# 4. Natural Gas Statistics

## Dry Natural Gas

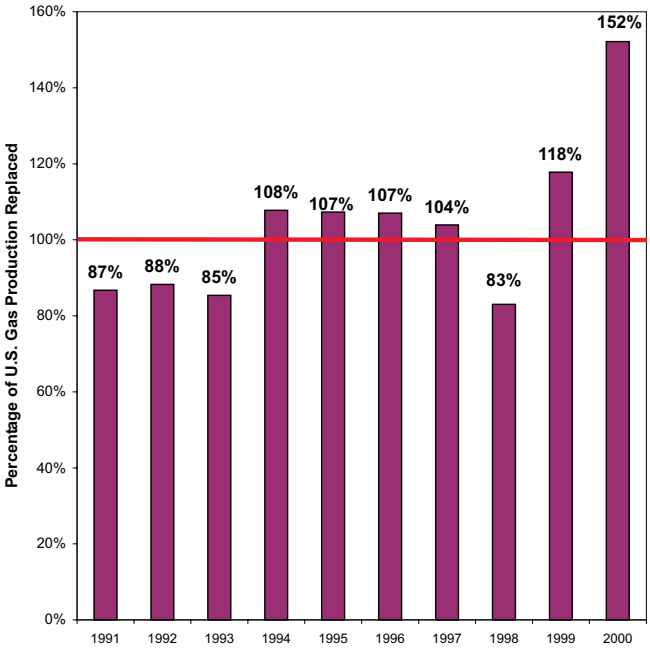
### Proved Reserves

As of December 31, 2000, U.S. operators had 177,427 billion cubic feet of dry natural gas reserves. This was a 6 percent increase from the 1999 dry natural gas reserves and the largest increase since EIA has been reporting estimates of the Nation's proved gas reserves (**Table 8**). All natural gas proved reserves data shown in this report exclude natural gas held in underground storage.

Most of the reserve increases were in Texas, New Mexico, Colorado, Wyoming, and Utah. Oklahoma and the Gulf of Mexico, which had significant gas reserves declines in 1999, rebounded in 2000.

Additions to dry gas reserves in 2000 were 29,240 billion cubic feet, up 31 percent compared to 1999. Operators replaced 152 percent of dry gas production (**Figure 18**). U.S. *total discoveries* of dry natural gas reserves were 19,138 billion cubic feet in 2000, up 77 percent from 1999 (10,807 billion cubic feet).

**Figure 18. Reserve Additions Replace 152% of 2000 U.S. Dry Natural Gas Production.**




Source: Energy Information Administration, Office of Oil and Gas.

Proved reserves by State are shown on the map in **Figure 19**. Six areas account for 71 percent of the Nation's dry natural gas proved reserves:

| Area | Percent of U.S. Gas Reserves |
|---|---|
| Texas | 23.7 |
| Gulf of Mexico Federal Offshore | 14.8 |
| New Mexico | 9.8 |
| Wyoming | 9.1 |
| Oklahoma | 7.7 |
| Colorado | 5.9 |
| **Area Total** | **71.0** |

In all six areas, dry natural gas proved reserves increased in 2000.

### Discussion of Reserves Changes

**Figure 20** maps the change in dry gas proved reserves from 1999 to 2000 by area. Here's how the top six areas fared, compared to the total United States:

| Area | Change in U.S. Gas Reserves (billion cubic feet) |
|---|---|
| Texas | +1,925 |
| Gulf of Mexico Federal Offshore | +721 |
| New Mexico | +1,873 |
| Wyoming | +1,932 |
| Oklahoma | +1,156 |
| Colorado | +1,441 |
| **Area Total** | **+9,048** |
| **U.S. Total** | **+10,021** |

**Figure 4** in Chapter 2 shows the components of change in dry natural gas proved reserves for 2000 and the preceding 10 years.

### Discoveries

*Total discoveries* are those reserves attributable to field *extensions*, *new field discoveries*, and *new reservoir discoveries in old fields*; they result from drilling

## Table 8. Dry Natural Gas Proved Reserves, Reserves Changes, and Production, 2000

(Billion Cubic Feet at 14.73 psia and 60° Fahrenheit)

