

Bureau of Mines
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THICKNESS OF BITUMINOUS-COAL AND LIGNITE SEAMS
AT ALL MINES AND THICKNESS OF OVERBURDEN
AT STRIP MINES IN THE UNITED STATES IN 1950

By W. H. YOUNG AND R. L. ANDERSON

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United States Department of the Interior—September 1952

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UNITED STATES DEPARTMENT OF THE INTERIOR
Oscar L. Chapman, Secretary
BUREAU OF MINES
J. J. Forbes, Director

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IN THE UNITED STATES IN 1950

by

W. H. Young^{1/} and R. L. Anderson^{2/}

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INTRODUCTION

Many physical conditions affect productivity in bituminous-coal mining, such as thickness and character of the coal seam, dip or pitch of the seam, depth of cover, character of roof and overlying strata, mine water, etc. Of these, the thickness of the coal seam is probably the most-important single item that determines whether the output per man per day shall be low or high; however, in strip mining the depth of cover or overburden to be moved is of equal importance.

Bituminous coal is mined today from seams of exceedingly variable thickness - less than 2 feet to more than 50 feet; however, a large majority of the mines are producing coal from seams 3 to 6 feet thick. The average thickness of the coal seams mined in the United States has not changed materially in the past 30 years. The average seam thickness for all bituminous-coal mines was 63 inches in 1920, $\frac{3}{65}$ inches in 1945, and 63 inches in 1950. As thick seams have been exhausted in the older fields, other thick seams have been opened in the newer fields.

Productivity increased from 4 net tons per man per day in 1920 to 6.77 in 1950. This 69-percent increase in productivity resulted from increased mechanization. The percentage of underground production represented by coal cut by machines increased from 61 in 1920 to 93 in 1950. Mechanical loading increased from less than 1 percent of underground production in 1920 to 69 percent in 1950, and strip mining increased from less than 2 percent to 24 percent of the total production during the same period.

The 1950 data included in the following tables were compiled from annual reports of production and mine operation submitted by bituminous-coal and lignite producers to the Bureau of Mines. Estimates were made for seam thickness not specified by the producer. Data for 1920 were compiled from the Report of the United States Coal Commission, part 3, table 11, facing page 1890.

^{3/} Hotchkiss, W. E., Tryon, F. G., Warner, C. K., Plein, L. N., Dake, W. M., Anderson, R. L., Gallagher, J. J., and Schoenfeld, M. H., Mechanization, Employment, and Output Per Man in Bituminous-Coal Mining: W.P.A., National Research Project, vol. I, 1939, p. 62.

A survey of bituminous-coal mines for 1920 showed that 25 percent of the total United States production came from seams less than 4 feet thick, 45 percent from seams 4 to 6 feet thick, 25 percent from seams 6 to 8 feet thick, and 5 percent from seams thicker than 8 feet. A similar survey for 1950 showed 34 percent of output from seams under 4 feet thick, 36 percent from seams 4 to 6 feet thick, 22 percent from seams 6 to 8 feet thick, and 8 percent from seams over 8 feet thick. Table 1 shows the number and production of bituminous-coal and lignite mines classified by 1-foot intervals of seam thickness mined in 1920, 1945, and 1950.

Tables 2 and 3 contain 1950 data on productivity and average thickness of seams mined. The correlation between thickness of seam and productivity was not universal; instead, in a number of States and districts great productivity was achieved in thin seams. Conversely, several States and districts had low productivity in thick seams. Tables 4 to 10 give data on mines and production, classified by thickness of seam.

The coal seam of moderate thickness presents the least mining difficulties. Any decided thinning limits production, decreases recovery, and, therefore, increases cost. Thickening of the seam in underground mining has the same effect; for, as the seam increases in thickness, it becomes necessary to maintain larger pillars, timbering becomes more difficult and finally impracticable, and roof control is almost impossible. The limited information available indicates that, for maximum recovery in underground bituminous-coal mines, the ideal seam thickness lies between 6 and 8 feet.

Fig. 1 shows the percentage of bituminous coal produced, by thickness of seam mined, in the 10 largest coal-producing States and total United States in 1950. The States are arranged in order of the percentage of output mined from seams less than 4 feet thick. Fig. 2 shows the percentage of bituminous coal and lignite produced, by thickness of seam mined, in each State at strip mines in 1950, and fig. 3 shows similar data for underground mines.

Coal near the surface in relatively thin seams that are not suited to underground mining frequently can be recovered by stripping. In some areas, coal seams that could not be deep-mined profitably are being stripped successfully. In 1950 strip mining was carried on in 11 States in coal seams having an average thickness less than that in the deep mines in the same States. These 11 States produced 70 percent of the total strip output in 1950.

As previously mentioned, the depth of cover or overburden to be moved is equally as significant as the thickness of the coal in strip mining. Table 11 gives details on overburden excavated at strip mines in 1946 and 1950. The average thickness of overburden increased from 31.6 feet in 1946 to 39.0 feet in 1950. The ratio of thickness of overburden to thickness of coal seam is a very important factor in stripping operations. In 1950 the average thickness of overburden handled was eight times the average thickness of the coal mined.

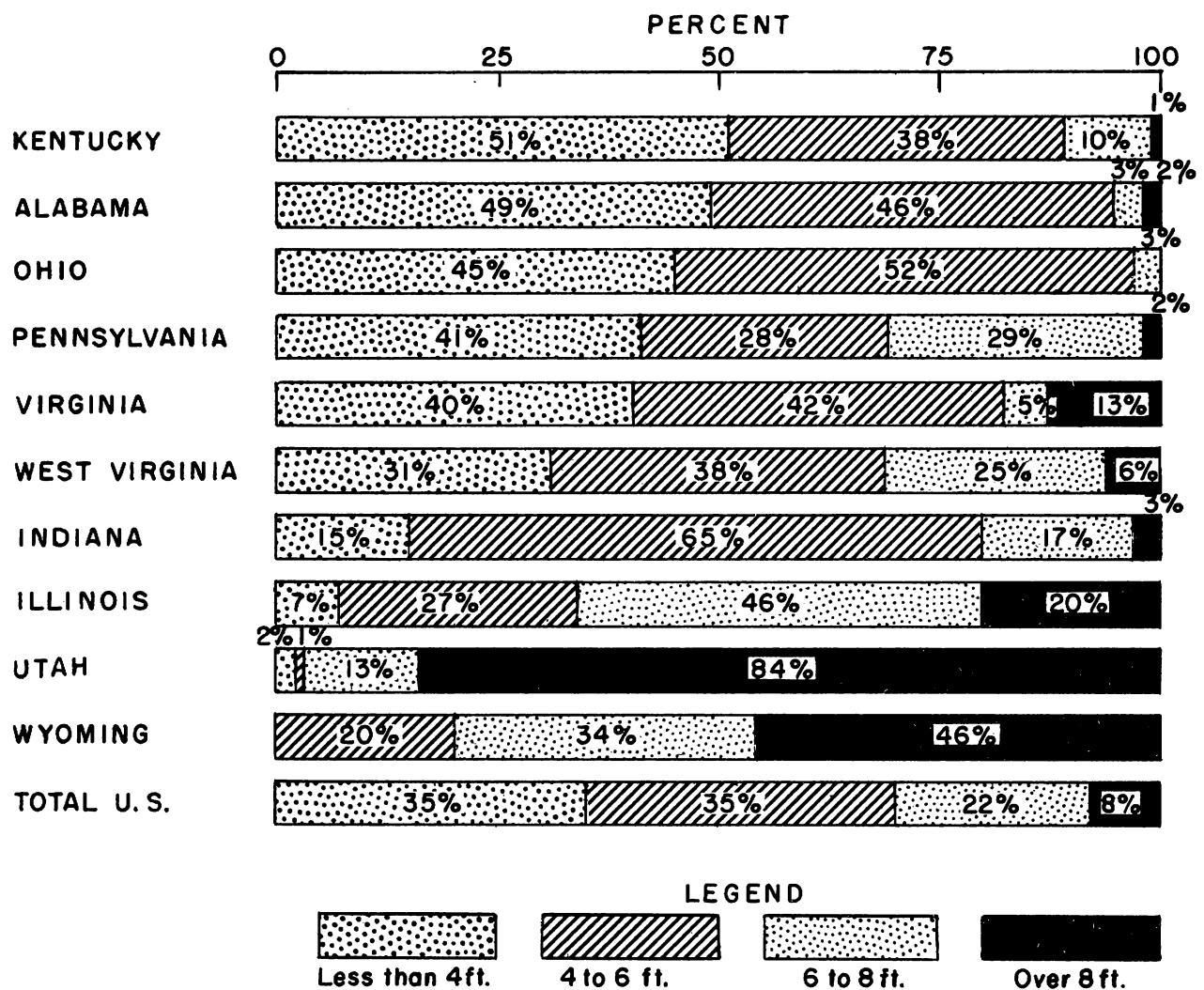


Figure 1. - Percentage of bituminous coal and lignite produced in the 10 largest coal-producing States and total United States, by thickness of seams mined in 1950.

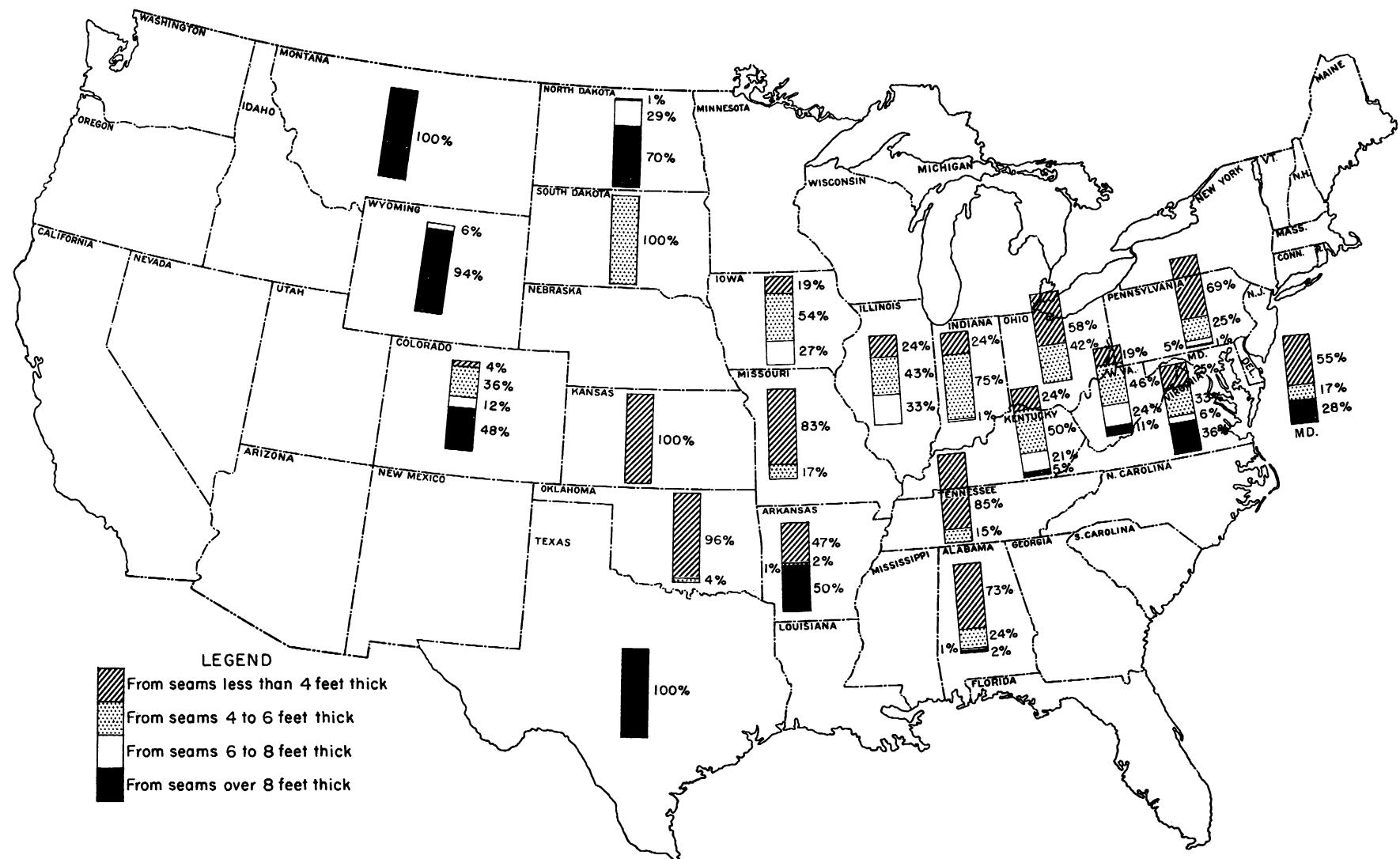


Figure 2. - Percentage of bituminous coal and lignite produced by thickness of seams mined in each State at strip mines in 1950.

