupational Wage Studies—Continued

### Manufacturing—Continued

- \*Tobacco Stemming and Redrying, 1957. BLS Report 136.
- West Coast Sawmilling, 1964. BLS Bulletin 1455 (30 cents).
- Women's and Misses' Coats and Suits, 1965. BLS Bulletin 1508 (25 cents).
- Women's and Misses' Dresses, 1963. BLS Bulletin 1391 (30 cents).
- Wood Household Furniture, Except Upholstered, 1965. BLS Bulletin 1496 (40 cents).
- \*Wooden Containers, 1957. BLS Report 126.
- Wool Textiles, 1962. BLS Bulletin 1372 (45 cents).
- Work Clothing, 1964. BLS Bulletin 1440 (35 cents).

### Nonmanufacturing

- Auto Dealer Repair Shops, 1964. BLS Bulletin 1452 (30 cents).
- Banking, 1964. BLS Bulletin 1466 (30 cents).
- Bituminous Coal Mining, 1962. BLS Bulletin 1383 (45 cents).
- Communications, 1964. BLS Bulletin 1467 (20 cents).
- Contract Cleaning Services, 1965. BLS Bulletin 1507 (30 cents).
- Crude Petroleum and Natural Gas Production, 1960. BLS Report 181.
- Department and Women's Ready-to-Wear Stores, 1950. Series 2, No. 78.
- Eating and Drinking Places, 1963. BLS Bulletin 1400 (40 cents).
- Electric and Gas Utilities, 1962. BLS Bulletin 1374 (50 cents).
- Hospitals, 1963. BLS Bulletin 1409 (50 cents).
- Hotels and Motels, 1963. BLS Bulletin 1406 (40 cents).
- Laundries and Cleaning Services, 1963. BLS Bulletin 1401 (50 cents).
- Life Insurance, 1961. BLS Bulletin 1324 (30 cents).
- Nursing Homes and Related Facilities, 1965. BLS Bulletin 1492 (45 cents).

## II. Earnings Distributions Studies

- Factory Workers' Earnings—Distribution by Straight-Time Hourly Earnings, 1958. BLS Bulletin 1252 (40 cents).
- Factory Workers' Earnings—Selected Manufacturing Industries, 1959. BLS Bulletin 1275 (35 cents).

### Retail Trade:

- Employee Earnings and Hours, June 1965—
  - Building Materials, Hardware, and Farm Equipment Dealers. BLS Bulletin 1501-1 (25 cents).
  - General Merchandise Stores. BLS Bulletin 1501-2 (40 cents).
  - Food Stores. BLS Bulletin 1501-3 (30 cents).
  - Automotive Dealers and Gasoline Service Stations. BLS Bulletin 1501-4 (40 cents).
  - Apparel and Accessory Stores. BLS Bulletin 1501-5 (45 cents).
  - Furniture, Home Furnishings, and Household Appliance Stores. BLS Bulletin 1501-6 (40 cents).
  - Miscellaneous Stores. BLS Bulletin 1501-7 (30 cents).

- Employee Earnings in Nonmetropolitan Areas of the South and North Central Regions, 1962. BLS Bulletin 1416 (40 cents).

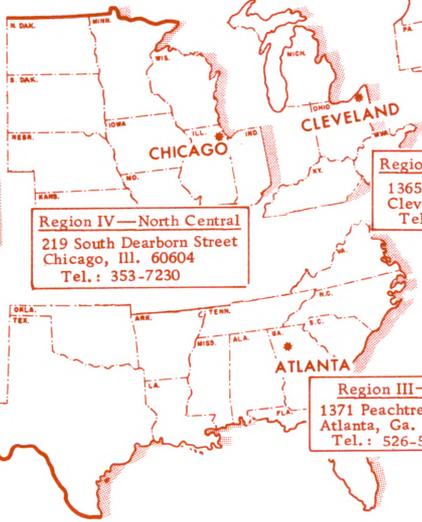
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\* Studies of the effects of the \$1 minimum wage.

## BUREAU OF LABOR STATISTICS REGIONAL OFFICES



**Region V—Western**  
450 Golden Gate Avenue  
Box 36017  
San Francisco, Calif. 94102  
Tel.: 556-4678



**Region IV—North Central**  
219 South Dearborn Street  
Chicago, Ill. 60604  
Tel.: 353-7230

**Region III—Southern**  
1371 Peachtree Street, NE.  
Atlanta, Ga. 30309  
Tel.: 526-5418

**Region I—New England**  
John F. Kennedy Federal Building  
Government Center, Room 1603-A  
Boston, Mass. 02203  
Tel.: 223-6762



**Region II—Middle Atlantic**  
341 Ninth Avenue  
New York, N. Y. 10001  
Tel.: 971-5405

**Region VI—East Central**  
1365 Ontario Street  
Cleveland, Ohio 44114  
Tel.: 241-7900