| State and Subdivision | Published Proved Reserves 12/31/99 | Changes in Reserves During 2000 | | | | | | | | | Proved Reserves 12/31/00 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Adjustments (+,–) | Revision Increases (+) | Revision Decreases (–) | Sales (–) | Acquisitions (+) | Extensions (+) | New Field Discoveries (+) | New Reservoir Discoveries in Old Fields (+) | Estimated Production (–) | |
| Alaska | 9,734 | 23 | 300 | 2,093 | 4,531 | 4,348 | 1,949 | 0 | 13 | 506 | 9,237 |
| **Lower 48 States** | **157,672** | **-914** | **22,888** | **14,133** | **15,847** | **20,061** | **12,838** | **1,983** | **2,355** | **18,713** | **168,190** |
| Alabama | 4,287 | -56 | 74 | 69 | 140 | 237 | 175 | 0 | 0 | 359 | 4,149 |
| Arkansas | 1,542 | -3 | 207 | 48 | 336 | 343 | 14 | 0 | 16 | 154 | 1,581 |
| California | 2,387 | -72 | 733 | 121 | 51 | 131 | 112 | 7 | 5 | 282 | 2,849 |
| Coastal Region Onshore | 192 | 30 | 14 | 14 | 0 | 22 | 0 | 0 | 0 | 10 | 234 |
| Los Angeles Basin Onshore | 168 | -7 | 51 | 16 | 0 | 0 | 5 | 0 | 0 | 8 | 193 |
| San Joaquin Basin Onshore | 1,951 | -79 | 629 | 91 | 51 | 109 | 107 | 7 | 5 | 256 | 2,331 |
| State Offshore | 76 | -16 | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 91 |
| Colorado | 8,987 | -88 | 1,825 | 360 | 1,049 | 1,598 | 274 | 0 | 0 | 759 | 10,428 |
| Florida | 84 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 82 |
| Kansas | 5,753 | 84 | 262 | 350 | 190 | 170 | 58 | 3 | 0 | 491 | 5,299 |
| Kentucky | 1,435 | -4 | 363 | 77 | 432 | 508 | 2 | 5 | 27 | 67 | 1,760 |
| Louisiana | 9,242 | -107 | 1,645 | 1,277 | 597 | 758 | 596 | 45 | 377 | 1,443 | 9,239 |
| North | 3,079 | -20 | 459 | 298 | 138 | 277 | 301 | 6 | 16 | 384 | 3,298 |
| South Onshore | 5,535 | -154 | 1,079 | 852 | 374 | 383 | 228 | 21 | 311 | 932 | 5,245 |
| State Offshore | 628 | 67 | 107 | 127 | 85 | 98 | 67 | 18 | 50 | 127 | 696 |
| Michigan | 2,255 | 217 | 422 | 176 | 479 | 665 | 143 | 15 | 0 | 333 | 2,729 |
| Mississippi | 677 | -20 | 84 | 39 | 96 | 35 | 53 | 1 | 1 | 78 | 618 |
| Montana | 841 | 13 | 130 | 133 | 9 | 12 | 57 | 0 | 41 | 67 | 885 |
| New Mexico | 15,449 | 18 | 1,748 | 684 | 649 | 1,087 | 1,836 | 11 | 14 | 1,508 | 17,322 |
| East | 3,037 | -221 | 641 | 322 | 387 | 587 | 625 | 11 | 13 | 447 | 3,537 |
| West | 12,412 | 239 | 1,107 | 362 | 262 | 500 | 1,211 | 0 | 1 | 1,061 | 13,785 |
| New York | 221 | 59 | 29 | 12 | 1 | 6 | 20 | 10 | 5 | 15 | 322 |
| North Dakota | 416 | 21 | 43 | 15 | 7 | 9 | 3 | 0 | 5 | 42 | 433 |
| Ohio | 1,179 | 1 | 243 | 156 | 124 | 115 | 4 | 0 | 2 | 79 | 1,185 |
| Oklahoma | 12,543 | 424 | 2,498 | 1,331 | 1,243 | 1,325 | 894 | 20 | 42 | 1,473 | 13,699 |
| Pennsylvania | 1,772 | -194 | 417 | 184 | 124 | 160 | 11 | 0 | 0 | 117 | 1,741 |
| Texas | 40,157 | -1,036 | 5,797 | 4,054 | 4,402 | 5,873 | 3,782 | 303 | 734 | 5,072 | 42,082 |
| Texas RRC District 1 | 1,008 | 34 | 107 | 62 | 167 | 132 | 32 | 33 | 1 | 86 | 1,032 |
| Texas RRC District 2 Onshore | 1,881 | 262 | 411 | 533 | 284 | 362 | 176 | 14 | 52 | 361 | 1,980 |
| Texas RRC District 3 Onshore | 3,913 | -102 | 659 | 437 | 190 | 360 | 388 | 88 | 77 | 883 | 3,873 |
| Texas RRC District 4 Onshore | 8,915 | 122 | 1,039 | 1,095 | 930 | 1,378 | 1,032 | 95 | 378 | 1,289 | 9,645 |
| Texas RRC District 5 | 2,319 | -138 | 293 | 222 | 32 | 474 | 738 | 10 | 29 | 303 | 3,168 |
| Texas RRC District 6 | 5,857 | -251 | 817 | 367 | 280 | 431 | 319 | 5 | 20 | 575 | 5,976 |
| Texas RRC District 7B | 416 | -160 | 74 | 21 | 31 | 73 | 2 | 13 | 1 | 55 | 312 |
| Texas RRC District 7C | 3,178 | -437 | 498 | 150 | 350 | 835 | 225 | 0 | 1 | 296 | 3,504 |
| Texas RRC District 8 | 5,434 | -168 | 864 | 561 | 989 | 1,022 | 169 | 4 | 160 | 547 | 5,388 |
| Texas RRC District 8A | 1,257 | 122 | 197 | 47 | 937 | 594 | 2 | 0 | 0 | 87 | 1,101 |
| Texas RRC District 9 | 1,137 | -53 | 142 | 21 | 10 | 83 | 492 | 0 | 0 | 144 | 1,626 |
| Texas RRC District 10 | 4,424 | -273 | 597 | 467 | 145 | 93 | 191 | 41 | 4 | 386 | 4,079 |
| State Offshore | 418 | 6 | 99 | 71 | 57 | 36 | 16 | 0 | 11 | 60 | 398 |
| Utah | 3,213 | 4 | 177 | 110 | 568 | 1,464 | 266 | 0 | 15 | 226 | 4,235 |
| Virginia | 2,017 | -10 | 65 | 295 | 28 | 17 | 0 | 0 | 9 | 71 | 1,704 |
| West Virginia | 2,936 | -99 | 668 | 390 | 875 | 798 | 5 | 0 | 33 | 176 | 2,900 |
| Wyoming | 14,226 | -20 | 1,339 | 753 | 1,780 | 1,720 | 2,486 | 8 | 2 | 1,070 | 16,158 |
| Federal Offshore[a] | 25,987 | -28 | 4,112 | 3,495 | 2,663 | 3,027 | 2,045 | 1,555 | 1,027 | 4,819 | 26,748 |
| Pacific (California) | 536 | 15 | 86 | 16 | 12 | 13 | 0 | 0 | 0 | 46 | 576 |
| Gulf of Mexico (Louisiana)[a] | 19,598 | -232 | 3,211 | 2,746 | 2,118 | 2,247 | 1,393 | 1,234 | 827 | 3,626 | 19,788 |
| Gulf of Mexico (Texas) | 5,853 | 189 | 815 | 733 | 533 | 767 | 652 | 321 | 200 | 1,147 | 6,384 |
| Miscellaneous[b] | 66 | -22 | 7 | 4 | 4 | 3 | 2 | 0 | 0 | [c]6 | [c]42 |
| **U.S. Total** | **167,406** | **-891** | **23,188** | **16,226** | **20,378** | **24,409** | **14,787** | **1,983** | **2,368** | **19,219** | **177,427** |

[a]Includes Federal offshore Alabama.

[b]Includes Arizona, Illinois, Indiana, Maryland, Missouri, Nebraska, Nevada, Oregon, South Dakota, and Tennessee.

[c]Indicates the estimate is associated with a sampling error (95 percent confidence interval) that exceeds 20 percent of the estimated value.

Note: The production estimates in this table are based on data reported on Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves," and Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production." They may differ from the official Energy Information Administration production data for natural gas for 2000 contained in the *Natural Gas Annual 2000*, DOE/EIA-0131(00).

Source: Energy Information Administration, Office of Oil and Gas.