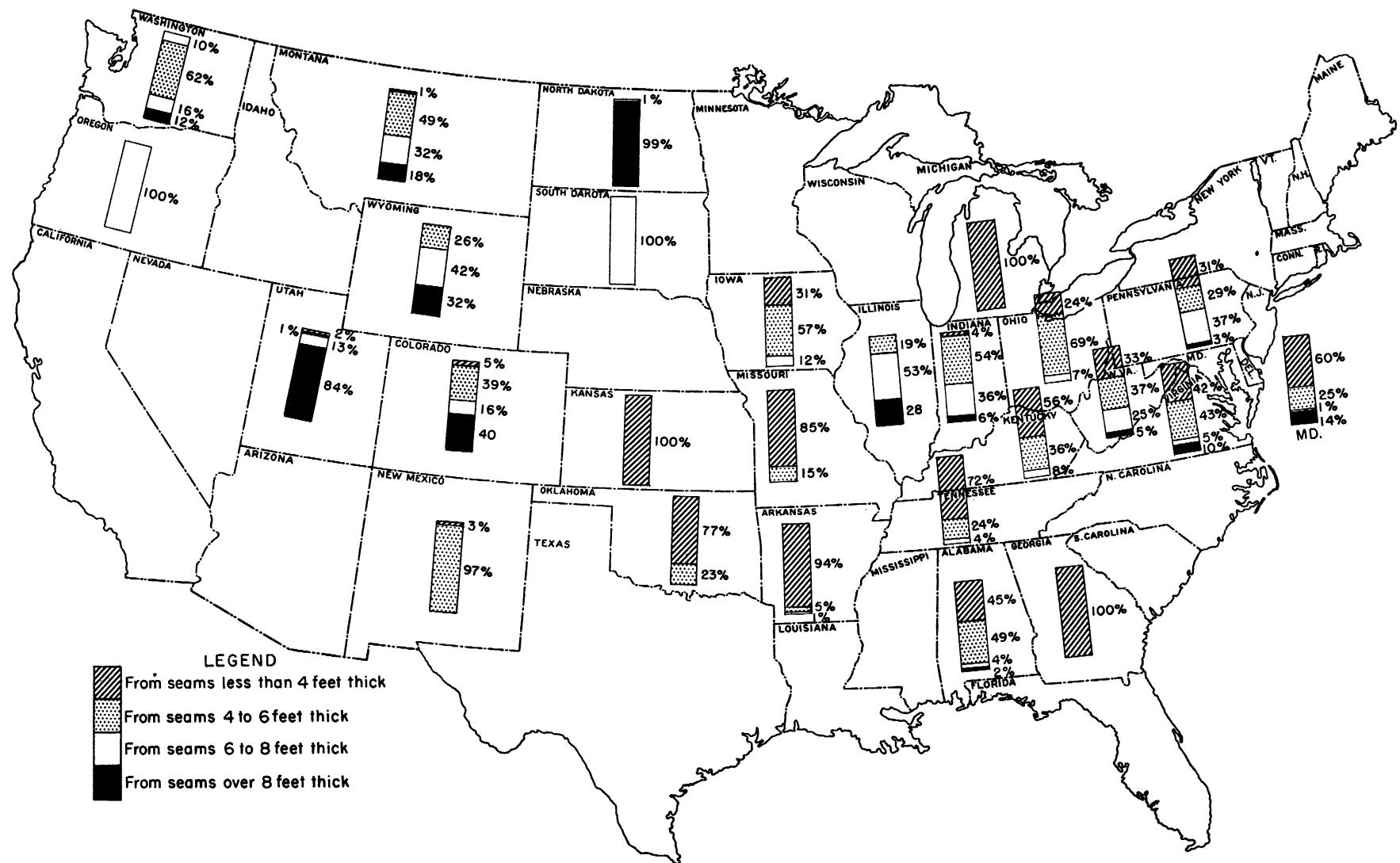


Figure 3. - Percentage of bituminous coal and lignite produced by thickness of seams mined in each State at underground mines in 1950.

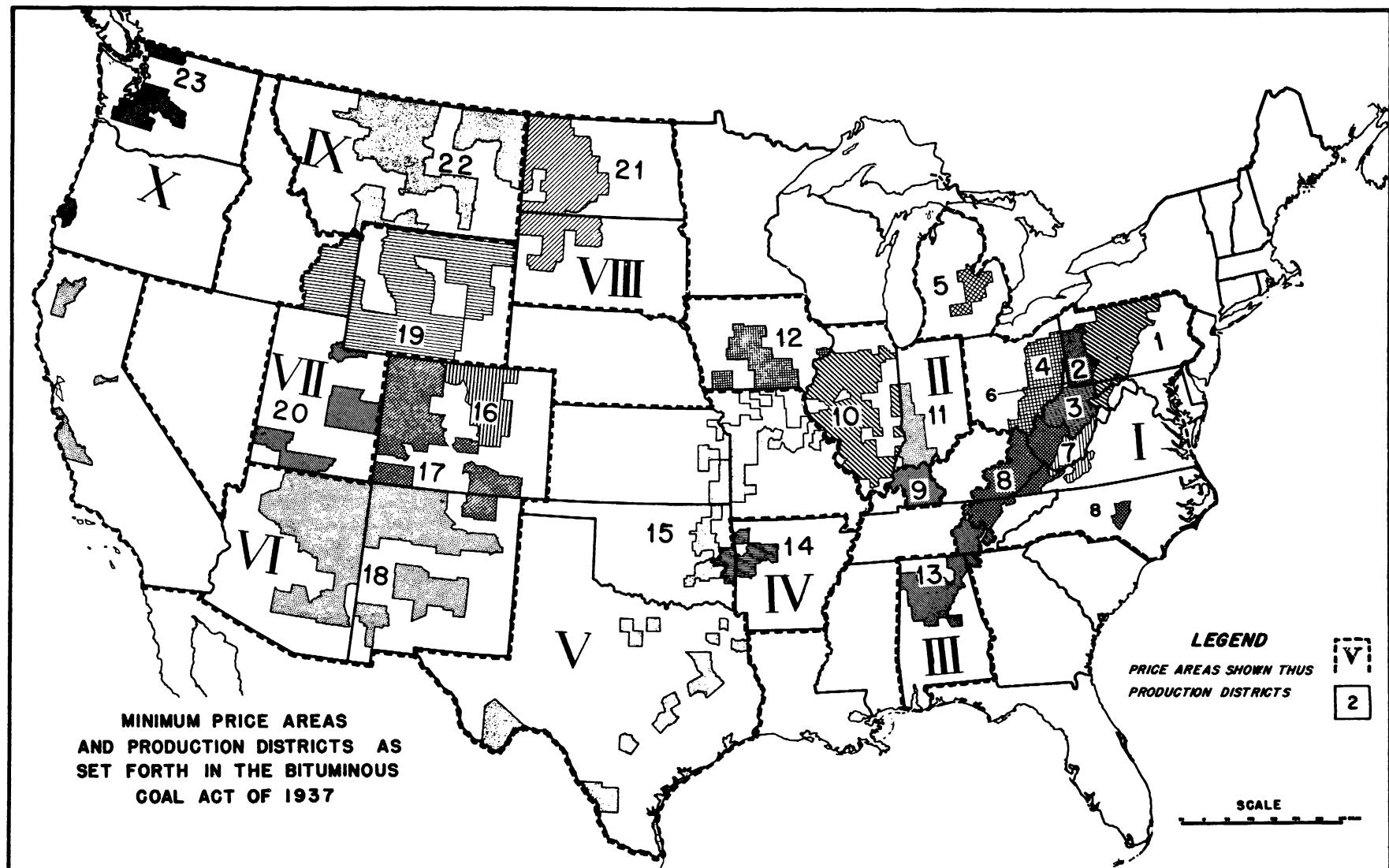


Figure 4. - Minimum price areas and production districts as set forth in the Bituminous Coal Act of 1937.

TABLE 1. - NUMBER AND PRODUCTION OF BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES,
CLASSIFIED BY THICKNESS OF SEAMS MINED IN 1920, 1945 AND 1950

(Exclusive of mines producing less than 1,000 tons)

| Thickness
of seams
mined | 1920 | | | | 1945 | | | | 1950 | | | |
|--------------------------------|--------|---------|-----------------------------|---------|--------|---------|-----------------------------|---------|--------|---------|-----------------------------|---------|
| | Mines* | | Production | | Mines | | Production | | Mines | | Production | |
| | Number | Percent | Thousands
of
net tons | Percent | Number | Percent | Thousands
of
net tons | Percent | Number | Percent | Thousands
of
net tons | Percent |
| Less than 2 feet..... | 139 | 1.6 | 2,481 | 0.4 | 126 | 1.8 | 6,869 | 1.2 | 138 | 1.5 | 3,877 | 0.8 |
| 2 to 3 feet..... | 1,159 | 13.0 | 31,353 | 5.6 | 936 | 13.3 | 32,984 | 5.7 | 1,291 | 13.7 | 35,659 | 6.9 |
| 3 to 4 feet..... | 2,240 | 25.2 | 104,356 | 18.5 | 2,250 | 32.0 | 138,781 | 24.0 | 4,567 | 48.4 | 140,334 | 27.2 |
| 4 to 5 feet..... | 1,792 | 20.1 | 126,372 | 22.4 | 1,710 | 24.3 | 136,348 | 23.6 | 1,583 | 16.8 | 108,458 | 21.0 |
| 5 to 6 feet..... | 1,222 | 13.7 | 125,589 | 22.3 | 838 | 11.9 | 75,132 | 13.0 | 744 | 7.9 | 75,115 | 14.5 |
| 6 to 7 feet..... | 559 | 6.3 | 76,255 | 13.5 | 587 | 8.4 | 83,738 | 14.5 | 525 | 5.6 | 76,440 | 14.8 |
| 7 to 8 feet..... | 393 | 4.4 | 63,333 | 11.2 | 260 | 3.7 | 51,212 | 8.9 | 250 | 2.6 | 35,010 | 6.8 |
| 8 feet and over..... | 242 | 2.7 | 27,852 | 5.0 | 326 | 4.6 | 52,553 | 9.1 | 331 | 3.5 | 41,418 | 8.0 |
| Unspecified..... | 1,161 | 13.0 | 6,165 | 1.1 | - | - | - | - | - | - | - | - |
| Total..... | 8,907 | 100.0 | 563,756 | 100.0 | 7,033 | 100.0 | 577,617 | 100.0 | 9,429 | 100.0 | 516,311 | 100.0 |

TABLE 2. - NUMBER OF MINES, PRODUCTION, OUTPUT PER MAN PER DAY, AND AVERAGE THICKNESS OF SEAMS MINED,
AT STRIP AND UNDERGROUND BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY STATES, IN 1950

(Exclusive of mines producing less than 1,000 tons)

| State | Strip mines | | | | Underground mines | | | | Total all mines | | | |
|---------------------------|-----------------|-----------------------|------------------------------|-------------------------------------|-------------------|-----------------------|------------------------------|-------------------------------------|-----------------|-----------------------|------------------------------|-------------------------------------|
| | Number of mines | Production (net tons) | Average tons per man per day | Average thickness coal mined (feet) | Number of mines | Production (net tons) | Average tons per man per day | Average thickness coal mined (feet) | Number of mines | Production (net tons) | Average tons per man per day | Average thickness coal mined (feet) |
| Alabama..... | 46 | 1,888,038 | 9.64 | 3.3 | 332 | 12,533,772 | 3.98 | 4.1 | 378 | 14,421,810 | 4.34 | 4.0 |
| Alaska..... | 5 | 130,737 | 10.11 | 3.2 | 2 | 281,718 | 5.10 | 4.8 | 7 | 412,455 | 6.05 | 4.3 |
| Arizona..... | - | - | - | - | 1 | 4,446 | 2.18 | 5.5 | 1 | 4,446 | 2.18 | 5.5 |
| Arkansas..... | 15 | 504,946 | 10.79 | 5.7 | 38 | 664,122 | 3.14 | 2.5 | 53 | 1,169,068 | 4.53 | 3.9 |
| California (lignite).... | 1 | (1) | - | - | - | - | - | - | 1 | (1) | - | - |
| Colorado..... | 8 | 406,713 | 15.08 | 8.3 | 165 | 3,851,787 | 5.13 | 7.4 | 173 | 4,258,500 | 5.48 | 7.5 |
| Georgia..... | - | - | - | - | 7 | 18,000 | 2.92 | 1.5 | 7 | 18,000 | 2.92 | 1.5 |
| Illinois..... | 81 | 17,612,423 | 18.70 | 5.0 | 217 | 38,678,498 | 8.00 | 7.1 | 298 | 56,290,921 | 9.75 | 6.4 |
| Indiana..... | 44 | 10,739,567 | 16.71 | 4.4 | 56 | 9,217,462 | 7.88 | 5.8 | 100 | 19,957,029 | 11.01 | 5.0 |
| Iowa..... | 37 | 1,190,511 | 11.67 | 4.9 | 84 | 700,900 | 3.28 | 4.4 | 121 | 1,891,411 | 5.99 | 4.7 |
| Kansas..... | 32 | 2,024,352 | 14.22 | 1.9 | 16 | 100,628 | 2.45 | 2.8 | 48 | 2,124,980 | 11.58 | 1.9 |
| Kentucky..... | 136 | 13,977,643 | 19.12 | 5.3 | 3,123 | 64,517,960 | 5.59 | 4.1 | 3,259 | 78,495,603 | 6.39 | 4.4 |
| Maryland..... | 22 | 161,054 | 9.08 | 4.7 | 83 | 486,869 | 3.71 | 4.4 | 105 | 647,923 | 4.35 | 4.5 |
| Michigan..... | - | - | - | - | 1 | 11,500 | 1.98 | 2.5 | 1 | 11,500 | 1.98 | 2.5 |
| Missouri..... | 43 | 2,635,424 | 15.04 | 3.3 | 44 | 327,657 | 2.56 | 3.2 | 87 | 2,963,081 | 9.78 | 3.2 |
| Montana | | | | | | | | | | | | |
| Bituminous..... | 1 | 1,708,149 | 92.78 | 23.0 | 15 | 759,887 | 6.88 | 5.7 | 16 | 2,468,036 | 19.15 | 17.7 |
| Lignite..... | 1 | (1) | - | - | 6 | (1) | - | - | 7 | 52,130 | 7.35 | 16.6 |
| Total Montana... | 2 | 1,717,179 | 88.65 | 22.9 | 21 | 802,987 | 6.89 | 6.3 | 23 | 2,520,166 | 18.53 | 17.6 |
| New Mexico..... | - | - | - | - | 25 | 726,958 | 5.32 | 5.3 | 25 | 726,958 | 5.32 | 5.3 |
| North Carolina..... | - | - | - | - | 1 | (1) | - | - | 1 | (1) | - | - |
| North Dakota (lignite)... | 37 | 2,828,056 | 27.45 | 9.4 | 7 | 432,917 | 10.05 | 16.7 | 44 | 3,260,973 | 22.32 | 10.4 |
| Ohio..... | 303 | 22,775,193 | 17.04 | 3.8 | 385 | 14,985,898 | 6.35 | 4.7 | 688 | 37,761,091 | 10.21 | 4.2 |
| Oklahoma..... | 29 | 1,727,174 | 10.90 | 2.1 | 34 | 951,397 | 3.74 | 3.6 | 63 | 2,678,571 | 6.49 | 2.7 |
| Oregon..... | - | - | - | - | 1 | 1,384 | 1.44 | 7.5 | 1 | 1,384 | 1.44 | 7.5 |
| Pennsylvania..... | 726 | 26,426,597 | 12.49 | 3.7 | 1,206 | 79,443,524 | 5.07 | 5.3 | 1,932 | 105,870,121 | 5.95 | 4.9 |
| South Dakota (lignite)... | 2 | 34,989 | 10.36 | 4.5 | 1 | 1,211 | 5.05 | 6.5 | 3 | 36,200 | 10.01 | 4.6 |
| Tennessee..... | 16 | 584,066 | 10.68 | 2.9 | 117 | 4,485,734 | 4.35 | 3.9 | 133 | 5,069,800 | 4.67 | 3.8 |
| Texas (lignite)..... | 1 | 18,169 | 4.62 | 12.0 | - | - | - | - | 1 | 18,169 | 4.62 | 12.0 |
| Utah..... | - | - | - | - | 67 | 6,669,896 | 7.30 | 11.5 | 67 | 6,669,896 | 7.30 | 11.5 |
| Virginia..... | 19 | 1,565,646 | 16.11 | 6.1 | 308 | 16,101,001 | 5.21 | 4.8 | 327 | 17,666,647 | 5.54 | 4.9 |
| Washington..... | 4 | 70,540 | 8.09 | 7.0 | 22 | 803,449 | 3.79 | 5.7 | 26 | 873,989 | 3.96 | 5.8 |
| West Virginia..... | 249 | 12,986,154 | 14.78 | 5.5 | 1,162 | 131,129,529 | 6.07 | 5.1 | 1,411 | 144,115,683 | 6.41 | 5.1 |
| Wyoming..... | 12 | 1,458,899 | 20.29 | 38.3 | 33 | 4,889,350 | 7.42 | 13.5 | 45 | 6,348,249 | 8.59 | 19.2 |
| Other States..... | - | 11,524 | 8.63 | 10.2 | - | 67,035 | 2.80 | 12.5 | - | 26,429 | 1.46 | 3.5 |
| Total..... | 1,870 | 123,466,564 | 15.66 | 5.1 | 7,559 | 392,844,489 | 5.75 | 5.4 | 9,429 | 516,311,053 | 6.77 | 5.3 |

