

### 3. Crude Oil Statistics

The United States had 21,891 million barrels of crude oil proved reserves as of December 31, 2003. This is 3 percent (-786 million barrels) less than in 2002. The major factors contributing to the decline in 2003 were lower than average net revisions and adjustments and a negative net of sales and acquisitions.

The majority of crude oil total discoveries in 2003 were new field discoveries in the Gulf of Mexico Federal Offshore. The north slope of Alaska (normally a key area) had no significant impact on the National total in 2002. Operators replaced only 58 percent of 2003 oil production with proved reserves additions (Figure 15).

#### Proved Reserves

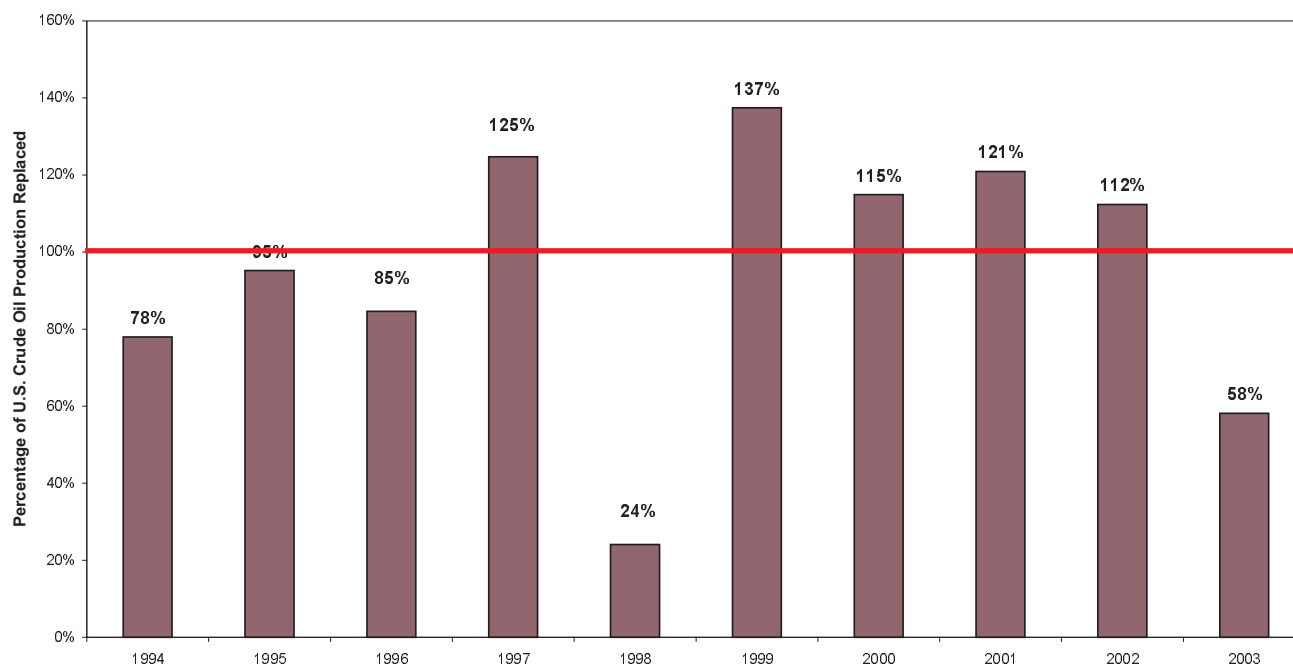
Table 6 presents the U.S. proved reserves of crude oil as of December 31, 2003, by selected States and State subdivisions.

Figure 16 maps 2003 crude oil proved reserves by area. The following four areas account for 78 percent of U.S. crude oil proved reserves:

| Area                            | Percent of U.S. Oil Reserves |
|---------------------------------|------------------------------|
| Texas                           | 21                           |
| Gulf of Mexico Federal Offshore | 21                           |
| Alaska                          | 20                           |
| California                      | 16                           |
| <b>Area Total</b>               | <b>78</b>                    |

Of these four areas, only the Gulf of Mexico Federal Offshore had an increase in crude oil proved reserves in 2003.

Figure 15. Reserve Additions Replace Only 58% of 2003 U.S. Crude Oil Production.