**Figure 19. 2000 Dry Natural Gas Proved Reserves by Area**

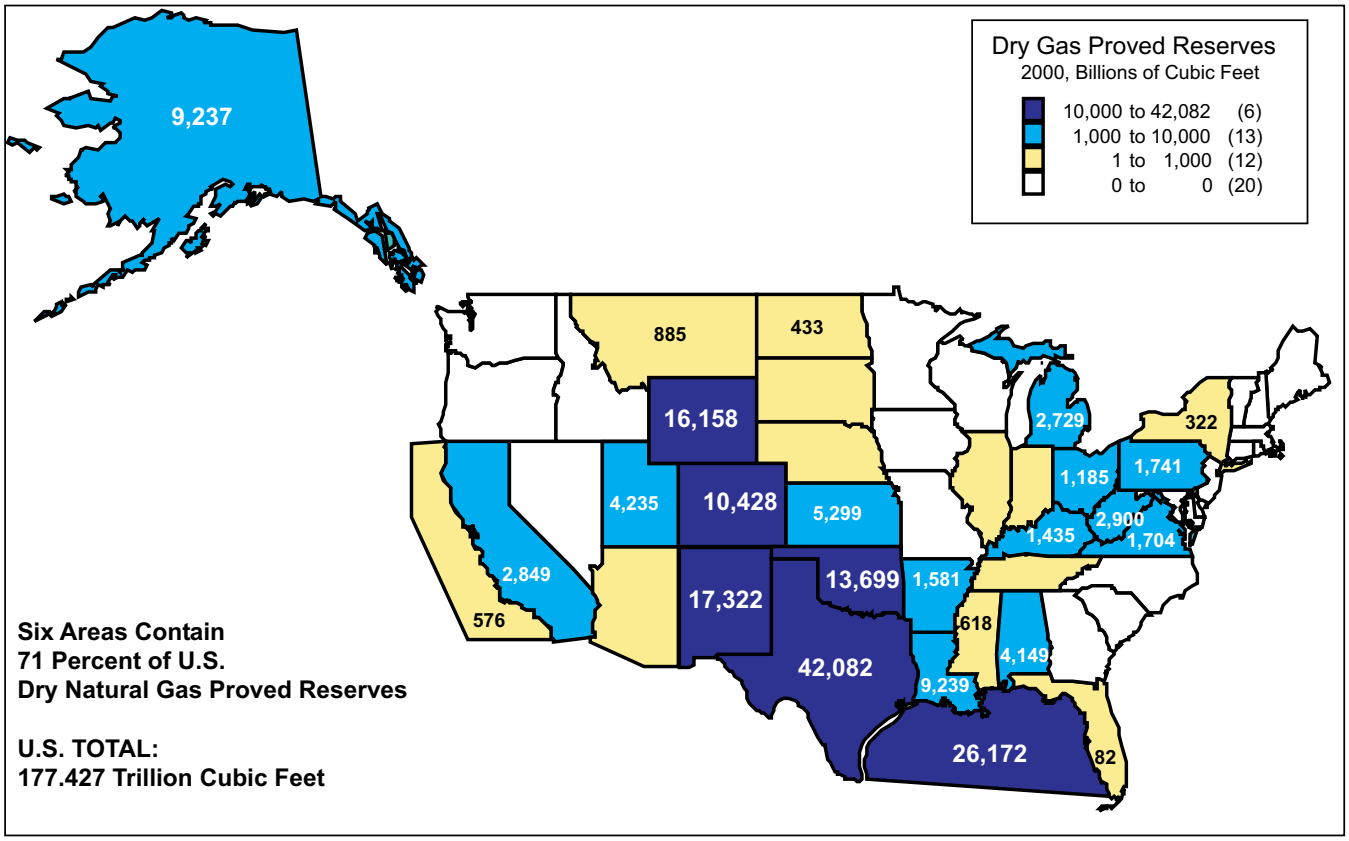
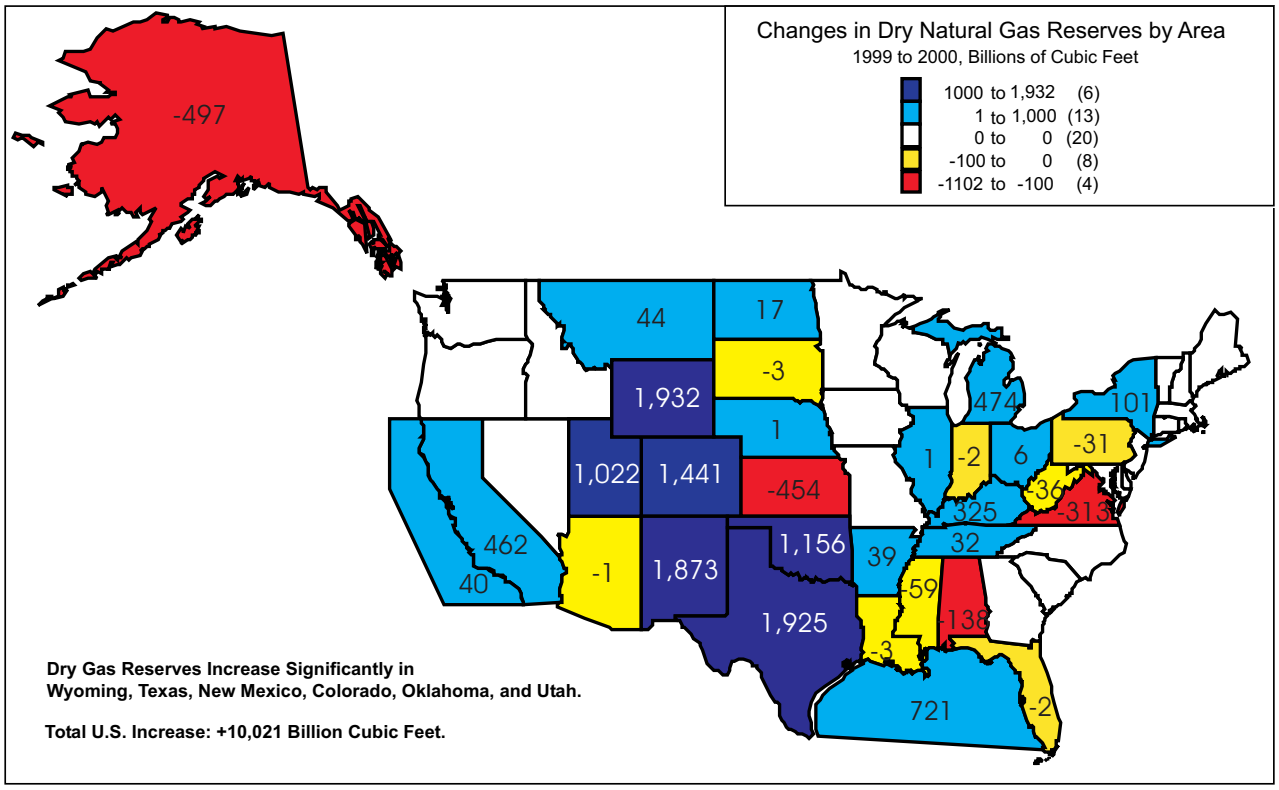



**Figure 20. Changes in Dry Natural Gas Proved Reserves by Area, 1999 to 2000**




Source: Energy Information Administration, Office of Oil and Gas.

exploratory wells. *Total discoveries* of dry natural gas reserves were 19,138 billion cubic feet in 2000, a 77 percent increase from the level reported in 1999. About 25 percent of the *total discoveries* were in Texas, 24 percent were in the Gulf of Mexico Federal Offshore, 13 percent were in Wyoming, and 10 percent were in Alaska.

*Extensions* were 14,787 billion cubic feet, more than twice the volume of 1999 and the prior 10-year average (7,119 billion cubic feet). Areas with the largest *extensions* and their percentage of total *extensions* were:

- Texas had 3,782 billion cubic feet of extensions (26 percent of the total)
- Wyoming had 2,486 billion cubic feet (17 percent)
- Gulf of Mexico Federal Offshore had 2,045 billion cubic feet (14 percent)
- Alaska had 1,949 billion cubic feet (13 percent)
- New Mexico had 1,836 billion cubic feet (12 percent)
- Oklahoma had 894 billion cubic feet (6 percent).

*New field discoveries* were 1,983 billion cubic feet in 2000—26 percent more than in 1999. The areas with the largest *new field discoveries* were the Gulf of Mexico Federal Offshore (with 1,555 billion cubic feet of new field discoveries, 78 percent of the total), Texas (303 billion cubic feet, 15 percent), and Lousiana (45 billion cubic feet, 2 percent). In the prior 10 years, U.S. operators reported an average of 1,473 billion cubic feet of reserves from *new field discoveries* per year. Reserves from *new field discoveries* in 2000 were 35 percent higher than that average.

*New reservoir discoveries in old fields* were 2,368 billion cubic feet, 8 percent higher than 1999. Among the areas with the largest *new reservoir discoveries in old fields* and their percentage of the total were:

- Gulf of Mexico Federal Offshore (1,027 billion cubic feet, 43 percent)
- Texas (734 billion cubic feet, 31 percent)
- Louisiana (377 billion cubic feet, 16 percent).

In the prior 10 years, U.S. operators reported an average of 2,339 billion cubic feet of reserves from *new reservoirs discovered in old fields* per year. Reserves from *new reservoirs discovered in old fields* in 2000 were 1 percent higher than that average.

### Revisions and Adjustments

There were 23,188 billion cubic feet of *revision increases*, 16,226 billion cubic feet of *revision decreases*, and -891 billion cubic feet of *adjustments* in 2000. Combined, there were 6,071 billion cubic feet of net revisions and adjustments in 2000, excluding reserves additions from net *sales* and *acquisitions*.

### Sales and Acquisitions

Sales represents that volume of dry natural gas proved reserves deducted from an operator's total through sale of an existing gas field or properties to another operator (not a volume of production "sold" at the wellhead). Similarly, *acquisitions* are that volume of proved reserves added to an operator's total by purchase of an existing gas field or properties.

In 2000, there were 20,378 billion cubic feet of sales transactions between operators, and 24,409 billion cubic feet of acquisitions. The net difference of 4,031 billion cubic feet was added to the National total of dry natural gas reserves in 2000.