1/ Included under "Other States" to avoid disclosure.

TABLE 3. - NUMBER OF MINES, PRODUCTION, OUTPUT PER MAN PER DAY, AND AVERAGE THICKNESS OF SEAMS MINED,
AT STRIP AND UNDERGROUND BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, BY DISTRICTS, IN 1950

(Districts as defined in the Bituminous Coal Act of 1937 and modifications thereto.
Exclusive of mines producing less than 1,000 tons)

| District | Strip mines | | | | Underground mines | | | | Total all mines | | | |
|----------------------------------|-----------------|-----------------------|------------------------------|-------------------------------------|-------------------|-----------------------|------------------------------|-------------------------------------|-----------------|-----------------------|------------------------------|-------------------------------------|
| | Number of mines | Production (net tons) | Average tons per man per day | Average thickness coal mined (feet) | Number of mines | Production (net tons) | Average tons per man per day | Average thickness coal mined (feet) | Number of mines | Production (net tons) | Average tons per man per day | Average thickness coal mined (feet) |
| 1. Eastern Pennsylvania..... | 432 | 16,189,528 | 11.72 | 3.2 | 850 | 30,649,423 | 4.68 | 3.8 | 1,282 | 46,838,951 | 5.91 | 3.6 |
| 2. Western Pennsylvania..... | 324 | 10,555,654 | 13.84 | 4.4 | 453 | 49,543,641 | 5.31 | 6.2 | 777 | 60,099,295 | 5.95 | 5.9 |
| 3. Northern West Virginia..... | 140 | 7,764,156 | 16.39 | 6.1 | 369 | 34,014,364 | 7.59 | 6.5 | 509 | 41,778,520 | 8.43 | 6.4 |
| 4. Ohio..... | 303 | 22,775,193 | 17.04 | 3.8 | 385 | 14,985,898 | 6.35 | 4.7 | 688 | 37,761,091 | 10.21 | 4.2 |
| 5. Michigan..... | - | - | - | - | 1 | 11,500 | 1.98 | 2.5 | 1 | 11,500 | 1.98 | 2.5 |
| 6. Panhandle..... | 12 | 758,773 | 14.15 | 4.2 | 19 | 3,395,368 | 6.28 | 4.7 | 31 | 4,154,141 | 6.99 | 4.6 |
| 7. Southern Numbered 1..... | 58 | 2,819,240 | 12.20 | 4.4 | 392 | 45,743,396 | 4.85 | 4.5 | 450 | 48,562,636 | 5.02 | 4.5 |
| 8. Southern Numbered 2..... | 134 | 5,962,668 | 12.79 | 5.5 | 3,633 | 119,666,367 | 5.64 | 4.3 | 3,767 | 125,629,035 | 5.79 | 4.4 |
| 9. West Kentucky..... | 64 | 11,467,285 | 22.58 | 5.2 | 239 | 12,566,096 | 9.01 | 5.3 | 303 | 24,033,381 | 12.63 | 5.3 |
| 10. Illinois..... | 81 | 17,612,423 | 18.70 | 5.0 | 217 | 38,678,498 | 8.00 | 7.1 | 298 | 56,290,921 | 9.75 | 6.4 |
| 11. Indiana..... | 44 | 10,739,567 | 16.71 | 4.4 | 56 | 9,217,462 | 7.88 | 5.8 | 100 | 19,957,029 | 11.01 | 5.0 |
| 12. Iowa..... | 37 | 1,190,511 | 11.67 | 4.9 | 84 | 700,900 | 3.28 | 4.4 | 121 | 1,891,411 | 5.99 | 4.7 |
| 13. Southeastern..... | 50 | 2,071,894 | 9.72 | 3.3 | 384 | 13,161,669 | 4.00 | 4.1 | 434 | 15,233,563 | 4.35 | 4.0 |
| 14. Arkansas-Oklahoma..... | 28 | 1,118,168 | 11.74 | 3.7 | 57 | 970,222 | 3.22 | 2.9 | 85 | 2,088,390 | 5.26 | 3.3 |
| 15. Southwestern..... | 92 | 5,791,897 | 13.42 | 2.6 | 75 | 1,073,582 | 3.22 | 3.3 | 167 | 6,865,479 | 8.98 | 2.7 |
| 16. Northern Colorado..... | 4 | 65,008 | 11.12 | 16.9 | 23 | 971,411 | 7.22 | 8.4 | 27 | 1,036,419 | 7.39 | 8.9 |
| 17. Southern Colorado..... | 4 | 341,705 | 16.18 | 6.7 | 151 | 3,461,600 | 4.85 | 6.7 | 155 | 3,803,305 | 5.18 | 6.7 |
| 18. New Mexico..... | 1 | 2,494 | 6.65 | 3.5 | 17 | 150,180 | 3.60 | 4.6 | 18 | 152,674 | 3.63 | 4.6 |
| 19. Wyoming..... | 12 | 1,458,899 | 20.29 | 38.3 | 33 | 4,889,350 | 7.42 | 13.5 | 45 | 6,348,249 | 8.69 | 19.2 |
| 20. Utah..... | - | - | - | - | 67 | 6,669,896 | 7.30 | 11.5 | 67 | 6,669,896 | 7.30 | 11.5 |
| 21. North-South Dakota (lignite) | 39 | 2,863,045 | 26.91 | 9.4 | 8 | 434,128 | 10.02 | 16.6 | 47 | 3,297,173 | 22.02 | 10.3 |
| 22. Montana..... | 2 | 1,717,179 | 88.65 | 22.9 | 21 | 802,987 | 6.89 | 6.3 | 23 | 2,520,166 | 18.53 | 17.6 |
| 23. Washington..... | 9 | 201,277 | 9.30 | 4.5 | 25 | 1,086,551 | 4.06 | 5.4 | 34 | 1,287,828 | 4.45 | 5.3 |
| Total..... | 1,870 | 123,466,564 | 15.66 | 5.1 | 7,559 | 392,844,489 | 5.75 | 5.4 | 9,429 | 516,311,053 | 6.77 | 5.3 |

TABLE 4. - NUMBER AND PRODUCTION OF BITUMINOUS-COAL AND LIGNITE UNDERGROUND MINES IN THE UNITED STATES, CLASSIFIED BY THICKNESS OF SEAMS MINED IN EACH STATE, IN 1950

(Exclusive of mines producing less than 1,000 tons)

| State | Less than 2 feet | | | 2 to 3 feet | | | 3 to 4 feet | | | 4 to 5 feet | | | 5 to 6 feet | | | 6 to 7 feet | | | 7 to 8 feet | | | 8 feet and over | | | Total | | |
|----------------------------|------------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|---------|
| | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | |
| Alabama | 5 | 194,497 | 1.5 | 165 | 2,814,757 | 22.5 | 130 | 2,676,890 | 21.4 | 17 | 4,299,017 | 34.3 | 8 | 1,857,421 | 14.8 | 5 | 246,921 | 2.0 | 1 | 238,376 | 1.9 | 1 | 205,893 | 1.6 | 332 | 12,533,772 | |
| Alaska | — | — | — | 1 | (1) | — | — | — | — | — | — | — | — | — | — | 1 | (1) | — | — | — | — | — | — | — | 2 | 261,718 | |
| Arizona | — | — | — | — | — | — | — | — | — | — | — | — | 1 | (1) | — | — | — | — | — | — | — | — | — | — | — | 1 | (1) |
| Arkansas | 9 | 216,171 | 32.5 | 14 | 300,967 | 45.3 | 7 | 109,482 | 16.5 | 7 | 30,499 | 4.6 | — | — | — | — | — | — | 1 | 7,003 | 1.1 | — | — | — | — | 38 | 664,122 |
| California (lignite) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Colorado | 2 | 49,953 | 1.3 | 2 | (1) | — | 18 | 119,752 | 3.1 | 31 | 1,033,647 | 26.8 | 43 | 456,916 | 11.9 | 23 | 432,422 | 11.2 | 13 | 200,521 | 5.2 | 33 | 1,555,333 | 40.4 | 165 | 3,851,787 | |
| Georgia | 7 | 18,000 | 100.0 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 7 | 18,000 |
| Illinois..... | — | — | — | — | — | — | 9 | 89,275 | .2 | 75 | 4,644,373 | 12.0 | 35 | 2,724,308 | 7.0 | 51 | 11,740,466 | 30.4 | 28 | 8,490,047 | 22.0 | 19 | 10,990,029 | 28.4 | 217 | 38,678,498 | |
| Indiana | — | — | — | — | — | — | 4 | 373,221 | 4.0 | 21 | 1,628,145 | 17.7 | 16 | 3,373,260 | 36.6 | 11 | 2,715,734 | 29.5 | 3 | 621,262 | 6.7 | 1 | 505,840 | 5.5 | 56 | 9,217,462 | |
| Iowa | 1 | 8,971 | 1.3 | 20 | 161,403 | 23.0 | 6 | 45,647 | 6.5 | 39 | 232,413 | 33.2 | 11 | 168,047 | 24.0 | 6 | 80,222 | 11.4 | 1 | 4,197 | .6 | — | — | — | — | 84 | 700,900 |
| Kansas | 6 | 21,014 | 20.9 | 5 | 29,279 | 29.1 | 5 | 50,335 | 50.0 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 16 | 100,628 | |
| Kentucky | 2 | 3,728 | (2) | 334 | 4,634,263 | 7.2 | 2,386 | 31,819,315 | 49.3 | 331 | 15,624,794 | 24.2 | 39 | 7,436,699 | 11.5 | 21 | 4,501,428 | 7.0 | 7 | 404,654 | .6 | 3 | 93,079 | .2 | 3,123 | 64,517,960 | |
| Maryland | 2 | 2,281 | .5 | 33 | 159,222 | 32.7 | 19 | 132,918 | 27.3 | 18 | 75,124 | 15.4 | 2 | 48,469 | 9.9 | — | — | — | 1 | 2,756 | .6 | 8 | 66,099 | 13.6 | 83 | 486,869 | |
| Michigan | — | — | — | 1 | 11,500 | 100.0 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1 | 11,500 | |
| Missouri | 8 | 27,147 | 8.3 | 16 | 87,646 | 26.7 | 12 | 164,358 | 50.2 | 8 | 48,506 | 14.8 | — | — | — | — | — | — | — | — | — | — | — | — | 44 | 327,657 | |
| Montana: Bituminous | — | — | — | — | — | — | 1 | 4,687 | 0.6 | 3 | 396,861 | 52.2 | — | — | — | 6 | 248,624 | 32.7 | 1 | 3,331 | 0.5 | 4 | 106,384 | 14.0 | 15 | 759,887 | |
| Lignite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1 | 3,001 | 7.0 | 5 | 40,099 | 93.0 | 6 | 43,100 | | |
| Total Montana .. | — | — | — | — | — | — | 1 | 4,687 | 0.6 | 3 | 396,861 | 49.4 | — | — | — | 6 | 248,624 | 31.0 | 2 | 6,332 | 0.8 | 9 | 146,483 | 18.2 | 21 | 802,987 | |
| New Mexico | — | — | — | — | — | — | 5 | 22,416 | 3.1 | 15 | 117,512 | 16.2 | 4 | 584,502 | 80.4 | 1 | (1) | — | — | — | — | — | — | — | 25 | 726,958 | |
| North Carolina | — | — | — | — | — | — | 1 | (1) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1 | (1) | |
| North Dakota (lignite) .. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2 | 6,221 | 1.4 | 5 | 426,696 | 98.6 | 7 | 432,917 | | |
| Ohio | — | — | — | 44 | 295,183 | 2.0 | 194 | 3,321,768 | 22.2 | 88 | 5,505,422 | 36.7 | 40 | 4,876,107 | 32.5 | 12 | 961,371 | 6.5 | 4 | 21,097 | .1 | 3 | 4,950 | (2) | 385 | 14,985,898 | |
| Oklahoma | 8 | 34,662 | 3.6 | 6 | 59,736 | 6.3 | 14 | 636,188 | 66.9 | 5 | 217,740 | 22.9 | 1 | (1) | — | — | — | — | — | — | — | — | — | — | 34 | 951,397 | |
| Oregon | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1 | 1,384 | 100.0 | — | — | — | — | 1 | 1,384 | |
| Pennsylvania | 4 | 92,385 | .1 | 129 | 2,205,969 | 2.8 | 482 | 22,486,011 | 28.3 | 248 | 8,150,206 | 10.3 | 159 | 14,889,460 | 18.7 | 114 | 21,288,768 | 26.8 | 49 | 7,603,993 | 9.6 | 21 | 2,717,732 | 3.4 | 1,206 | 79,443,524 | |
| South Dakota (lignite) .. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1 | 1,211 | 100.0 | — | — | — | — | — | — | 1 | 1,211 | |
| Tennessee | — | — | — | 11 | 373,670 | 8.3 | 81 | 2,852,173 | 63.6 | 16 | 728,764 | 16.2 | 6 | 340,794 | 7.6 | 2 | 186,520 | 4.2 | 1 | 3,813 | .1 | — | — | — | 117 | 4,485,734 | |
| Texas (lignite) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Utah | — | — | — | — | — | — | 6 | 151,401 | 2.3 | 3 | 35,545 | .5 | 2 | 9,065 | .1 | 5 | 253,935 | 3.8 | 11 | 639,682 | 9.6 | 40 | 5,580,268 | 83.7 | 67 | 6,669,896 | |
| Virginia | — | — | — | 8 | 426,562 | 2.6 | 246 | 6,272,693 | 39.0 | 31 | 4,214,590 | 26.2 | 13 | 2,637,837 | 16.4 | 6 | 885,495 | 5.5 | — | — | — | 4 | 1,663,824 | 10.3 | 308 | 16,101,001 | |
| Washington | 1 | 8,954 | 1.1 | 3 | 68,690 | 8.6 | 1 | (1) | — | 3 | 41,204 | 5.1 | 4 | 453,983 | 56.5 | 3 | 126,351 | 15.7 | 1 | 6,245 | .8 | 6 | 90,596 | 12.0 | 22 | 803,44 | |