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

**Table 6. Crude Oil Proved Reserves, Reserves Changes, and Production, 2003**  
(Million Barrels of 42 U.S. Gallons)

| State and Subdivision      | Published Proved Reserves 12/31/02 | Changes in Reserves During 2003 |                        |                        |              |                  |                |                           |   |                          | Proved Reserves 12/31/03 |
|----------------------------|------------------------------------|---------------------------------|------------------------|------------------------|--------------|------------------|----------------|---------------------------|---|--------------------------|--------------------------|
|                            |                                    | Adjustments (+,-)               | Revision Increases (+) | Revision Decreases (-) | Sales (-)    | Acquisitions (+) | Extensions (+) | New Field Discoveries (+) | New Reservoir Discoveries in Old Fields (+) | Estimated Production (-) |                          |
| Alaska                     | 4,678                              | 1                               | 168                    | 79                     | 0            | 0                | 35             | 0                         | 0   | 357                      | 4,446                    |
| <b>Lower 48 States</b>     | <b>17,999</b>                      | <b>162</b>                      | <b>1,318</b>           | <b>1,313</b>           | <b>1,107</b> | <b>709</b>       | <b>391</b>     | <b>705</b>                | <b>101</b>                                  | <b>1,520</b>             | <b>17,445</b>            |
| Alabama                    | 51                                 | 1                               | 4                      | 0                      | 0            | 0                | 2              | 0                         | 0   | 6                        | 52                       |
| Arkansas                   | 49                                 | 9                               | 2                      | 1                      | 4            | 2                | 0              | 0                         | 0   | 7                        | 50                       |
| California                 | 3,633                              | -18                             | 190                    | 107                    | 58           | 49               | 9              | 0                         | 0   | 246                      | 3,452                    |
| Coastal Region Onshore     | 404                                | -4                              | 11                     | 5                      | 8            | 12               | 2              | 0                         | 0   | 17                       | 395                      |
| Los Angeles Basin Onshore  | 330                                | 0                               | 31                     | 24                     | 31           | 26               | 3              | 0                         | 0   | 16                       | 319                      |
| San Joaquin Basin Onshore  | 2,702                              | -13                             | 139                    | 62                     | 19           | 11               | 4              | 0                         | 0   | 197                      | 2,565                    |
| State Offshore             | 197                                | -1                              | 9                      | 16                     | 0            | 0                | 0              | 0                         | 0   | 16                       | 173                      |
| Colorado                   | 214                                | -4                              | 19                     | 4                      | 1            | 2                | 7              | 0                         | 0   | 16                       | 217                      |
| Florida                    | 73                                 | -1                              | 0                      | 1                      | 0            | 0                | 0              | 0                         | 0   | 3                        | 68                       |
| Illinois                   | 107                                | 22                              | 11                     | 5                      | 0            | 0                | 0              | 0                         | 0   | 10                       | 125                      |
| Indiana                    | 15                                 | 5                               | 1                      | 0                      | 0            | 0                | 0              | 0                         | 0   | 2                        | 19                       |
| Kansas                     | 237                                | 19                              | 31                     | 13                     | 4            | 2                | 5              | 0                         | 0   | 34                       | 243                      |
| Kentucky                   | <sup>a</sup> 27                    | 2                               | 2                      | 4                      | 0            | 0                | 0              | 0                         | 0   | 2                        | 25                       |
| Louisiana                  | 501                                | 3                               | 57                     | 75                     | 46           | 38               | 31             | 0                         | 6   | 63                       | 452                      |
| North                      | 75                                 | 5                               | 4                      | 9                      | 1            | 0                | 2              | 0                         | 0   | 10                       | 66                       |
| South Onshore              | 335                                | 1                               | 46                     | 48                     | 26           | 19               | 23             | 0                         | 3   | 39                       | 314                      |
| State Offshore             | 91                                 | -3                              | 7                      | 18                     | 19           | 19               | 6              | 0                         | 3   | 14                       | 72                       |
| Michigan                   | 61                                 | 12                              | 14                     | 16                     | 10           | 21               | 0              | 0                         | 0   | 7                        | 75                       |
| Mississippi                | 179                                | 9                               | 20                     | 9                      | 15           | 1                | 0              | 0                         | 0   | 16                       | 169                      |
| Montana                    | 288                                | -6                              | 15                     | 8                      | 2            | 5                | 42             | 0                         | 0   | 19                       | 315                      |
| Nebraska                   | 18                                 | 0                               | 1                      | 0                      | 0            | 0                | 0              | 0                         | 0   | 3                        | 16                       |
| New Mexico                 | 710                                | -5                              | 65                     | 69                     | 18           | 15               | 38             | 0                         | 0   | 59                       | 677                      |
| East                       | 699                                | -6                              | 64                     | 67                     | 17           | 15               | 38             | 0                         | 0   | 58                       | 668                      |