### Production

The estimated 2000 U.S. dry natural gas production was 19,219 billion cubic feet, an increase of almost 2 percent from 1999 (**Table 8**). Areas with the largest production and their percentage of total *production* were:

- Texas had 5,072 billion cubic feet of production (26 percent of the total)
- Gulf of Mexico Federal Offshore had 4,773 billion cubic feet (25 percent)
- New Mexico had 1,508 billion cubic feet (8 percent)
- Oklahoma had 1,473 billion cubic feet (8 percent)
- Louisiana had 1,443 billion cubic feet (8 percent)
- Wyoming had 1,070 billion cubic feet (6 percent).

## Wet Natural Gas

U. S. proved reserves of wet natural gas as of December 31, 2000 were 186,510 billion cubic feet, a 6 percent increase from the volume reported in 1999 (**Table 9**). At year-end 2000, proved wet natural gas reserves for the lower 48 States had increased by 7 percent compared to 1999, while those of Alaska had decreased by 5 percent.

## Table 9. Natural Gas Proved Reserves, Reserves Changes, and Production, Wet After Lease Separation, 2000 (Billion Cubic Feet at 14.73 psia and 60° Fahrenheit)

| State and Subdivision | Published Proved Reserves 12/31/99 | Changes in Reserves During 2000 | | | | | | | | | Proved Reserves 12/31/00 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Adjustments (+,–) | Revision Increases (+) | Revision Decreases (–) | Sales (–) | Acquisitions (+) | Extensions (+) | New Field Discoveries (+) | New Reservoir Discoveries in Old Fields (+) | Estimated Production (–) | |
| Alaska | 9,855 | -1 | 301 | 2,118 | 4,583 | 4,398 | 1,976 | 0 | 13 | 510 | 9,331 |
| **Lower 48 States** | **166,304** | **-1,294** | **24,093** | **14,820** | **16,772** | **21,243** | **13,574** | **2,055** | **2,450** | **19,654** | **177,179** |
| Alabama | 4,365 | -23 | 79 | 70 | 151 | 256 | 184 | 0 | 0 | 371 | 4,269 |
| Arkansas | 1,546 | -3 | 208 | 49 | 337 | 343 | 14 | 0 | 16 | 154 | 1,584 |
| California | 2,505 | -103 | 758 | 126 | 53 | 136 | 116 | 7 | 5 | 293 | 2,952 |
| Coastal Region Onshore | 233 | 0 | 14 | 15 | 0 | 23 | 0 | 0 | 0 | 11 | 244 |
| Los Angeles Basin Onshore | 174 | -3 | 54 | 17 | 0 | 0 | 5 | 0 | 0 | 9 | 204 |
| San Joaquin Basin Onshore | 2,021 | -83 | 651 | 94 | 53 | 113 | 111 | 7 | 5 | 265 | 2,413 |
| State Offshore | 77 | -17 | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 91 |
| Colorado | 9,372 | -125 | 1,897 | 374 | 1,090 | 1,661 | 285 | 0 | 0 | 789 | 10,837 |
| Florida | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 93 |
| Kansas | 6,248 | 10 | 281 | 375 | 204 | 182 | 63 | 3 | 0 | 526 | 5,682 |
| Kentucky | 1,530 | -36 | 379 | 80 | 451 | 530 | 2 | 5 | 28 | 70 | 1,837 |
| Louisiana | 9,646 | -239 | 1,697 | 1,318 | 616 | 781 | 612 | 48 | 391 | 1,490 | 9,512 |
| North | 3,127 | -25 | 465 | 302 | 140 | 281 | 305 | 7 | 16 | 390 | 3,344 |
| South Onshore | 5,858 | -271 | 1,121 | 885 | 388 | 398 | 237 | 22 | 323 | 968 | 5,447 |
| State Offshore | 661 | 57 | 111 | 131 | 88 | 102 | 70 | 19 | 52 | 132 | 721 |
| Michigan | 2,313 | 198 | 428 | 179 | 486 | 676 | 146 | 15 | 0 | 339 | 2,772 |
| Mississippi | 681 | -21 | 84 | 39 | 96 | 35 | 53 | 1 | 1 | 79 | 620 |
| Montana | 851 | 10 | 131 | 134 | 9 | 12 | 58 | 0 | 41 | 68 | 892 |
| New Mexico | 16,750 | -249 | 1,890 | 745 | 714 | 1,191 | 1,981 | 12 | 16 | 1,623 | 18,509 |
| East | 3,366 | -182 | 725 | 364 | 438 | 664 | 706 | 12 | 15 | 506 | 3,998 |
| West | 13,384 | -67 | 1,165 | 381 | 276 | 527 | 1,275 | 0 | 1 | 1,117 | 14,511 |
| New York | 221 | 59 | 29 | 12 | 1 | 6 | 20 | 10 | 5 | 15 | 322 |
| North Dakota | 475 | 16 | 48 | 17 | 7 | 10 | 4 | 0 | 5 | 47 | 487 |
| Ohio | 1,179 | 2 | 244 | 157 | 124 | 115 | 4 | 0 | 2 | 79 | 1,186 |
| Oklahoma | 13,490 | 278 | 2,652 | 1,414 | 1,319 | 1,406 | 949 | 21 | 44 | 1,564 | 14,543 |
| Pennsylvania | 1,780 | -211 | 419 | 184 | 125 | 168 | 11 | 0 | 0 | 118 | 1,740 |
| Texas | 43,350 | -1,155 | 6,267 | 4,332 | 4,810 | 6,397 | 4,039 | 319 | 780 | 5,436 | 45,419 |
| Texas RRC District 1 | 1,232 | -117 | 115 | 66 | 179 | 142 | 35 | 35 | 1 | 92 | 1,106 |
| Texas RRC District 2 Onshore | 1,974 | 242 | 424 | 551 | 293 | 374 | 181 | 14 | 53 | 373 | 2,045 |
| Texas RRC District 3 Onshore | 4,132 | -154 | 687 | 456 | 198 | 376 | 405 | 92 | 80 | 922 | 4,042 |
| Texas RRC District 4 Onshore | 9,351 | 128 | 1,090 | 1,148 | 976 | 1,446 | 1,083 | 100 | 396 | 1,352 | 10,118 |
| Texas RRC District 5 | 2,350 | -136 | 298 | 226 | 32 | 481 | 750 | 10 | 30 | 308 | 3,217 |
| Texas RRC District 6 | 6,107 | -135 | 870 | 391 | 298 | 459 | 339 | 5 | 21 | 612 | 6,365 |
| Texas RRC District 7B | 465 | -172 | 85 | 24 | 36 | 84 | 2 | 14 | 1 | 63 | 356 |
| Texas RRC District 7C | 3,593 | -359 | 587 | 177 | 412 | 984 | 265 | 0 | 1 | 350 | 4,132 |
| Texas RRC District 8 | 6,122 | -125 | 983 | 639 | 1,126 | 1,164 | 193 | 5 | 182 | 623 | 6,136 |
| Texas RRC District 8A | 1,557 | -35 | 218 | 52 | 1,034 | 655 | 2 | 0 | 0 | 96 | 1,215 |
| Texas RRC District 9 | 1,360 | -124 | 162 | 24 | 11 | 95 | 560 | 0 | 0 | 164 | 1,854 |
| Texas RRC District 10 | 4,688 | -176 | 649 | 507 | 158 | 101 | 208 | 44 | 4 | 420 | 4,433 |
| State Offshore | 419 | 8 | 99 | 71 | 57 | 36 | 16 | 0 | 11 | 61 | 400 |
| Utah | 3,371 | 26 | 187 | 117 | 600 | 1,546 | 281 | 0 | 16 | 238 | 4,472 |
| Virginia | 2,017 | -10 | 65 | 295 | 28 | 17 | 0 | 0 | 9 | 71 | 1,704 |
| West Virginia | 3,040 | -67 | 697 | 407 | 913 | 833 | 6 | 0 | 34 | 184 | 3,062 |
| Wyoming | 14,809 | 324 | 1,426 | 802 | 1,896 | 1,832 | 2,648 | 8 | 2 | 1,140 | 17,211 |
| Federal Offshore[a] | 26,598 | 60 | 4,220 | 3,590 | 2,737 | 3,106 | 2,096 | 1,606 | 1,055 | 4,947 | 27,467 |
| Pacific (California) | 536 | 15 | 86 | 16 | 12 | 13 | 0 | 0 | 0 | 46 | 576 |
| Gulf of Mexico (Louisiana)[a] | 20,172 | -147 | 3,314 | 2,836 | 2,188 | 2,321 | 1,440 | 1,283 | 854 | 3,747 | 20,466 |
| Gulf of Mexico (Texas) | 5,890 | 192 | 820 | 738 | 537 | 772 | 656 | 323 | 201 | 1,154 | 6,425 |
| Miscellaneous[b] | 67 | -23 | 7 | 4 | 5 | 4 | 2 | 0 | 0 | [c]6 | [c]42 |
| **U.S. Total** | **176,159** | **-1,295** | **24,394** | **16,938** | **21,355** | **25,641** | **15,550** | **2,055** | **2,463** | **20,164** | **186,510** |