TABLE 5. - NUMBER AND PRODUCTION OF BITUMINOUS-COAL AND LIGNITE STRIP MINES IN THE UNITED STATES, CLASSIFIED BY THICKNESS OF SEAMS MINED IN EACH STATE, IN 1950
(Exclusive of mines producing less than 1,000 tons)

| State | Less than 2 feet | | | 2 to 3 feet | | | 3 to 4 feet | | | 4 to 5 feet | | | 5 to 6 feet | | | 6 to 7 feet | | | 7 to 8 feet | | | 8 feet and over | | | Total | |
|----------------------------------|------------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|
| | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) |
| Alabama..... | 5 | 33,473 | 1.8 | 29 | 1,023,374 | 54.2 | 7 | 327,443 | 17.3 | 2 | 361,532 | 19.1 | 1 | 98,124 | 5.2 | 1 | 16,700 | 0.9 | - | - | - | 1 | 27,392 | 1.5 | 46 | 1,888,038 |
| Alaska..... | - | - | - | 4 | (1) | - | 1 | (1) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | 130,737 | |
| Arizona..... | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Arkansas..... | 7 | 96,971 | 19.2 | 1 | 2,000 | .4 | 4 | 136,613 | 27.0 | 1 | 11,400 | 2.3 | - | - | - | 1 | 5,154 | 1.0 | - | - | - | 1 | (1) | - | 15 | 504,946 |
| California (lignite)..... | - | - | - | - | - | - | 1 | (1) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | (1) | |
| Colorado..... | - | - | - | - | - | - | 1 | 17,446 | 4.3 | - | - | - | 1 | 146,057 | 35.9 | 3 | 48,449 | 11.9 | - | - | - | 3 | 194,761 | 47.9 | 8 | 406,713 |
| Georgia..... | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Illinois..... | - | - | - | 8 | 101,414 | .6 | 15 | 4,026,576 | 22.9 | 27 | 5,858,021 | 33.3 | 11 | 1,759,990 | 10.0 | 14 | 5,752,262 | 32.6 | 4 | 56,944 | 0.3 | 2 | 57,216 | .3 | 81 | 17,612,423 |
| Indiana..... | 1 | 21,582 | .2 | 7 | 565,050 | 5.3 | 10 | 2,006,941 | 18.7 | 19 | 6,578,199 | 61.2 | 5 | 1,462,361 | 13.6 | 1 | 103,588 | 1.0 | 1 | 1,846 | (2) | - | - | - | 44 | 10,739,567 |
| Iowa..... | - | - | - | 2 | 46,347 | 3.9 | 10 | 180,941 | 15.2 | 16 | 535,473 | 45.0 | 6 | 104,839 | 8.8 | 3 | 322,911 | 27.1 | - | - | - | - | - | - | 37 | 1,190,511 |
| Kansas..... | 25 | 1,301,709 | 64.3 | 1 | 685,375 | 33.9 | 6 | 37,268 | 1.8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 32 | 2,024,352 | |
| Kentucky..... | 1 | 16,561 | .1 | 13 | 257,577 | 1.9 | 77 | 3,095,696 | 22.1 | 23 | 2,488,565 | 17.8 | 11 | 4,508,600 | 32.3 | 10 | 2,993,525 | 21.4 | - | - | - | 1 | 617,119 | 4.4 | 136 | 13,977,643 |
| Maryland..... | - | - | - | 3 | 42,625 | 26.5 | 5 | 46,363 | 28.8 | 5 | 26,955 | 16.7 | - | - | - | - | - | - | - | - | 9 | 45,111 | 28.0 | 22 | 161,054 | |
| Michigan..... | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Missouri..... | 8 | 163,110 | 6.2 | 16 | 778,464 | 29.5 | 13 | 1,252,293 | 47.5 | 5 | 439,274 | 16.7 | - | - | - | 1 | 2,283 | .1 | - | - | - | - | - | - | 43 | 2,635,424 |
| Montana: | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bituminous..... | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 1,708,149 | 100.0 | 1 | 1,708,149 | |
| Lignite..... | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | (1) | - | 1 | (1) | |
| Total Montana..... | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 1,717,179 | 100.0 | 2 | 1,717,179 | |
| New Mexico..... | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| North Carolina..... | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| North Dakota (lignite).... | - | - | - | - | - | - | - | - | - | 1 | 11,029 | 0.4 | 4 | 13,724 | 0.5 | 4 | 411,366 | 14.5 | 5 | 403,429 | 14.3 | 23 | 1,988,508 | 70.3 | 37 | 2,828,056 |
| Ohio..... | 8 | 165,931 | 0.7 | 73 | 4,048,198 | 17.8 | 160 | 9,058,644 | 39.8 | 45 | 7,956,784 | 34.9 | 14 | 1,501,137 | 6.6 | 1 | 26,800 | .1 | 1 | 8,020 | (2) | 1 | 9,679 | .1 | 303 | 22,775,193 |
| Oklahoma..... | 10 | 814,016 | 47.1 | 15 | 814,668 | 47.2 | 2 | 20,757 | 1.2 | 2 | 77,733 | 4.5 | - | - | - | - | - | - | - | - | - | - | - | 29 | 1,727,174 | |
| Oregon..... | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Pennsylvania..... | 16 | 396,615 | 1.5 | 201 | 8,946,482 | 33.8 | 229 | 8,984,613 | 34.0 | 107 | 4,064,123 | 15.4 | 81 | 2,433,368 | 9.2 | 61 | 1,145,462 | 4.3 | 22 | 305,565 | 1.2 | 9 | 150,369 | .6 | 726 | 26,426,597 |
| South Dakota (lignite).... | - | - | - | - | - | - | - | - | - | 2 | 34,989 | 100.0 | - | - | - | - | - | - | - | - | - | - | - | 2 | 34,989 | |
| Tennessee..... | 1 | 159,395 | 27.3 | 4 | 132,662 | 22.7 | 9 | 204,795 | 35.1 | 1 | 52,000 | 8.9 | 1 | 35,214 | 6.0 | - | - | - | - | - | - | - | - | 16 | 584,066 | |
| Texas (lignite)..... | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 18,169 | 100.0 | 1 | 18,169 | |
| Utah..... | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Virginia..... | - | - | - | 2 | 143,539 | 9.2 | 3 | 248,363 | 15.9 | 5 | 290,130 | 18.5 | 3 | 224,245 | 14.3 | 3 | 87,373 | 5.6 | - | - | 3 | 571,996 | 36.5 | 19 | 1,565,646 | |
| Washington..... | - | - | - | 1 | (1) | - | - | - | - | 1 | 37,819 | 53.6 | - | - | - | - | - | - | - | - | 2 | 30,227 | 42.9 | 4 | 70,540 | |
| West Virginia..... | 1 | 29,479 | .2 | 7 | 241,344 | 1.9 | 54 | 2,181,688 | 16.8 | 48 | 2,160,454 | 16.6 | 64 | 3,836,909 | 29.6 | 35 | 2,363,158 | 18.2 | 10 | 730,088 | 5.6 | 30 | 1,443,034 | 11.1 | 249 | 12,986,154 |
| Wyoming..... | - | - | - | - | - | - | - | - | - | 1 | 2,605 | .2 | - | - | - | 1 | 81,005 | 5.5 | - | - | 10 | 1,375,289 | 94.3 | 12 | 1,458,899 | |
| Other States ^{1/} | - | - | - | - | 39,916 | - | - | 95,809 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 11,524 | | |
| Total..... | 83 | 3,198,842 | 2.6 | 387 | 17,869,035 | 14.5 | 607 | 31,922,249 | 25.8 | 311 | 30,987,085 | 25.1 | 202 | 16,124,568 | 13.1 | 139 | 13,360,036 | 10.8</td | | | | | | | | |

TABLE 6. - NUMBER AND PRODUCTION OF ALL BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, CLASSIFIED BY THICKNESS OF SEAMS MINED IN EACH STATE, IN 1950