| West                       | 11                                 | 1                               | 1                      | 2                      | 1            | 0                | 0              | 0                         | 0   | 1                        | 9                        |
| North Dakota               | 342                                | 8                               | 20                     | 24                     | 1            | 7                | 31             | 0                         | 0   | 30                       | 353                      |
| Ohio                       | 67                                 | 9                               | 4                      | 8                      | 1            | 0                | 0              | 0                         | 0   | 5                        | 66                       |
| Oklahoma                   | 598                                | 3                               | 80                     | 49                     | 36           | 21               | 26             | 0                         | 0   | 55                       | 588                      |
| Pennsylvania               | <sup>a</sup> 12                    | -3                              | 6                      | 1                      | 0            | 0                | 1              | 0                         | 0   | 2                        | 13                       |
| Texas                      | 5,015                              | 63                              | 362                    | 178                    | 639          | 242              | 77             | 3                         | 2   | 364                      | 4,583                    |
| RRC District 1             | 50                                 | 10                              | 4                      | 4                      | 1            | 0                | 7              | 1                         | 0   | 8                        | 59                       |
| RRC District 2 Onshore     | 54                                 | 4                               | 4                      | 5                      | 2            | 3                | 0              | 0                         | 0   | 7                        | 51                       |
| RRC District 3 Onshore     | 218                                | 1                               | 15                     | 14                     | 32           | 15               | 14             | 0                         | 0   | 27                       | 190                      |
| RRC District 4 Onshore     | 28                                 | 1                               | 6                      | 3                      | 2            | 2                | 1              | 0                         | 1   | 4                        | 30                       |
| RRC District 5             | 24                                 | 1                               | 1                      | 2                      | 8            | 8                | 0              | 0                         | 0   | 4                        | 20                       |
| RRC District 6             | 198                                | 6                               | 11                     | 8                      | 9            | 6                | 2              | 0                         | 0   | 17                       | 189                      |
| RRC District 7B            | 82                                 | -2                              | 15                     | 3                      | 18           | 5                | 0              | 0                         | 0   | 11                       | 68                       |
| RRC District 7C            | 177                                | 9                               | 28                     | 5                      | 3            | 3                | 12             | 0                         | 0   | 16                       | 205                      |
| RRC District 8             | 1,913                              | -5                              | 118                    | 57                     | 513          | 144              | 23             | 1                         | 0   | 111                      | 1,513                    |
| RRC District 8A            | 2,093                              | 20                              | 142                    | 47                     | 48           | 53               | 13             | 0                         | 0   | 137                      | 2,089                    |
| RRC District 9             | 113                                | 10                              | 11                     | 10                     | 1            | 2                | 4              | 0                         | 0   | 15                       | 114                      |
| RRC District 10            | 59                                 | 9                               | 6                      | 20                     | 2            | 1                | 1              | 0                         | 0   | 6                        | 48                       |
| State Offshore             | 6                                  | -1                              | 1                      | 0                      | 0            | 0                | 0              | 1                         | 1   | 1                        | 7                        |
| Utah                       | 241                                | 1                               | 7                      | 18                     | 24           | 25               | 1              | 0                         | 0   | 12                       | 221                      |
| West Virginia              | <sup>a</sup> 13                    | 0                               | 2                      | 1                      | 0            | 0                | 0              | 0                         | 0   | 1                        | 13                       |
| Wyoming                    | 524                                | 24                              | 29                     | 36                     | 23           | 36               | 5              | 0                         | 0   | 42                       | 517                      |
| Federal Offshore           | 5,009                              | 8                               | 376                    | 686                    | 225          | 243              | 115            | 702                       | 93  | 515                      | 5,120                    |
| Pacific (California)       | 565                                | 1                               | 10                     | 2                      | 0            | 0                | 22             | 0                         | 0   | 30                       | 566                      |
| Gulf of Mexico (Louisiana) | 4,088                              | 5                               | 289                    | 616                    | 201          | 230              | 93             | 698                       | 91  | 426                      | 4,251                    |
| Gulf of Mexico (Texas)     | 356                                | 2                               | 77                     | 68                     | 24           | 13               | 0              | 4                         | 2   | 59                       | 303                      |
| Miscellaneous <sup>b</sup> | 15                                 | 1                               | 0                      | 0                      | 0            | 0                | 1              | 0                         | 0   | 1                        | 16                       |
| <b>U.S. Total</b>          | <b>22,677</b>                      | <b>163</b>                      | <b>1,486</b>           | <b>1,392</b>           | <b>1,107</b> | <b>709</b>       | <b>426</b>     | <b>705</b>                | <b>101</b>                                  | <b>1,877</b>             | <b>21,891</b>            |

<sup>a</sup>Indicates the estimate is associated with a sampling error (95 percent confidence interval) that exceeds 20 percent of the estimated value.