[a]Includes Federal offshore Alabama.
[b]Includes Arizona, Illinois, Indiana, Maryland, Missouri, Nebraska, Nevada, Oregon, South Dakota, and Tennessee.
[c]Indicates the estimate is associated with a sampling error (95 percent confidence interval) that exceeds 20 percent of the estimated value.
Note: The prouction estimates in this table are based on data reported on Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves." They may differ from the official Energy Information Administration production data for natural gas for 2000 contained in the *Natural Gas Annual 2000,* DOE/EIA-0131(00).
Source: Energy Information Administration, Office of Oil and Gas.

## Table 10. Nonassociated Natural Gas Proved Reserves, Reserves Changes, and Production, Wet After Lease Separation, 2000 (Billion Cubic Feet at 14.73 psia and 60° Fahrenheit)

| State and Subdivision | Published Proved Reserves 12/31/99 | Changes in Reserves During 2000 | | | | | | | | | Proved Reserves 12/31/00 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Adjustments (+,–) | Revision Increases (+) | Revision Decreases (–) | Sales (–) | Acquisitions (+) | Extensions (+) | New Field Discoveries (+) | New Reservoir Discoveries in Old Fields (+) | Estimated Production (–) | |
| Alaska | 2,646 | 145 | 224 | 249 | 842 | 825 | 0 | 0 | 13 | 198 | 2,564 |
| **Lower 48 States** | **142,098** | **-816** | **20,281** | **12,145** | **13,594** | **18,226** | **12,866** | **1,664** | **2,198** | **16,665** | **154,113** |
| Alabama | 4,338 | -23 | 78 | 68 | 149 | 246 | 184 | 0 | 0 | 365 | 4,241 |
| Arkansas | 1,505 | -2 | 204 | 48 | 337 | 343 | 14 | 0 | 16 | 150 | 1,545 |
| California | 355 | 58 | 371 | 38 | 4 | 63 | 19 | 5 | 5 | 80 | 754 |
| Coastal Region Onshore | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Los Angeles Basin Onshore | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| San Joaquin Basin Onshore | 336 | 72 | 369 | 38 | 4 | 63 | 19 | 5 | 5 | 79 | 748 |
| State Offshore | 19 | -14 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 |
| Colorado | 8,591 | -81 | 1,591 | 362 | 1,074 | 1,655 | 282 | 0 | 0 | 725 | 9,877 |
| Florida | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kansas | 6,196 | 16 | 274 | 366 | 202 | 181 | 58 | 3 | 0 | 519 | 5,641 |
| Kentucky | 1,501 | -35 | 379 | 80 | 451 | 530 | 2 | 5 | 28 | 69 | 1,810 |
| Louisiana | 8,667 | -193 | 1,498 | 1,072 | 539 | 702 | 584 | 36 | 369 | 1,348 | 8,704 |
| North | 2,867 | -1 | 416 | 236 | 138 | 279 | 304 | 6 | 12 | 351 | 3,158 |
| South Onshore | 5,259 | -253 | 1,006 | 736 | 325 | 340 | 221 | 21 | 308 | 887 | 4,954 |
| State Offshore | 541 | 61 | 76 | 100 | 76 | 83 | 59 | 9 | 49 | 110 | 592 |
| Michigan | 2,086 | 165 | 410 | 152 | 473 | 664 | 143 | 15 | 0 | 300 | 2,558 |
| Mississippi | 650 | -22 | 78 | 32 | 92 | 25 | 49 | 1 | 1 | 73 | 585 |
| Montana | 784 | 10 | 121 | 125 | 6 | 6 | 53 | 0 | 41 | 62 | 822 |
| New Mexico | 15,172 | -194 | 1,611 | 602 | 473 | 862 | 1,932 | 8 | 6 | 1,400 | 16,922 |
| East | 1,880 | -108 | 461 | 230 | 200 | 338 | 666 | 8 | 5 | 294 | 2,526 |
| West | 13,292 | -86 | 1,150 | 372 | 273 | 524 | 1,266 | 0 | 1 | 1,106 | 14,396 |
| New York | 212 | 67 | 28 | 12 | 1 | 5 | 20 | 10 | 5 | 14 | 320 |
| North Dakota | 225 | 4 | 4 | 2 | 1 | 1 | 0 | 0 | 5 | 13 | 223 |
| Ohio | 777 | -9 | 126 | 117 | 100 | 84 | 3 | 0 | 1 | 48 | 717 |
| Oklahoma | 12,252 | 312 | 2,458 | 1,262 | 1,221 | 1,312 | 931 | 16 | 44 | 1,412 | 13,430 |
| Pennsylvania | 1,684 | -226 | 358 | 167 | 122 | 160 | 3 | 0 | 0 | 107 | 1,583 |
| Texas | 35,470 | -953 | 5,184 | 3,406 | 2,947 | 4,853 | 3,904 | 312 | 745 | 4,577 | 38,585 |
| Texas RRC District 1 | 1,165 | -116 | 102 | 64 | 156 | 121 | 34 | 35 | 1 | 85 | 1,037 |
| Texas RRC District 2 Onshore | 1,772 | 216 | 397 | 455 | 257 | 352 | 178 | 13 | 51 | 337 | 1,930 |
| Texas RRC District 3 Onshore | 3,218 | -90 | 565 | 315 | 179 | 347 | 375 | 90 | 79 | 686 | 3,404 |
| Texas RRC District 4 Onshore | 9,169 | 127 | 1,054 | 1,123 | 972 | 1,440 | 1,082 | 99 | 396 | 1,330 | 9,942 |
| Texas RRC District 5 | 2,301 | -137 | 272 | 219 | 21 | 423 | 739 | 9 | 1 | 279 | 3,089 |
| Texas RRC District 6 | 5,562 | -129 | 850 | 329 | 272 | 443 | 337 | 4 | 21 | 586 | 5,901 |
| Texas RRC District 7B | 275 | -84 | 63 | 16 | 31 | 62 | 2 | 14 | 1 | 44 | 242 |
| Texas RRC District 7C | 2,977 | -359 | 456 | 121 | 370 | 886 | 243 | 0 | 1 | 274 | 3,439 |
| Texas RRC District 8 | 2,947 | -42 | 609 | 206 | 483 | 565 | 147 | 4 | 179 | 375 | 3,345 |
| Texas RRC District 8A | 44 | -10 | 37 | 5 | 3 | 13 | 0 | 0 | 0 | 7 | 69 |
| Texas RRC District 9 | 1,180 | -123 | 107 | 16 | 7 | 73 | 559 | 0 | 0 | 128 | 1,645 |
| Texas RRC District 10 | 4,447 | -213 | 573 | 468 | 142 | 92 | 192 | 44 | 4 | 386 | 4,143 |
| State Offshore | 413 | 7 | 99 | 69 | 54 | 36 | 16 | 0 | 11 | 60 | 399 |
| Utah | 3,050 | 34 | 144 | 105 | 597 | 1,528 | 273 | 0 | 16 | 218 | 4,125 |
| Virginia | 2,017 | -10 | 65 | 295 | 28 | 17 | 0 | 0 | 9 | 71 | 1,704 |
| West Virginia | 2,952 | -77 | 670 | 380 | 900 | 803 | 5 | 0 | 34 | 178 | 2,929 |
| Wyoming | 14,096 | 324 | 1,366 | 759 | 1,876 | 1,804 | 2,644 | 8 | 2 | 1,050 | 16,559 |
| Federal Offshore[a] | 19,505 | 11 | 3,259 | 2,695 | 2,001 | 2,382 | 1,761 | 1,245 | 871 | 3,882 | 20,456 |
| Pacific (California) | 48 | 14 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 76 |
| Gulf of Mexico (Louisiana)[a] | 14,950 | -188 | 2,522 | 2,065 | 1,576 | 1,666 | 1,179 | 1,083 | 684 | 2,905 | 15,350 |
| Gulf of Mexico (Texas) | 4,507 | 185 | 718 | 630 | 425 | 716 | 582 | 162 | 187 | 972 | 5,030 |
| Miscellaneous[b] | 13 | 8 | 4 | 0 | 0 | 0 | 2 | 0 | 0 | 4 | 23 |
| **U.S. Total** | **144,744** | **-671** | **20,505** | **12,394** | **14,436** | **19,051** | **12,866** | **1,664** | **2,211** | **16,863** | **156,677** |