(Exclusive of mines producing less than 1,000 tons)

| State | Less than 2 feet | | | 2 to 3 feet | | | 3 to 4 feet | | | 4 to 5 feet | | | 5 to 6 feet | | | 6 to 7 feet | | | 7 to 8 feet | | | 8 feet and over | | | | | |
|-----------------------------|------------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|------------|-------------|-----------|
| | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | | | |
| Alabama..... | 10 | 227,970 | 1.6 | 194 | 3,838,131 | 26.6 | 137 | 3,004,333 | 20.9 | 19 | 4,660,549 | 32.3 | 9 | 1,955,545 | 13.6 | 6 | 263,621 | 1.9 | 1 | 238,376 | 1.5 | 2 | 233,285 | 1.6 | 378 | 14,421,810 | |
| Alaska..... | - | - | - | 5 | 156,139 | 37.9 | 1 | (1) | - | - | - | - | - | - | - | 1 | (1) | - | - | - | - | - | - | - | 7 | 412,455 | |
| Arizona..... | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 4,446 | 100.0 | - | - | - | - | - | - | - | - | - | - | 1 | 4,446 |
| Arkansas..... | 16 | 313,142 | 26.8 | 15 | 302,967 | 25.9 | 11 | 246,095 | 21.0 | 8 | 41,899 | 3.6 | - | - | - | 1 | 5,154 | .5 | 1 | 7,003 | .6 | 1 | (1) | - | 53 | 1,169,068 | |
| California (lignite)..... | - | - | - | - | - | - | 1 | (1) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | (1) | |
| Colorado..... | 2 | 49,953 | 1.2 | 2 | 3,243 | .1 | 19 | 137,198 | 3.2 | 31 | 1,033,647 | 24.3 | 44 | 602,973 | 14.1 | 26 | 480,871 | 11.3 | 13 | 200,521 | 4.7 | 36 | 1,750,094 | 41.1 | 173 | 4,258,500 | |
| Georgia..... | 7 | 18,000 | 100.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7 | 18,000 | |
| Illinois..... | - | - | - | 8 | 101,414 | .2 | 24 | 4,115,851 | 7.3 | 102 | 10,502,394 | 18.6 | 46 | 4,484,298 | 8.0 | 65 | 17,492,728 | 31.1 | 32 | 8,546,991 | 15.2 | 21 | 11,047,245 | 19.6 | 298 | 56,290,921 | |
| Indiana..... | 1 | 21,582 | .1 | 7 | 565,050 | 2.8 | 14 | 2,380,162 | 11.9 | 40 | 8,206,344 | 41.1 | 21 | 4,835,621 | 24.3 | 12 | 2,819,322 | 14.1 | 4 | 623,108 | 3.1 | 1 | 505,840 | 2.6 | 100 | 19,957,029 | |
| Iowa..... | 1 | 8,971 | .5 | 22 | 207,750 | 11.0 | 16 | 226,588 | 12.0 | 55 | 767,886 | 40.6 | 17 | 272,886 | 14.4 | 9 | 403,133 | 21.3 | 1 | 4,197 | .2 | - | - | - | - | 121 | 1,891,411 |
| Kansas..... | 31 | 1,322,723 | 62.3 | 6 | 714,654 | 33.6 | 11 | 87,603 | 4.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 48 | 2,124,980 | |
| Kentucky..... | 3 | 20,289 | (2) | 347 | 4,891,840 | 6.2 | 2,463 | 34,915,011 | 44.5 | 354 | 18,113,359 | 23.1 | 50 | 11,945,299 | 15.2 | 31 | 7,494,953 | 9.6 | 7 | 404,654 | .5 | 4 | 710,198 | .9 | 3,259 | 78,495,603 | |
| Maryland..... | 2 | 2,281 | .3 | 36 | 201,847 | 31.1 | 24 | 179,281 | 27.7 | 23 | 102,079 | 15.8 | 2 | 48,469 | 7.5 | - | - | - | 1 | 2,756 | .4 | 17 | 111,210 | 17.2 | 105 | 647,923 | |
| Michigan..... | - | - | - | 1 | 11,500 | 100.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 11,500 | | |
| Missouri..... | 16 | 190,257 | 6.4 | 32 | 866,110 | 29.2 | 25 | 1,416,651 | 47.8 | 13 | 487,780 | 16.5 | - | - | - | 1 | 2,283 | .1 | - | - | - | - | - | - | 87 | 2,963,081 | |
| Montana: | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bituminous..... | - | - | - | - | - | - | 1 | 4,687 | 0.2 | 3 | 396,861 | 16.1 | - | - | - | 6 | 248,624 | 10.1 | 1 | 3,331 | 0.1 | 5 | 1,814,533 | 73.5 | 16 | 2,468,036 | |
| Lignite..... | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 3,001 | 5.8 | 6 | (1) | ~ | 7 | 52,130 | | |
| Total Montana..... | - | - | - | - | - | - | 1 | 4,687 | 0.2 | 3 | 396,861 | 15.7 | - | - | - | 6 | 248,624 | 9.9 | 2 | 6,332 | 0.3 | 11 | 1,863,662 | 73.9 | 23 | 2,520,166 | |
| New Mexico..... | - | - | - | - | - | - | 5 | 22,416 | 3.1 | 15 | 117,512 | 16.2 | 4 | 584,502 | 80.4 | 1 | 2,528 | .3 | - | - | - | - | - | - | 25 | 726,958 | |
| North Carolina..... | - | - | - | - | - | - | 1 | (1) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | (1) | |
| North Dakota (lignite)..... | - | - | - | - | - | - | - | - | - | 1 | 11,029 | .3 | 4 | 13,724 | .4 | 4 | 411,366 | 12.6 | 7 | 409,650 | 12.6 | 28 | 2,415,204 | 74.1 | 44 | 3,260,973 | |
| Ohio..... | 8 | 165,931 | 0.4 | 117 | 4,343,381 | 11.5 | 354 | 12,380,412 | 32.8 | 133 | 13,462,206 | 35.7 | 54 | 6,377,244 | 16.9 | 13 | 988,171 | 2.6 | 5 | 29,117 | .1 | 4 | 14,629 | (2) | 688 | 37,761,091 | |
| Oklahoma..... | 18 | 848,678 | 31.7 | 21 | 874,404 | 32.7 | 16 | 656,945 | 24.5 | 7 | 295,473 | 11.0 | 1 | 3,071 | .1 | - | - | - | - | - | - | - | - | 63 | 2,678,571 | | |
| Oregon..... | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 1,384 | 100.0 | - | - | - | 1 | 1,384 | | |
| Pennsylvania..... | 20 | 489,000 | .5 | 330 | 11,152,451 | 10.5 | 711 | 31,470,624 | 29.7 | 355 | 12,223,329 | 11.5 | 240 | 17,322,828 | 16.4 | 175 | 22,434,230 | 21.2 | 71 | 7,909,558 | 7.5 | 30 | 2,868,101 | 2.7 | 1,932 | 105,870,121 | |
| South Dakota (lignite)..... | - | - | - | - | - | - | - | - | - | 2 | 34,989 | 96.7 | - | - | - | 1 | (1) | - | - | - | - | - | - | 3 | 36,200 | | |
| Tennessee..... | 1 | 159,395 | 3.1 | 15 | 506,332 | 10.0 | 90 | 3,056,968 | 60.3 | 17 | 780,764 | 15.4 | 7 | 376,008 | 7.4 | 2 | 186,520 | 3.7 | 1 | 303,813 | .1 | - | - | - | 133 | 5,069,800 | |
| Texas (lignite)..... | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 18,169 | | |
| Utah..... | - | - | - | - | - | - | 6 | 151,401 | 2.3 | 3 | 35,545 | .5 | 2 | 9,065 | .1 | 5 | 253,935 | 3.8 | 11 | 639,682 | 9.6 | 40 | 5,580,268 | 83.7 | 67 | 6,669,896 | |
| Virginia..... | - | - | - | 10 | 570,101 | 3.2 | 249 | 6,521,056 | 36.9 | 36 | 4,504,720 | 25.5 | 16 | 2,862,082 | 16.2 | 9 | 972,868 | 5.5 | - | - | 7 | 2,235,820 | 12.7 | 327 | 17,666,647 | | |
| Washington..... | 1 | 8,954 | 1.0 | 4 | 71,184 | 8.2 | 1 | 1,426 | .2 | 4 | 79,023 | 9.0 | 4 | 453,983 | 51.9 | 3 | 126,351 | 14.5 | 1 | 6,245 | .7 | 8 | 126,823 | 14.5 | 26 | 873,989 | |
| West Virginia..... | 1 | 29,479 | (2) | 119 | 6,280,605 | 4.3 | 383 | 39,229,539 | 27.2 | | | | | | | | | | | | | | | | | | |

TABLE 7. - NUMBER AND PRODUCTION OF BITUMINOUS COAL AND LIGNITE UNDERGROUND MINES IN THE UNITED STATES, CLASSIFIED BY THICKNESS OF SEAMS MINED IN EACH DISTRICT IN 1950

(Districts as defined in the Bituminous Coal Act of 1937 and modifications thereto. Exclusive of mines producing less than 1,000 tons)

| District | Less than 2 feet | | | 2 to 3 feet | | | 3 to 4 feet | | | 4 to 5 feet | | | 5 to 6 feet | | | 6 to 7 feet | | | 7 to 8 feet | | | 8 feet and over | | | Total | | |
|--|------------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|
| | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production |
| 1. Eastern Pennsylvania | 5 | 12,995 | 0.1 | 157 | 2,341,701 | 7.6 | 419 | 20,225,657 | 66.0 | 186 | 4,572,922 | 14.9 | 55 | 3,103,254 | 10.1 | 18 | 156,669 | 0.5 | 1 | 2,756 | (1) | 9 | 233,469 | 0.8 | 850 | 30,649,423 | |
| 2. Western Pennsylvania | 1 | 81,671 | .1 | 13 | 110,944 | .2 | 83 | 2,438,177 | 4.9 | 80 | 3,661,408 | 7.4 | 110 | 11,936,277 | 24.1 | 97 | 21,160,809 | 42.7 | 49 | 7,603,993 | 15.4 | 20 | 2,550,362 | 5.2 | 453 | 49,543,641 | |
| 3. Northern West Virginia | -- | -- | -- | 5 | 612,203 | 1.8 | 39 | 3,167,590 | 9.3 | 92 | 2,823,266 | 8.3 | 48 | 2,803,555 | 8.2 | 71 | 7,823,931 | 23.0 | 66 | 11,386,131 | 33.5 | 48 | 5,397,688 | 15.9 | 369 | 34,014,364 | |
| 4. Ohio | -- | -- | -- | 44 | 295,183 | 2.0 | 194 | 3,321,768 | 22.2 | 88 | 5,505,422 | 36.7 | 40 | 4,876,107 | 32.5 | 12 | 961,371 | 6.5 | 4 | 21,097 | .1 | 3 | 4,950 | (1) | 385 | 14,985,898 | |
| 5. Michigan | -- | -- | -- | 1 | 11,500 | 100.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 11,500 | | |
| 6. Panhandle | -- | -- | -- | -- | -- | -- | 1 | 23,693 | 0.7 | 14 | 2,527,933 | 74.5 | 4 | 843,742 | 24.8 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19 | 3,395,368 |
| 7. Southern Numbered 1 | -- | -- | -- | 62 | 4,049,686 | 8.8 | 164 | 18,742,099 | 41.0 | 92 | 9,564,447 | 20.0 | 38 | 5,343,343 | 11.7 | 21 | 5,614,865 | 12.3 | 4 | 1,687,929 | 3.7 | 11 | 741,027 | 1.6 | 392 | 45,743,396 | |
| 8. Southern Numbered 2 | 2 | 3,728 | (1) | 388 | 6,679,532 | 5.6 | 2,794 | 55,367,572 | 46.3 | 286 | 30,242,469 | 25.3 | 98 | 15,032,533 | 12.5 | 37 | 7,528,253 | 6.3 | 12 | 1,878,199 | 1.6 | 16 | 2,934,081 | 2.4 | 3,633 | 119,666,367 | |
| 9. West Kentucky | -- | -- | -- | 1 | 42,456 | .3 | 6 | 87,758 | .7 | 198 | 4,750,285 | 37.8 | 17 | 5,233,560 | 41.6 | 13 | 2,068,628 | 16.5 | 4 | 383,409 | 3.1 | -- | -- | -- | 239 | 12,566,096 | |
| 10. Illinois | -- | -- | -- | -- | -- | -- | 9 | 89,275 | .2 | 75 | 4,644,373 | 12.0 | 35 | 2,724,308 | 7.0 | 51 | 11,740,466 | 30.4 | 28 | 8,490,047 | 22.0 | 19 | 10,990,029 | 28.4 | 217 | 38,678,498 | |
| 11. Indiana | -- | -- | -- | -- | -- | -- | 4 | 373,221 | 4.0 | 21 | 1,628,145 | 17.7 | 16 | 3,373,260 | 36.6 | 11 | 2,715,734 | 29.5 | 3 | 621,262 | 6.7 | 1 | 505,840 | 5.5 | 56 | 9,217,462 | |
| 12. Iowa | 1 | 8,971 | 1.3 | 20 | 161,403 | 23.0 | 6 | 45,647 | 6.5 | 39 | 232,413 | 33.2 | 11 | 168,047 | 24.0 | 6 | 80,222 | 11.4 | 1 | 4,197 | .6 | -- | -- | -- | 84 | 700,900 | |
| 13. Southeastern | 12 | 212,497 | 1.6 | 166 | 2,817,182 | 21.4 | 168 | 3,259,240 | 24.8 | 22 | 4,320,326 | 32.8 | 8 | 1,857,421 | 14.1 | 5 | 246,921 | 1.9 | 2 | 242,189 | 1.8 | 1 | 205,893 | 1.6 | 384 | 13,161,669 | |
| 14. Arkansas-Oklahoma | 17 | 250,833 | 25.8 | 18 | 348,886 | 36.0 | 11 | 123,853 | 12.8 | 9 | 236,576 | 24.4 | 1 | 3,071 | .3 | -- | -- | 1 | 7,003 | .7 | -- | -- | -- | 57 | 970,222 | | |
| 15. Southwestern | 14 | 48,161 | 4.5 | 23 | 128,742 | 12.0 | 27 | 836,510 | 77.9 | 11 | 60,169 | 5.6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 75 | 1,073,582 | | |
| 16. Northern Colorado | 1 | 41,516 | 4.3 | -- | -- | -- | -- | -- | -- | 2 | 5,120 | .5 | 4 | 147,748 | 15.2 | 2 | 15,743 | 1.6 | 6 | 163,358 | 16.8 | 8 | 597,926 | 61.6 | 23 | 971,411 | |
| 17. Southern Colorado | 1 | 8,437 | .2 | 2 | 3,243 | 0.1 | 18 | 119,752 | 3.5 | 35 | 1,055,437 | 30.5 | 42 | 863,482 | 24.0 | 21 | 416,679 | 12.0 | 7 | 37,163 | 1.1 | 25 | 957,407 | 27.7 | 151 | 3,461,600 | |
| 18. New Mexico | -- | -- | -- | -- | -- | -- | 5 | 22,416 | 14.0 | 9 | 90,602 | 60.3 | 2 | 34,634 | 23.1 | 1 | 2,528 | 1.7 | -- | -- | -- | -- | -- | 17 | 150,180 | | |
| 19. Wyoming | -- | -- | -- | -- | -- | -- | 4 | 10,051 | .2 | 4 | 1,075,740 | 22.0 | 7 | 183,161 | 3.7 | 4 | 1,753,772 | 35.9 | 2 | 315,933 | 6.5 | 12 | 1,550,693 | 31.7 | 33 | 4,889,350 | |
| 20. Utah | -- | -- | -- | -- | -- | -- | 6 | 151,401 | 2.3 | 3 | 35,545 | .5 | 2 | 9,065 | .1 | 5 | 253,935 | 3.8 | 11 | 639,682 | 9.6 | 40 | 5,580,268 | 83.7 | 67 | 6,669,896 | |
| 21. North-South Dakota (lignite) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1,211 | 0.3 | 2 | 6,221 | 1.4 | 5 | 426,696 | 98.3 | 8 | 434,128 | |
| 22. Montana | -- | -- | -- | -- | -- | -- | 1 | 4,687 | .6 | 3 | 396,861 | 49.4 | -- | -- | -- | 6 | 248,624 | 31.0 | 2 | 6,332 | .8 | 9 | 146,483 | 18.2 | 21 | 802,987 | |
| 23. Washington | 1 | 8,954 | 0.8 | 4 | 187,407 | 17.3 | 1 | 1,426 | .1 | 3 | 41,204 | 3.8 | 4 | 453,983 | 41.8 | 4 | 289,352 | 26.6 | 2 | 7,629 | .7 | 6 | 96,596 | 8.9 | 25 | 1,086,551 | |
| Total | 55 | 677,763 | 0.2 | 904 | 17,790,068 | 4.5 | 3,960 | 108,411,793 | 27.6 | 1,272 | 77,470,663 | 19.7 | 542 | 58,990,551 | 15.0 | 386 | 63,079,713 | 16.1 | 207 | 33,504,530 | 8.5 | 233 | 32,919,408 | 8.4 | 7,559 | 392,844,489 | |

1/Less than 0.05 percent.