[a]Includes Federal offshore Alabama.
[b]Includes Arizona, Illinois, Indiana, Maryland, Missouri, Nebraska, Nevada, Oregon, South Dakota, and Tennessee.

Note: The prouction estimates in this table are based on data reported on Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves." They may differ from the official Energy Information Administration production data for natural gas for 2000 contained in the *Natural Gas Annual 2000,* DOE/EIA-0131(00).

Source: Energy Information Administration, Office of Oil and Gas.

## Table 11. Associated-Dissolved Natural Gas Proved Reserves, Reserves Changes, and Production, 2000

(Billion Cubic Feet at 14.73 psia and 60° Fahrenheit)

| State and Subdivision | Published Proved Reserves 12/31/99 | Changes in Reserves During 2000 | | | | | | | | | Proved Reserves 12/31/00 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Adjustments (+,–) | Revision Increases (+) | Revision Decreases (–) | Sales (–) | Acquisitions (+) | Extensions (+) | New Field Discoveries (+) | New Reservoir Discoveries in Old Fields (+) | Estimated Production (–) | |
| Alaska | 7,209 | -145 | 77 | 1,869 | 3,741 | 3,573 | 1,976 | 0 | 0 | 312 | 6,768 |
| **Lower 48 States** | **24,206** | **-460** | **3,807** | **2,677** | **3,180** | **3,013** | **707** | **387** | **249** | **2,987** | **23,065** |
| Alabama | 27 | 1 | 1 | 2 | 2 | 10 | 0 | 0 | 0 | 6 | 29 |
| Arkansas | 41 | -1 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 39 |
| California | 2,150 | -160 | 387 | 89 | 49 | 72 | 97 | 2 | 0 | 212 | 2,198 |
| Coastal Region Onshore | 233 | -1 | 14 | 15 | 0 | 23 | 0 | 0 | 0 | 10 | 244 |
| Los Angeles Basin Onshore | 174 | -3 | 53 | 17 | 0 | 0 | 5 | 0 | 0 | 9 | 203 |
| San Joaquin Basin Onshore | 1,685 | -153 | 282 | 57 | 49 | 49 | 92 | 2 | 0 | 186 | 1,665 |
| State Offshore | 58 | -3 | 38 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 86 |
| Colorado | 781 | -43 | 306 | 12 | 17 | 6 | 3 | 0 | 0 | 64 | 960 |
| Florida | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 93 |
| Kansas | 52 | -6 | 7 | 9 | 2 | 1 | 4 | 0 | 0 | 7 | 40 |
| Kentucky | 29 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 27 |
| Louisiana | 979 | -45 | 199 | 248 | 77 | 80 | 28 | 11 | 22 | 142 | 807 |
| North | 260 | -23 | 49 | 67 | 2 | 3 | 1 | 0 | 4 | 39 | 186 |
| South Onshore | 599 | -18 | 115 | 149 | 63 | 58 | 16 | 1 | 15 | 82 | 492 |
| State Offshore | 120 | -4 | 35 | 32 | 12 | 19 | 11 | 10 | 3 | 21 | 129 |
| Michigan | 227 | 33 | 18 | 27 | 13 | 12 | 3 | 0 | 0 | 39 | 214 |
| Mississippi | 31 | -1 | 6 | 7 | 3 | 11 | 4 | 0 | 0 | 6 | 35 |
| Montana | 67 | 1 | 9 | 10 | 2 | 6 | 5 | 0 | 0 | 6 | 70 |
| New Mexico | 1,578 | -54 | 279 | 143 | 240 | 329 | 49 | 4 | 9 | 223 | 1,588 |
| East | 1,486 | -72 | 264 | 134 | 238 | 326 | 40 | 4 | 9 | 212 | 1,473 |
| West | 92 | 18 | 15 | 9 | 2 | 3 | 9 | 0 | 0 | 11 | 115 |
| New York | 9 | -8 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| North Dakota | 250 | 14 | 44 | 16 | 7 | 9 | 4 | 0 | 0 | 34 | 264 |
| Ohio | 402 | 11 | 118 | 40 | 24 | 31 | 2 | 0 | 0 | 31 | 469 |
| Oklahoma | 1,238 | -36 | 194 | 152 | 98 | 95 | 18 | 5 | 1 | 152 | 1,113 |
| Pennsylvania | 96 | 21 | 61 | 17 | 3 | 3 | 7 | 0 | 0 | 11 | 157 |
| Texas | 7,880 | -196 | 1,080 | 926 | 1,865 | 1,544 | 136 | 5 | 33 | 858 | 6,833 |
| Texas RRC District 1 | 67 | -1 | 13 | 2 | 22 | 21 | 0 | 0 | 0 | 7 | 69 |
| Texas RRC District 2 Onshore | 202 | 25 | 27 | 95 | 36 | 22 | 3 | 1 | 2 | 36 | 115 |
| Texas RRC District 3 Onshore | 914 | -64 | 123 | 142 | 20 | 30 | 30 | 2 | 1 | 236 | 638 |
| Texas RRC District 4 Onshore | 182 | 2 | 36 | 25 | 4 | 6 | 1 | 0 | 0 | 22 | 176 |
| Texas RRC District 5 | 49 | 3 | 25 | 7 | 11 | 58 | 11 | 1 | 28 | 29 | 128 |
| Texas RRC District 6 | 545 | -5 | 20 | 62 | 26 | 16 | 3 | 0 | 0 | 27 | 464 |
| Texas RRC District 7B | 190 | -88 | 21 | 8 | 5 | 22 | 1 | 0 | 0 | 19 | 114 |
| Texas RRC District 7C | 616 | 1 | 130 | 56 | 43 | 98 | 23 | 0 | 0 | 76 | 693 |
| Texas RRC District 8 | 3,175 | -81 | 375 | 433 | 643 | 598 | 45 | 1 | 2 | 248 | 2,791 |
| Texas RRC District 8A | 1,513 | -24 | 180 | 47 | 1,030 | 642 | 1 | 0 | 0 | 89 | 1,146 |
| Texas RRC District 9 | 180 | -1 | 54 | 8 | 5 | 22 | 2 | 0 | 0 | 35 | 209 |
| Texas RRC District 10 | 241 | 36 | 76 | 39 | 16 | 9 | 16 | 0 | 0 | 34 | 289 |
| State Offshore | 6 | 1 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 1 |
| Utah | 321 | -8 | 42 | 11 | 3 | 19 | 8 | 0 | 0 | 20 | 348 |
| Virginia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| West Virginia | 88 | 0 | 27 | 26 | 14 | 29 | 0 | 0 | 0 | 6 | 98 |
| Wyoming | 713 | 0 | 60 | 43 | 20 | 28 | 4 | 0 | 0 | 90 | 652 |
| Federal Offshore[a] | 7,093 | 49 | 962 | 894 | 736 | 723 | 335 | 360 | 184 | 1,066 | 7,010 |
| Pacific (California) | 488 | 1 | 67 | 16 | 12 | 13 | 0 | 0 | 0 | 41 | 500 |
| Gulf of Mexico (Louisiana)[a] | 5,222 | 41 | 792 | 770 | 612 | 654 | 261 | 199 | 170 | 842 | 5,115 |
| Gulf of Mexico (Texas) | 1,383 | 7 | 103 | 108 | 112 | 56 | 74 | 161 | 14 | 183 | 1,395 |
| Miscellaneous[b] | 54 | -31 | 3 | 4 | 5 | 4 | 0 | 0 | 0 | 2 | 19 |
| **U.S. Total** | **31,415** | **-605** | **3,884** | **4,546** | **6,921** | **6,586** | **2,683** | **387** | **249** | **3,299** | **29,833** |

[a]Includes Federal offshore Alabama.

[b]Includes Arizona, Illinois, Indiana, Maryland, Missouri, Nebraska, Nevada, Oregon, South Dakota, and Tennessee.

Note: The production estimates in this table are based on data reported on Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves." They may differ from the official Energy Information Administration production data for natural gas for 2000 contained in the *Natural Gas Annual 2000*, DOE/EIA-0131(00).

Source: Energy Information Administration, Office of Oil and Gas.

The volumetric differences between the estimates reported in **Table 8** (dry) and **Table 9** (wet) result from the removal of natural gas liquids at natural gas processing plants. A discussion of the methodology used to generate wet and dry natural gas reserves tables in this report appears in Appendix F.

## Nonassociated Natural Gas

### Proved Reserves

Proved reserves of nonassociated (NA) natural gas, wet after lease separation, in the United States increased by 8 percent (11,933 billion cubic feet) in 2000 to 156,677 billion cubic feet (**Table 10**). The lower 48 States' NA wet natural gas proved reserves increased 8 percent to a level of 154,113 billion cubic feet, while Alaska had a 3 percent decline to a level of 2,564 billion cubic feet of NA wet natural gas proved reserves in 2000. Those States with the largest increases in NA wet natural gas reserves were Texas, Wyoming, New Mexico, Colorado, and Oklahoma.

### Discoveries

NA wet natural gas *total discoveries* of 16,741 billion cubic feet in 2000 increased 69 percent compared to 1999's total of 9,884 billion cubic feet. Areas with the most *total discoveries* in 2000 were Texas (4,961 billion cubic feet), the Gulf of Mexico Federal Offshore (3,877 billion cubic feet), Wyoming (2,654 billion cubic feet), and New Mexico (1,946 billion cubic feet).

### Production

U.S. production of NA wet natural gas increased 2 percent from an estimated 16,543 billion cubic feet in 1999 to 16,863 billion cubic feet in 2000. The five leading producing areas were: Texas (27 percent), the Gulf of Mexico Federal Offshore (23 percent), Oklahoma (8 percent), New Mexico (8 percent), and Louisiana (8 percent).

## Associated-Dissolved Natural Gas

### Proved Reserves

Proved reserves of associated-dissolved (AD) natural gas, wet after lease separation, in the United States declined 5 percent (-1,582 billion cubic feet) to 29,833 billion cubic feet in 2000 (**Table 11**). Proved reserves of AD wet natural gas in the lower 48 States decreased by 5 percent (-1,141 billion cubic feet) to 23,065 billion cubic feet, and in Alaska declined 6 percent (-441 billion cubic feet) to 6,768 billion cubic feet in 2000. Those areas of the country with the largest AD wet natural gas reserves and their percentage of the total were:

- Texas (23 percent)
- Alaska (23 percent)
- Gulf of Mexico Federal Offshore (22 percent)
- California (7 percent)
- New Mexico (5 percent).

These areas logically correspond to the areas of the country with the largest volumes of crude oil reserves.

### Production

U.S. production of AD wet natural gas decreased slightly from an estimated 3,313 billion cubic feet in 1999 to 3,299 billion cubic feet in 2000 (**Table 11**). Production of AD wet natural gas in the lower 48 States decreased from 3,050 billion cubic feet to 2,987 billion cubic feet in 2000, a decline of 2 percent. Those areas of the country with the largest AD wet natural gas production and their percentage of the total were:

- Gulf of Mexico Federal Offshore (31 percent)
- Texas (26 percent)
- Alaska (9 percent)
- New Mexico (7 percent)
- California (6 percent).

Again, these areas logically correspond to the areas of the country with the largest volumes of crude oil production.

## Coalbed Methane

### Proved Reserves

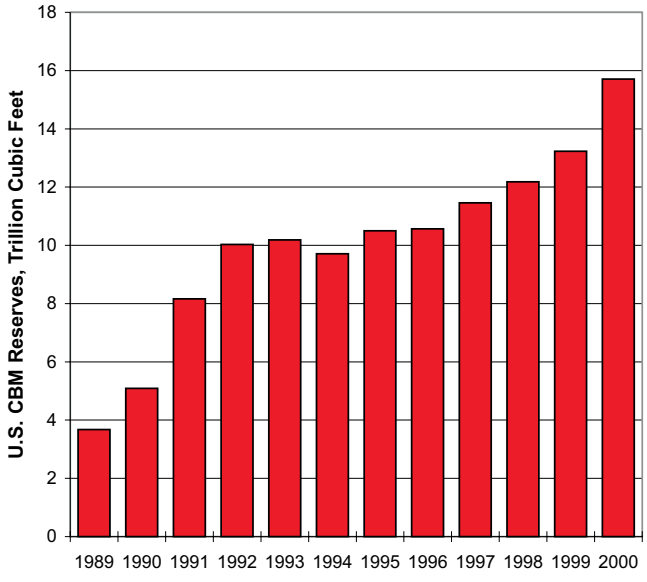
In 2000, proved reserves of coalbed methane increased to 15,708 billion cubic feet, a 19 percent increase from 1999's level (13,229 billion cubic feet). Coalbed methane accounted for 9 percent of all 2000 dry natural gas reserves (**Table 12**). EIA estimates that the 2000 proved gas reserves of fields identified as having coalbed methane are now more than quadruple the volume reported in 1989 (**Figure 21**). Three States (New Mexico, Colorado, and Alabama) currently have the majority