TABLE 8. - NUMBER AND PRODUCTION OF BITUMINOUS-COAL AND LIGNITE STRIP MINES IN THE UNITED STATES, CLASSIFIED BY THICKNESS OF SEAMS MINED IN EACH DISTRICT IN 1950

(Districts as defined in the Bituminous Coal Act of 1937 and modifications thereto. Exclusive of mines producing less than 1,000 tons)

| District | Less than 2 feet | | | 2 to 3 feet | | | 3 to 4 feet | | | 4 to 5 feet | | | 5 to 6 feet | | | 6 to 7 feet | | | 7 to 8 feet | | | 8 feet and over | | | Total | | |
|--|------------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|------------|
| | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Total |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. Eastern Pennsylvania | 13 | 294,392 | 1.8 | 171 | 7,464,463 | 46.1 | 166 | 6,122,698 | 37.8 | 51 | 1,592,592 | 9.9 | 13 | 278,804 | 1.7 | 6 | 338,755 | 2.1 | 2 | 35,035 | 0.2 | 10 | 62,789 | 0.4 | 432 | 16,189,528 | |
| 2. Western Pennsylvania | 3 | 102,223 | 1.0 | 33 | 1,524,644 | 14.4 | 74 | 2,975,190 | 28.2 | 61 | 2,498,486 | 23.7 | 69 | 2,157,173 | 20.4 | 56 | 894,717 | 8.5 | 20 | 270,530 | 2.6 | 8 | 132,691 | 1.2 | 324 | 10,555,054 | |
| 3. Northern West Virginia | -- | -- | -- | 1 | 24,047 | .3 | 18 | 480,214 | 6.2 | 17 | 608,345 | 7.8 | 40 | 2,907,673 | 37.5 | 27 | 1,997,969 | 25.7 | 9 | 570,285 | 7.4 | 28 | 1,175,623 | 15.1 | 140 | 7,764,156 | |
| 4. Ohio | 8 | 165,931 | .7 | 73 | 4,048,198 | 17.8 | 160 | 9,058,644 | 39.8 | 45 | 7,956,784 | 34.9 | 14 | 1,501,137 | 6.6 | 1 | 26,800 | .1 | 1 | 8,020 | (1) | 1 | 9,679 | .1 | 303 | 22,775,193 | |
| 5. Michigan | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| 6. Panhandle | -- | -- | -- | -- | -- | -- | 1 | 375,983 | 49.5 | 5 | 264,539 | 34.9 | 6 | 118,251 | 15.6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 12 | 758,773 |
| 7. Southern Numbered 1 | 1 | 29,479 | 1.0 | 6 | 177,759 | 6.3 | 21 | 956,721 | 33.9 | 16 | 762,656 | 27.1 | 11 | 711,351 | 25.2 | 2 | 117,479 | 4.2 | -- | -- | -- | -- | 1 | 63,795 | 2.3 | 58 | 2,819,240 |
| 8. Southern Numbered 2 | 2 | 175,956 | 2.9 | 16 | 462,214 | 7.7 | 73 | 2,138,885 | 35.9 | 17 | 870,044 | 14.6 | 11 | 442,060 | 7.4 | 9 | 320,975 | 5.4 | 1 | 159,803 | 2.7 | 5 | 1,392,731 | 23.4 | 134 | 5,962,668 | |
| 9. West Kentucky | -- | -- | -- | 2 | 26,583 | .2 | 21 | 1,612,490 | 14.1 | 22 | 2,485,565 | 21.7 | 10 | 4,423,024 | 38.5 | 9 | 2,910,623 | 25.5 | -- | -- | -- | -- | -- | -- | -- | 64 | 11,467,285 |
| 10. Illinois | -- | -- | -- | 8 | 101,414 | .6 | 15 | 4,026,576 | 22.9 | 27 | 5,858,021 | 33.3 | 11 | 1,759,990 | 10.0 | 14 | 5,752,262 | 32.6 | 4 | 56,944 | .3 | 2 | 57,216 | .3 | 81 | 17,612,423 | |
| 11. Indiana | 1 | 21,582 | .2 | 7 | 565,050 | 5.3 | 10 | 2,006,941 | 18.7 | 19 | 6,578,199 | 61.2 | 5 | 1,462,361 | 13.6 | 1 | 103,588 | 1.0 | 1 | 1,846 | (1) | -- | -- | -- | -- | 44 | 10,739,567 |
| 12. Iowa | -- | -- | -- | 2 | 46,347 | 3.9 | 10 | 180,941 | 15.2 | 16 | 535,473 | 45.0 | 6 | 104,839 | 8.8 | 3 | 322,911 | 27.1 | -- | -- | -- | -- | -- | -- | -- | 37 | 1,190,511 |
| 13. Southeastern | 5 | 33,473 | 1.6 | 30 | 1,107,893 | 53.5 | 10 | 426,780 | 20.6 | 2 | 361,532 | 17.5 | 1 | 98,124 | 4.7 | 1 | 16,700 | .8 | -- | -- | -- | -- | 1 | 27,392 | 1.3 | 50 | 2,071,894 |
| 14. Arkansas-Oklahoma | 10 | 329,880 | 29.5 | 10 | 380,756 | 34.0 | 5 | 138,170 | 12.4 | 1 | 11,400 | 1.0 | -- | -- | -- | 1 | 5,154 | .5 | -- | -- | -- | -- | 1 | 252,808 | 22.6 | 28 | 1,118,168 |
| 15. Southwestern | 40 | 2,045,926 | 35.3 | 23 | 1,899,751 | 32.8 | 20 | 1,308,761 | 22.6 | 7 | 517,007 | 8.9 | -- | -- | -- | 1 | 2,283 | .1 | -- | -- | -- | -- | 1 | 18,169 | .3 | 92 | 5,791,897 |
| 16. Northern Colorado | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 | 46,684 | 71.8 | -- | -- | -- | 2 | 18,324 | 28.2 | 4 | 65,008 | |
| 17. Southern Colorado | -- | -- | -- | -- | -- | -- | 1 | 17,446 | 5.1 | -- | -- | -- | 1 | 146,057 | 42.8 | 1 | 1,765 | .5 | -- | -- | -- | 1 | 176,437 | 51.6 | 4 | 341,705 | |
| 18. New Mexico | -- | -- | -- | -- | -- | -- | 1 | 2,494 | 100.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 2,494 | |
| 19. Wyoming | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 2,605 | .2 | -- | -- | -- | 1 | 81,005 | 5.5 | -- | -- | -- | 10 | 1,375,289 | 94.3 | 12 | 1,458,899 | |
| 20. Utah | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| 21. North-South Dakota (lignite) | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3 | 46,018 | 1.6 | 4 | 13,724 | .5 | 4 | 411,366 | 14.4 | 5 | 403,429 | 14.1 | 23 | 1,988,508 | 69.4 | 39 | 2,863,045 | |
| 22. Montana | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 | 1,717,179 | 100.0 | 2 | 1,717,179 | | |
| 23. Washington | -- | -- | -- | 5 | 39,916 | 19.8 | 1 | 93,315 | 46.4 | 1 | 37,810 | 18.8 | -- | -- | -- | -- | -- | -- | -- | -- | 2 | 30,227 | 15.0 | 9 | 201,277 | | |
| Total | 83 | 3,198,842 | 2.6 | 387 | 17,869,035 | 14.5 | 607 | 31,922,249 | 25.8 | 311 | 30,987,035 | 25.1 | 202 | 16,124,568 | 13.1 | 139 | 13,360,036 | 10.8 | 43 | 1,505,892 | 1.2 | 98 | 8,498,857 | 6.9 | 1,870 | 123,466,564 | |

1/Less than 0.05 percent.

TABLE 9. - NUMBER AND PRODUCTION OF ALL BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, CLASSIFIED BY THICKNESS OF SEAMS MINED IN EACH DISTRICT IN 1950

(Districts as defined in the Bituminous Coal Act of 1937 and modifications thereto. Exclusive of mines producing less than 1,000 tons)