**Table 12. Coalbed Methane Proved Reserves and Production for 1989–2000**
(Billion Cubic Feet at 14.73 psia and 60° Fahrenheit)

| Year | Alabama | Colorado | New Mexico | Utah | Wyoming | Eastern States[a] | Western States[b] | Others[c] | United States |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | **Reserves** | | | | |
| 1989 | 537 | 1,117 | 2,022 | NA | NA | NA | NA | 0 | 3,676 |
| 1990 | 1,224 | 1,320 | 2,510 | NA | NA | NA | NA | 33 | 5,087 |
| 1991 | 1,714 | 2,076 | 4,206 | NA | NA | NA | NA | 167 | 8,163 |
| 1992 | 1,968 | 2,716 | 4,724 | NA | NA | NA | NA | 626 | 10,034 |
| 1993 | 1,237 | 3,107 | 4,775 | NA | NA | NA | NA | 1,065 | 10,184 |
| 1994 | 976 | 2,913 | 4,137 | NA | NA | NA | NA | 1,686 | 9,712 |
| 1995 | 972 | 3,461 | 4,299 | NA | NA | NA | NA | 1,767 | 10,499 |
| 1996 | 823 | 3,711 | 4,180 | NA | NA | NA | NA | 1,852 | 10,566 |
| 1997 | 1,077 | 3,890 | 4,351 | NA | NA | NA | NA | 2,144 | 11,462 |
| 1998 | 1,029 | 4,211 | 4,232 | NA | NA | NA | NA | 2,707 | 12,179 |
| 1999 | 1,060 | 4,826 | 4,080 | NA | NA | NA | NA | 3,263 | 13,229 |
| 2000 | 1,241 | 5,617 | 4,278 | 1,592 | 1,540 | 1,399 | 41 | -- | 15,708 |
| | | | | | **Production** | | | | |
| 1989 | 23 | 12 | 56 | NA | NA | NA | NA | 0 | 91 |
| 1990 | 36 | 26 | 133 | NA | NA | NA | NA | 1 | 196 |
| 1991 | 68 | 48 | 229 | NA | NA | NA | NA | 3 | 348 |
| 1992 | 89 | 82 | 358 | NA | NA | NA | NA | 10 | 539 |
| 1993 | 103 | 125 | 486 | NA | NA | NA | NA | 18 | 752 |
| 1994 | 108 | 179 | 530 | NA | NA | NA | NA | 34 | 851 |
| 1995 | 109 | 226 | 574 | NA | NA | NA | NA | 47 | 956 |
| 1996 | 98 | 274 | 575 | NA | NA | NA | NA | 56 | 1,003 |
| 1997 | 111 | 312 | 597 | NA | NA | NA | NA | 70 | 1,090 |
| 1998 | 123 | 401 | 571 | NA | NA | NA | NA | 99 | 1,194 |
| 1999 | 108 | 432 | 582 | NA | NA | NA | NA | 130 | 1,252 |
| 2000 | 109 | 451 | 550 | 74 | 133 | 58 | 4 | -- | 1,379 |

[a]Includes Pennsylvania, Virginia, and West Virginia.
[b]Includes Kansas, Montana, and Oklahoma.
[c]Includes Oklahoma, Pennsylvania, Utah, Virginia, West Virginia, and Wyoming; these states are individually listed or grouped in Eastern States and Western States for 2000.
NA -- Not available.
Source: Energy Information Administration, Office of Oil and Gas.

**Figure 21. Coalbed Methane Proved Reserves 1990-2000**




Source: Energy Information Administration, Office of Oil and Gas.

(71 percent) of U.S. Coalbed methane proved reserves. Estimates of proved coalbed methane reserves increased 16 percent in Colorado (+791 billion cubic feet), 5 percent in New Mexico (+198 billion cubic feet), and 17 percent in Alabama (+181 billion cubic feet) in 2000.

## Production

U.S. coalbed methane production grew 10 percent in 2000 to 1,379 billion cubic feet—about 7 percent of U.S. dry gas production.

# Areas of Note: Large Discoveries and Reserves Additions

The following State or area discussions summarize notable activities during the year concerning expected new field reserves, development plans, and possible production rates as extracted from various trade

publications and company reports. The citations do not necessarily reflect EIA's concurrence, but are considered important enough to be brought to the reader's attention.

## Wyoming

The State of Wyoming had the largest increase in dry natural gas proved reserves of any state in 2000. Wyoming dry natural gas reserves increased by 1,932 billion cubic feet. This was the result of development of coalbed methane fields in the Powder River Basin and other existing natural gas fields.

**Jonah Field:** Alberta Energy Corporation announced on May 2, 2000, that its subsidiary, AEC Oil & Gas (USA) Inc. had acquired McMurray Oil Company and other private interests (McMurry et al) -- the companies that owned a major interest in the Jonah Field in Wyoming. Geologically, the Jonah field consists of deep, low permeability, high-pressure gas trapped in over 3,000 feet of multi-zone sands. Production was 140 million cubic feet per day in 2000, and AEC plans further development that would raise production to 180 million per day in 2001, and to 220 million in 2002. {41}

## Texas

Texas had a net increase of 1,925 billion cubic feet of dry natural gas proved reserves in 2000. Development of gas fields in the Barnett Shale and the Lobo Trend boosted reserves additions for this State. Texas could have had the largest increase in dry gas proved reserves in 2000, but a decrease in its associated dissolved gas reserves volume offset reserves additions of nonassociated gas.

**Barnett Shale and Lobo Trend**: The Barnett shale is located in the Fort Worth Basin, in Texas RRC District 5. Light sand fracture technology has produced dramatic results in the Barnett Shale play in North Texas, an area estimated by a 1998 U.S. Geological Survey to hold 10 trillion cubic feet of recoverable resources, the equivalent of a 1.67 billion barrel oil field. This technology has made it economic to expand the limits of Mitchell Energy and Development Corporation's Newark East Barnett field and to increase the recoverable reserves from each well. Based on current engineering evaluations, the field contains 2,460 proved, probable and possible undrilled well locations on 55-acre spacing. The company's drilling plans for 2001 call for a total of 405 new wells, including 296 in the Barnett, an increase of 82 percent over last year's pace. {42}

The Lobo Trend is located in the lower Rio Grande Valley of south Texas (RRC District 4). The trend occurs primarily in Webb and Zapata counties and contains four producing horizons, the Wilcox, Expanded Wilcox, Frio, and Lobo. Unlike some other parts of the country, one or two fields do not dominate the area. RRC District 4 increased its dry natural gas reserves by 730 billion cubic feet in 2000. This district accounts for 23 percent of all reserves of dry natural gas in the State and leads the State in gas production (25 percent of the State total). RRC District 4's dry gas production decreased 4 percent from 1999 to 2000.

## New Mexico

New Mexico had a net increase of 1,873 billion cubic feet of dry natural gas proved reserves in 2000. Development of coalbed methane fields in the San Juan Basin and other existing conventional gas fields boosted the reserves additions for this State.

## Colorado

Colorado had a net increase of 1,441 billion cubic feet of dry natural gas proved reserves in 2000. This was the result of development of coalbed methane fields and gas fields within the San Juan, Piceance, and Raton Basins.

# Areas of Note: Large Reserves Declines

The following areas had large declines in dry natural gas proved reserves due to downward revisions or unreplaced production.

## Alaska

Alaska's proved dry natural gas reserves decreased by 5 percent (497 billion cubic feet) in 2000. Production increased from 459 billion cubic feet in 1999 to 506 billion cubic feet in 2000.

## Kansas

Kansas' proved dry natural gas reserves decreased by 8 percent (454 billion cubic feet) in 2000. Production in Kansas increased 1 percent in 2000.

# Reserves in Nonproducing Reservoirs

Nonproducing proved natural gas reserves (wet after lease separation) of 42,834 billion cubic feet were reported in 2000, 16 percent more than the 36,873 billion cubic feet reported in 1999 (**Appendix D, Table D10**). About 27 percent of the reserves in nonproducing reservoirs are located in the Gulf of Mexico Federal Offshore area. Much of the new deepwater reserves are in the nonproducing category. Wells or reservoirs are nonproducing due to any of several operational reasons. These include:

- waiting for well workovers
- waiting for additional development or replacement wells to be drilled
- production or pipeline facilities not yet installed
- awaiting depletion of other zones or reservoirs before recompletion in reservoirs not currently open to production (called "behind pipe" reserves).