| District | Less than 2 feet | | | 2 to 3 feet | | | 3 to 4 feet | | | 4 to 5 feet | | | 5 to 6 feet | | | 6 to 7 feet | | | 7 to 8 feet | | | 8 feet and over | | | Total | |
|-------------------------------------|------------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|-----------------------------|-----------------|-----------------------|
| | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) | Percent of total production | Number of mines | Production (net tons) |
| 1. Eastern Pennsylvania | 18 | 307,387 | 0.7 | 328 | 9,806,164 | 20.4 | 585 | 26,348,355 | 56.2 | 237 | 6,165,514 | 13.2 | 68 | 3,382,058 | 7.2 | 24 | 495,424 | 1.1 | 3 | 37,791 | 0.1 | 19 | 296,258 | 0.6 | 1,282 | 46,838,951 |
| 2. Western Pennsylvania | 4 | 183,894 | .3 | 46 | 1,635,588 | 2.7 | 157 | 5,413,367 | 9.0 | 141 | 6,159,894 | 10.2 | 179 | 14,093,450 | 23.5 | 153 | 22,055,526 | 36.7 | 69 | 7,874,523 | 13.1 | 28 | 2,683,053 | 4.5 | 777 | 60,099,295 |
| 3. Northern West Virginia | — | — | — | 6 | 636,250 | 1.5 | 57 | 3,647,804 | 8.7 | 109 | 3,431,611 | 8.2 | 88 | 5,711,228 | 13.7 | 98 | 9,821,900 | 23.5 | 75 | 11,956,416 | 28.6 | 76 | 6,573,311 | 15.8 | 509 | 41,778,520 |
| 4. Ohio | 8 | 165,931 | .4 | 117 | 4,343,381 | 11.5 | 354 | 12,380,412 | 32.8 | 133 | 13,462,206 | 35.7 | 54 | 6,377,244 | 16.9 | 13 | 988,171 | 2.6 | 5 | 29,117 | .1 | 4 | 14,629 | (1) | 688 | 37,761,091 |
| 5. Michigan | — | — | — | 1 | 11,500 | 100.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 11,500 | |
| 6. Panhandle | — | — | — | -- | -- | -- | 2 | 399,676 | 9.6 | 19 | 2,792,472 | 67.2 | 10 | 961,993 | 23.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 31 | 4,154,141 |
| 7. Southern Numbered 1 | 1 | 29,479 | .1 | 68 | 4,227,445 | 8.7 | 185 | 19,698,820 | 40.5 | 108 | 10,327,103 | 21.3 | 49 | 6,054,694 | 12.5 | 23 | 5,732,344 | 11.8 | 4 | 1,687,929 | 3.5 | 12 | 804,822 | 1.6 | 450 | 48,562,636 |
| 8. Southern Numbered 2 | 4 | 179,684 | .1 | 404 | 7,141,746 | 5.7 | 2,867 | 57,506,457 | 45.8 | 303 | 31,112,513 | 24.8 | 109 | 15,474,593 | 12.3 | 46 | 7,849,228 | 6.3 | 13 | 2,038,002 | 1.6 | 21 | 4,326,812 | 3.4 | 3,767 | 125,629,035 |
| 9. West Kentucky | — | — | — | 3 | 69,039 | .3 | 27 | 1,700,248 | 7.1 | 220 | 7,235,850 | 30.1 | 27 | 9,656,584 | 40.2 | 22 | 4,988,251 | 20.7 | 4 | 383,409 | 1.6 | -- | -- | -- | 303 | 24,033,381 |
| 10. Illinois | — | — | — | 8 | 101,414 | .2 | 24 | 4,115,851 | 7.3 | 102 | 10,502,394 | 18.6 | 46 | 4,484,298 | 8.0 | 65 | 17,492,728 | 31.1 | 32 | 8,546,991 | 15.2 | 21 | 11,047,245 | 19.6 | 298 | 56,290,921 |
| 11. Indiana | 1 | 21,582 | .1 | 7 | 565,050 | 2.8 | 14 | 2,380,162 | 11.9 | 40 | 8,206,344 | 41.1 | 21 | 4,835,621 | 24.3 | 12 | 2,819,322 | 14.1 | 4 | 623,108 | 3.1 | 1 | 505,840 | 2.6 | 100 | 19,957,029 |
| 12. Iowa | 1 | 8,971 | .5 | 22 | 207,750 | 11.0 | 16 | 226,588 | 12.0 | 55 | 767,836 | 40.6 | 17 | 272,886 | 14.4 | 9 | 403,133 | 21.3 | 1 | 4,197 | .2 | -- | -- | -- | 121 | 1,891,411 |
| 13. Southeastern | 17 | 243,970 | 1.6 | 196 | 3,925,075 | 25.8 | 178 | 3,686,020 | 24.2 | 24 | 4,681,858 | 30.7 | 9 | 1,955,545 | 12.8 | 6 | 263,621 | 1.7 | 2 | 242,189 | 1.6 | 2 | 233,285 | 1.6 | 434 | 15,233,563 |
| 14. Arkansas-Oklahoma | 27 | 580,713 | 27.8 | 28 | 729,642 | 34.9 | 16 | 262,023 | 12.5 | 10 | 247,976 | 11.9 | 1 | 3,071 | .2 | 1 | 5,154 | .3 | 1 | 7,003 | .3 | 1 | 252,808 | 12.1 | 85 | 4,088,390 |
| 15. Southwestern | 54 | 2,094,087 | 30.5 | 46 | 2,028,493 | 29.5 | 47 | 2,145,271 | 31.3 | 18 | 577,176 | 8.4 | -- | -- | -- | 1 | 2,283 | (1) | -- | -- | 1 | 18,169 | .3 | 167 | 6,865,479 | |
| 16. Northern Colorado | 1 | 41,516 | 4.0 | -- | -- | -- | -- | -- | -- | 2 | 5,120 | .5 | 4 | 147,748 | 14.2 | 4 | 62,427 | 6.0 | 6 | 163,358 | 15.8 | 10 | 616,250 | 59.5 | 27 | 1,036,419 |
| 17. Southern Colorado | 1 | 8,437 | .2 | 2 | 3,243 | .1 | 19 | 137,198 | 3.6 | 35 | 1,055,437 | 27.7 | 43 | 1,009,539 | 26.6 | 22 | 418,444 | 11.0 | 7 | 37,163 | 1.0 | 26 | 1,133,844 | 29.8 | 155 | 3,803,305 |
| 18. New Mexico | — | — | — | -- | -- | -- | 6 | 24,910 | 16.3 | 9 | 90,602 | 59.3 | 2 | 34,634 | 22.7 | 1 | 2,528 | 1.7 | -- | -- | -- | -- | -- | -- | 18 | 152,674 |
| 19. Wyoming | — | — | — | -- | -- | -- | 4 | 10,051 | .1 | 5 | 1,078,345 | 17.0 | 7 | 183,161 | 2.9 | 5 | 1,834,777 | 28.9 | 2 | 315,933 | 5.0 | 22 | 2,925,982 | 46.1 | 45 | 6,348,249 |
| 20. Utah | — | — | — | -- | -- | -- | 6 | 151,401 | 2.3 | 3 | 35,545 | .5 | 2 | 9,065 | .1 | 5 | 253,935 | 3.8 | 11 | 639,682 | 9.6 | 40 | 5,580,268 | 83.7 | 67 | 6,669,896 |
| 21. North-South Dakota (lignite) .. | — | — | — | -- | -- | -- | -- | -- | -- | 3 | 46,018 | 1.4 | 4 | 13,724 | .4 | 5 | 412,577 | 12.5 | 7 | 409,650 | 12.4 | 28 | 2,415,204 | 73.3 | 47 | 3,297,173 |
| 22. Montana | — | — | — | -- | -- | -- | 1 | 4,687 | .2 | 3 | 396,861 | 15.7 | -- | -- | -- | 6 | 248,624 | 9.9 | 2 | 6,332 | .3 | 11 | 1,863,662 | 73.9 | 23 | 2,520,166 |
| 23. Washington | 1 | 8,954 | .7 | 9 | 227,323 | 17.7 | 2 | 94,741 | 7.4 | 4 | 79,023 | 6.1 | 4 | 453,983 | 35.2 | 4 | 289,352 | 22.5 | 2 | 7,629 | .6 | 8 | 126,823 | 9.8 | 34 | 1,287,828 |
| Total | 138 | 3,876,605 | 0.8 | 1,291 | 35,659,103 | 6.9 | 4,567 | 140,334,042 | 27.2 | 1,583 | 108,457,748 | 21.0 | 744 | 75,115,119 | 14.5 | 525 | 76,439,749 | 14.8 | 250 | 35,010,422 | 6.8 | 331 | 41,418,265 | 8.0 | 9,429 | 516,311,053 |

^{1/} Less than 0.05 percent.

TABLE 10. - NUMBER AND PRODUCTION OF BITUMINOUS-COAL AND LIGNITE MINES IN THE UNITED STATES, CLASSIFIED BY SIZE OF OUTPUT AND THICKNESS OF SEAMS MINED IN 1920, 1945, AND 1950

(Exclusive of mines producing less than 1,000 tons)

| Year and size of output | Less than 2 feet | | | 2 to 3 feet | | | 3 to 4 feet | | | 4 to 5 feet | | | 5 to 6 feet | | | 6 to 7 feet | | | 7 to 8 feet | | | 8 feet and over | | | Unspecified | | Total | | |
|--|------------------|------------------------------------|-----------------------------|-----------------|------------------------------------|-----------------------------|-----------------|------------------------------------|-----------------------------|-----------------|------------------------------------|-----------------------------|-----------------|------------------------------------|-----------------------------|-----------------|------------------------------------|-----------------------------|-----------------|------------------------------------|-----------------------------|-----------------|------------------------------------|-----------------------------|-----------------|------------------------------------|-----------------------------|-----------------|------------------------------------|
| | Number of mines | Production (thousands of net tons) | Percent of total production | Number of mines | Production (thousands of net tons) | Percent of total production | Number of mines | Production (thousands of net tons) | Percent of total production | Number of mines | Production (thousands of net tons) | Percent of total production | Number of mines | Production (thousands of net tons) | Percent of total production | Number of mines | Production (thousands of net tons) | Percent of total production | Number of mines | Production (thousands of net tons) | Percent of total production | Number of mines | Production (thousands of net tons) | Percent of total production | Number of mines | Production (thousands of net tons) | Percent of total production | Number of mines | Production (thousands of net tons) |
| <u>1920</u> ^{1/} | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mines producing less than 10,000 tons | 71 | 318 | 3.1 | 415 | 1,841 | 18.0 | 520 | 2,407 | 23.6 | 291 | 1,369 | 13.4 | 175 | 765 | 7.5 | 63 | 300 | 2.9 | 52 | 244 | 2.4 | 55 | 208 | 2.0 | 1,048 | 2,769 | 27.1 | 2,690 | 10,221 |
| Mines producing 10,000 to 50,000 tons | 54 | 1,244 | 1.5 | 581 | 13,670 | 16.9 | 1,040 | 26,093 | 32.2 | 698 | 18,493 | 22.8 | 415 | 11,249 | 14.0 | 152 | 4,256 | 5.3 | 83 | 2,130 | 2.6 | 72 | 1,873 | 2.3 | 101 | 1,961 | 2.4 | 3,196 | 80,969 |
| Mines producing 50,000 to 100,000 tons ... | 13 | 803 | .9 | 115 | 7,859 | 8.6 | 400 | 27,913 | 30.5 | 366 | 26,190 | 28.6 | 202 | 14,506 | 15.9 | 109 | 7,817 | 8.5 | 54 | 3,929 | 4.3 | 31 | 2,070 | 2.3 | 6 | 374 | 0.4 | 1,296 | 91,461 |
| Mines producing 100,000 to 200,000 tons .. | 1 | 116 | .1 | 40 | 5,766 | 4.0 | 208 | 27,911 | 19.5 | 318 | 44,326 | 30.9 | 236 | 33,490 | 23.4 | 102 | 14,294 | 10.0 | 81 | 12,231 | 8.5 | 33 | 4,550 | 3.2 | 4 | 549 | 0.4 | 1,023 | 143,233 |
| Mines producing more than 200,000 tons ... | -- | -- | -- | 8 | 2,217 | .9 | 72 | 20,032 | 8.4 | 119 | 35,994 | 15.1 | 194 | 65,579 | 27.6 | 133 | 49,588 | 20.9 | 123 | 44,799 | 18.8 | 51 | 19,151 | 8.1 | 2 | 512 | 0.2 | 702 | 237,872 |
| Total | 139 | 2,481 | 0.4 | 1,159 | 31,353 | 5.6 | 2,240 | 104,356 | 18.5 | 1,792 | 126,372 | 22.4 | 1,222 | 125,589 | 22.3 | 559 | 76,255 | 13.5 | 393 | 63,333 | 11.2 | 242 | 27,852 | 5.0 | 1,161 | 6,165 | 1.1 | 8,907 | 563,756 |
| <u>1945</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mines producing less than 10,000 tons | 70 | 289 | 2.3 | 497 | 1,610 | 12.7 | 1,046 | 4,197 | 33.1 | 763 | 3,300 | 26.0 | 376 | 1,586 | 12.5 | 199 | 939 | 7.4 | 79 | 340 | 2.7 | 110 | 419 | 3.3 | — | (2) | — | 3,140 | 12,680 |
| Mines producing 10,000 to 50,000 tons | 26 | 617 | 1.4 | 262 | 6,198 | 13.8 | 603 | 13,948 | 31.1 | 468 | 10,677 | 23.8 | 224 | 5,494 | 12.3 | 170 | 3,772 | 8.4 | 67 | 1,674 | 3.8 | 100 | 2,435 | 5.4 | — | (2) | — | 1,920 | 44,815 |
| Mines producing 50,000 to 100,000 tons ... | 11 | 735 | 1.7 | 81 | 5,561 | 12.7 | 205 | 15,067 | 34.4 | 136 | 8,866 | 20.3 | 69 | 4,665 | 10.7 | 60 | 4,283 | 9.8 | 31 | 2,069 | 4.7 | 36 | 2,511 | 5.7 | — | (2) | — | 629 | 43,757 |
| Mines producing 100,000 to 200,000 tons .. | 6 | 851 | 1.0 | 62 | 8,666 | 10.3 | 204 | 29,105 | 34.5 | 157 | 22,746 | 27.0 | 64 | 8,954 | 10.6 | 54 | 7,590 | 9.0 | 22 | 3,324 | 3.9 | 22 | 3,121 | 3.7 | — | (2) | — | 591 | 84,357 |
| Mines producing more than 200,000 tons ... | 13 | 4,377 | 1.1 | 34 | 10,949 | 2.8 | 192 | 76,464 | 19.5 | 186 | 90,759 | 23.2 | 105 | 54,433 | 13.9 | 104 | 67,154 | 17.1 | 61 | 43,805 | 11.2 | 58 | 44,067 | 11.2 | — | (2) | — | 753 | 392,008 |
| Total | 126 | 6,869 | 1.2 | 936 | 32,984 | 5.7 | 2,250 | 138,781 | 24.0 | 1,710 | 136,348 | 23.6 | 838 | 75,132 | 13.0 | 587 | 83,738 | 14.5 | 260 | 51,212 | 8.9 | 326 | 52,553 | 9.1 | — | (2) | — | 7,033 | 577,617 |
| <u>1950</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mines producing less than 10,000 tons | 88 | 332 | 1.5 | 786 | 3,914 | 17.8 | 2,921 | 9,808 | 44.7 | 743 | 4,633 | 21.1 | 308 | 1,379 | 6.3 | 185 | 833 | 3.8 | 90 | 387 | 1.8 | 131 | 654 | 3.0 | — | (2) | — | 5,252 | 21,940 |
| Mines producing 10,000 to 50,000 tons | 28 | 641 | 1.2 | 300 | 6,771 | 12.9 | 1,044 | 22,048 | 41.9 | 456 | 10,677 | 20.3 | 221 | 5,141 | 9.8 | 155 | 3,647 | 6.9 | 72 | 1,577 | 3.0 | 91 | 2,110 | 4.0 | — | (2) | — | 2,367 | 52,612 |
| Mines producing 50,000 to 100,000 tons ... | 9 | 669 | 1.5 | 116 | 8,360 | 18.8 | 217 | 15,250 | 34.4 | 126 | 9,271 | 20.9 | 56 | 4,009 | 9.0 | 47 | 3,244 | 7.3 | 21 | 1,528 | 3.5 | 30 | 2,053 | 4.6 | — | (2) | — | 622 | 44,384 |
| Mines producing 100,000 to 200,000 tons .. | 10 | 1,383 | 1.9 | 67 | 9,331 | 12.9 | 198 | 27,995 | 38.7 | 104 | 14,796 | 20.4 | 52 | 7,265 | 10.0 | 42 | 5,977 | 8.3 | 15 | 1,941 | 2.7 | 26 | 3,682 | 5.1 | — | (2) | — | 514 | 72,370 |
| Mines producing more than 200,000 tons ... | 3 | 852 | .3 | 22 | 7,283 | 2.2 | 187 | 65,233 | 20.1 | 154 | 69,081 | 21.3 | 107 | 57,321 | 17.6 | 96 | 62,739 | 19.3 | 52 | 29,577 | 9.1 | 53 | 32,919 | 10.1 | — | (2) | — | 674 | 325,005 |
| Total | 138 | 3,877 | 0.8 | 1,291 | 35,659 | 6.9 | 4,567 | 140,334 | 27.2 | 1,583 | 108,458 | 21.0 | 744 | 75,115 | 14.5 | 525 | 76,440 | 14.8 | 250 | 35,010 | 6.8 | 331 | 41,418 | 8.0 | — | (2) | — | 9,429 | 516,311 |

^{1/} Report of the United States Coal Commission, part III, opp. p. 1890.^{2/} "Unspecified" seam thicknesses were estimated from various sources.

TABLE 11. - OVERTBURDEN AT BITUMINOUS-COAL AND LIGNITE STRIP MINES IN THE UNITED STATES, 1946 AND 1950

| State | Number of strip mines | | Mined by stripping (net tons) | | Overburden excavated | | | | Coal seam mined-average thickness (feet) | |
|---|-----------------------|--------------|-------------------------------|--------------------|----------------------|-------------|-------------|-------------|--|-------------|
| | | | | | 1946 | 1950 | 1946 | 1950 | | |
| | 1946 | 1950 | 1946 | 1950 | 1946 | 1950 | 1946 | 1950 | 1946 | 1950 |
| Alabama ----- | 43 | 46 | 1,815,146 | 1,888,038 | 8.5 | 9.0 | 24.7 | 25.0 | 3.9 | 3.3 |
| Alaska ----- | 2 | 5 | 86,636 | 130,737 | (1/) | (1/) | (1/) | 60.7 | (1/) | 3.2 |
| Arkansas ----- | 20 | 15 | 563,242 | 504,946 | 9.5 | 16.1 | 27.2 | 22.8 | 4.2 | 5.7 |
| Colorado ----- | 4 | 8 | 155,023 | 406,713 | 4.4 | 6.7 | 40.0 | 27.0 | 10.0 | 8.3 |
| Georgia ----- | 1 | — | 88,965 | — | (1/) | — | (1/) | — | (1/) | — |
| Illinois ----- | 46 | 81 | 15,161,818 | 17,612,423 | 12.4 | 13.4 | 43.2 | 47.1 | 4.5 | 5.0 |
| Indiana ----- | 50 | 44 | 11,826,355 | 10,739,567 | 10.1 | 11.5 | 37.2 | 40.0 | 4.2 | 4.4 |
| Iowa ----- | 23 | 37 | 630,833 | 1,190,511 | 10.9 | 9.1 | 37.6 | 26.3 | 4.1 | 4.9 |
| Kansas ----- | 30 | 32 | 2,282,721 | 2,024,352 | 23.4 | 19.4 | 33.6 | 30.7 | 1.6 | 1.9 |
| Kentucky: | | | | | | | | | | |
| Eastern ----- | 24 | 72 | 1,444,191 | 2,510,358 | 8.2 | 8.8 | 27.8 | 38.8 | 3.6 | 5.6 |
| Western ----- | 32 | 64 | 5,910,173 | 11,467,285 | 5.3 | 5.3 | 28.8 | 38.2 | 5.9 | 5.2 |
| Total Kentucky ----- | 56 | 136 | 7,354,364 | 13,977,643 | 5.5 | 5.3 | 28.7 | 38.2 | 5.4 | 5.3 |
| Maryland ----- | 23 | 22 | 557,730 | 161,054 | 3.5 | (1/) | 28.7 | 27.4 | 8.3 | 4.7 |
| Missouri ----- | 29 | 43 | 3,340,921 | 2,635,424 | 15.1 | 17.1 | 30.3 | 32.5 | 2.5 | 3.3 |
| Montana: | | | | | | | | | | |
| Bituminous ----- | 1 | 1 | 2,452,753 | 1,708,149 | 2.2 | 2.8 | 49.2 | 64.0 | 25.0 | 23.0 |
| Lignite ----- | 1 | 1 | 1,079 | 9,030 | 36.1 | (1/) | 20.0 | 26.0 | 6.0 | 12.0 |
| Total Montana ----- | 2 | 2 | 2,453,832 | 1,717,179 | 2.2 | 2.8 | 49.2 | 63.8 | 25.0 | 22.9 |
| North Dakota (lignite) ----- | 28 | 37 | 2,127,576 | 2,828,056 | 5.2 | 5.6 | 47.5 | 38.2 | 10.3 | 9.4 |
| Ohio ----- | 197 | 303 | 14,206,939 | 22,775,193 | 8.4 | 10.9 | 25.8 | 36.7 | 3.7 | 3.8 |
| Oklahoma ----- | 22 | 29 | 1,672,494 | 1,727,174 | 14.9 | 19.3 | 29.0 | 31.7 | 2.0 | 2.1 |
| Pennsylvania ----- | 640 | 726 | 31,686,807 | 26,426,597 | 8.7 | 9.6 | 25.3 | 33.3 | 4.1 | 3.7 |
| Tennessee ----- | 7 | 16 | 196,207 | 584,066 | 10.4 | 16.1 | 21.4 | 27.1 | 2.4 | 2.9 |
| Texas (lignite) ----- | 1 | 1 | 55,978 | 18,169 | 2.8 | 3.1 | 30.0 | 25.0 | 12.0 | 12.0 |
| Virginia ----- | 15 | 19 | 655,816 | 1,565,646 | 4.8 | 6.3 | 28.2 | 50.1 | 7.8 | 6.1 |
| Washington ----- | 8 | 4 | 97,556 | 70,540 | 6.9 | 2.8 | 23.3 | 23.6 | 7.1 | 7.0 |
| West Virginia ----- | 186 | 249 | 14,931,127 | 12,986,154 | 6.4 | 6.5 | 30.9 | 38.5 | 6.1 | 5.5 |
| Wyoming ----- | 9 | 12 | 992,685 | 1,458,899 | 2.1 | 2.1 | 46.3 | 38.2 | 28.1 | 38.3 |
| Other States: | | | | | | | | | | |
| California and South Dakota (lignite) ----- | 3 | 3 | 16,946 | 37,483 | 8.5 | 10.8 | 33.1 | 33.4 | 4.4 | 4.4 |
| Total ----- | 1,445 | 1,870 | 112,963,717 | 123,466,564 | 9.1 | 10.7 | 31.6 | 39.0 | 5.2 | 5.1 |

1/ Data not available.

DESCRIPTION OF DISTRICTS

(As defined in the Bituminous Coal Act of 1937)

District 1. Eastern Pennsylvania

The following counties in Pennsylvania: Bedford, Blair, Bradford, Cambria, Cameron, Centre, Clarion, Clearfield, Clinton, Elk, Forest, Fulton, Huntingdon, Jefferson, Lycoming, McKean, Mifflin, Potter, Somerset, Tioga.

Armstrong County, including mines served by the P. & S. R.R. on the west bank of the Allegheny River, and north of the Conemaugh division of the Pennsylvania Railroad.

Fayette County, all mines on and east of the line of Indian Creek Valley branch of the Baltimore & Ohio Railroad.

Indiana County, north of but excluding the Saltsburg branch of the Pennsylvania Railroad between Edri and Blairsville, both exclusive.

Westmoreland County, including all mines served by the Pennsylvania Railroad, Torrance, and east.

All coal-producing counties in the State of Maryland.

The following counties in West Virginia: Grant, Mineral, and Tucker.

District 2. Western Pennsylvania

The following counties in Pennsylvania: Allegheny, Beaver, Butler, Greene, Lawrence, Mercer, Venango, Washington.

Armstrong County, west of the Allegheny River and exclusive of mines served by the P. & S. R.R.

Indiana County, including all mines served on the Saltsburg branch of the Pennsylvania Railroad north of Conemaugh River.

Fayette County, except all mines on and east of the line of Indian Creek Valley branch of the Baltimore & Ohio Railroad.

Westmoreland County, including all mines except those served by the Pennsylvania Railroad from Torrance, east.

District 3. Northern West Virginia

The following counties in West Virginia: Barbour, Braxton, Calhoun, Doddridge, Gilmer, Harrison, Jackson, Lewis, Marion, Monongalia, Pleasants, Preston, Randolph, Ritchie, Roane, Taylor, Tyler, Upshur, Webster, Wetzel, Wirt, Wood.

That part of Nicholas County including mines served by the Baltimore & Ohio Railroad and north.

District 4. Ohio

All coal-producing counties in Ohio.

District 5. Michigan

All coal-producing counties in Michigan.

District 6. Panhandle

The following counties in West Virginia: Brooke, Hancock, Marshall, and Ohio.

District 7. Southern No. 1

The following counties in West Virginia: Greenbrier, Mercer, Monroe, Pocahontas, Summers.

Fayette County, east of Gauley River and including the Gauley River branch of the Chesapeake & Ohio Railroad and mines served by the Virginian Railway.

McDowell County, that portion served by the Dry Fork branch of the Norfolk & Western Railroad and east thereof.

Raleigh County, excluding all mines on the Coal River branch of the Chesapeake & Ohio Railroad.

Wyoming County, that portion served by the Gilbert branch of the Virginian Railway lying east of the mouth of Skin Fork of Guyandot River and that portion served by the main line and the Glen Rogers branch of the Virginian Railway.

The following counties in Virginia: Montgomery, Pulaski, Wythe, Giles, Craig.

Tazewell County, that portion served by the Dry Fork branch to Cedar Bluff and from Bluestone Junction to Boissevain branch of the Norfolk & Western Railroad and Richlands-Jewell Ridge branch of the Norfolk & Western Railroad.

Buchanan County, that portion served by the Richlands-Jewell Ridge branch of the Norfolk & Western Railroad and that portion of said county on the headwaters of Dismal Creek, east of Lynn Camp Creek (a tributary of Dismal Creek).

District 8. Southern No. 2

The following counties in West Virginia: Boone, Clay, Kanawha, Lincoln, Logan, Mason, Mingo, Putnam, Wayne, Cabell.

Fayette County, west of but not including mines of the Gauley River branch of the Chesapeake & Ohio Railroad.

McDowell County, that portion not served by and lying west of the Dry Fork branch of the Norfolk & Western Railroad.

Raleigh County, all mines on the Coal River branch of the Chesapeake & Ohio Railroad and north thereof.

Nicholas County, that part south of and not served by the Baltimore & Ohio Railroad.

Wyoming County, that portion served by Gilbert branch of the Virginian Railway lying west of the mouth of Skin Fork of Guyandot River.

The following counties in Virginia: Dickinson, Lee, Russell, Scott, Wise.

All of Buchanan County, except that portion of the headwaters of Dismal Creek east of Lynn Camp Creek (a tributary of Dismal Creek) and that portion served by the Richlands-Jewell Ridge branch of the Norfolk & Western Railroad.

Tazewell County, except portions served by the Dry Fork branch of Norfolk & Western Railroad and branch from Bluestone Junction to Boissevain of Norfolk & Western Railroad and Richlands-Jewell Ridge branch of the Norfolk & Western Railroad.

The following counties in Kentucky: Bell, Boyd, Breathitt, Carter, Clay, Elliott, Floyd, Greenup, Harlan, Jackson, Johnson, Knott, Knox, Laurel, Lawrence, Lee, Leslie, Letcher, McCreary, Magoffin, Martin, Morgan, Owsley, Perry, Pike, Rockcastle, Wayne, Whitley.

The following counties in Tennessee: Anderson, Campbell, Claiborne, Cumberland, Fentress, Morgan, Overton, Roane, Scott.

The following counties in North Carolina: Lee, Chatham, Moore.

District 9. West Kentucky

The following counties in Kentucky: Butler, Christian, Crittenden, Daviess, Hancock, Henderson, Hopkins, Logan, McLean, Muhlenberg, Ohio, Simpson, Todd, Union, Warren, Webster.

District 10. Illinois

All coal-producing counties in Illinois.

District 11. Indiana

All coal-producing counties in Indiana.

District 12. Iowa

All coal-producing counties in Iowa.

District 13. Southeastern

All coal-producing counties in Alabama.

The following counties in Georgia: Dade, Walker.

The following counties in Tennessee: Marion, Grundy, Hamilton, Bledsoe, Sequatchie, White, Van Buren, Warren, McMinn, Rhea.

District 14. Arkansas-Oklahoma

The following counties in Arkansas: All counties in the State.

The following counties in Oklahoma: Haskell, LeFlore, Sequoyah.

District 15. Southwestern

All coal-producing counties in Kansas. All coal-producing counties in Texas. All coal-producing counties in Missouri.

The following counties in Oklahoma: Coal, Craig, Latimer, Muskogee, Okmulgee, Pittsburg, Rogers, Tulsa, Wagoner.

District 16. Northern Colorado

The following counties in Colorado: Adams, Arapahoe, Boulder, Douglas, Elbert, El Paso, Jackson, Jefferson, Larimer, Weld.

District 17. Southern Colorado

The following counties in Colorado: All counties not included in northern Colorado district.

The following counties in New Mexico: All coal-producing counties in the State of New Mexico, except those included in the New Mexico district.

District 18. New Mexico

The following counties in New Mexico: Grant, Lincoln, McKinley, Rio Arriba, Sandoval, San Juan, San Miguel, Santa Fe, Socorro.

The following counties in Arizona: Pinal, Navajo, Graham, Apache, Coconino.

All coal-producing counties in California.

District 19. Wyoming

All coal-producing counties in Wyoming.

The following counties in Idaho: Fremont, Jefferson, Madison, Teton, Bonneville, Bingham, Bannock, Power, Caribou, Oneida, Franklin, Bear Lake.

District 20. Utah

All coal-producing counties in Utah.

District 21. North Dakota-South Dakota

All coal-producing counties in North Dakota. All coal-producing counties in South Dakota.

District 22. Montana

All coal-producing counties in Montana.

District 23. Washington

All coal-producing counties in Washington. All coal-producing counties in Oregon.

The Territory of Alaska.