<sup>b</sup>Includes Arizona, Missouri, Nevada, New York, South Dakota, Tennessee, and Virginia.

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 crude oil for 2003 contained in the *Petroleum Supply Annual 2003*, DOE/EIA-0340(03).

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

Figure 16. Crude Oil Proved Reserves by Area, 2003

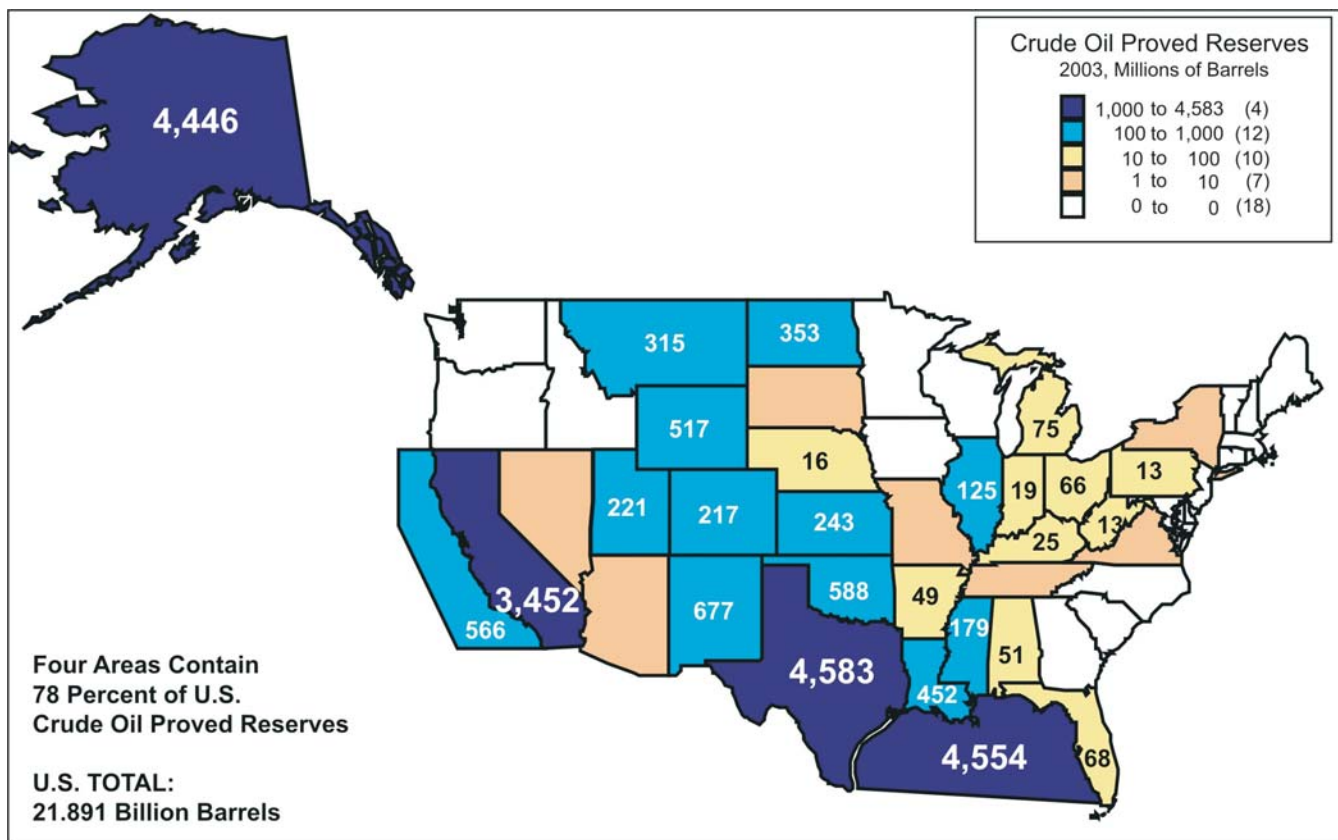
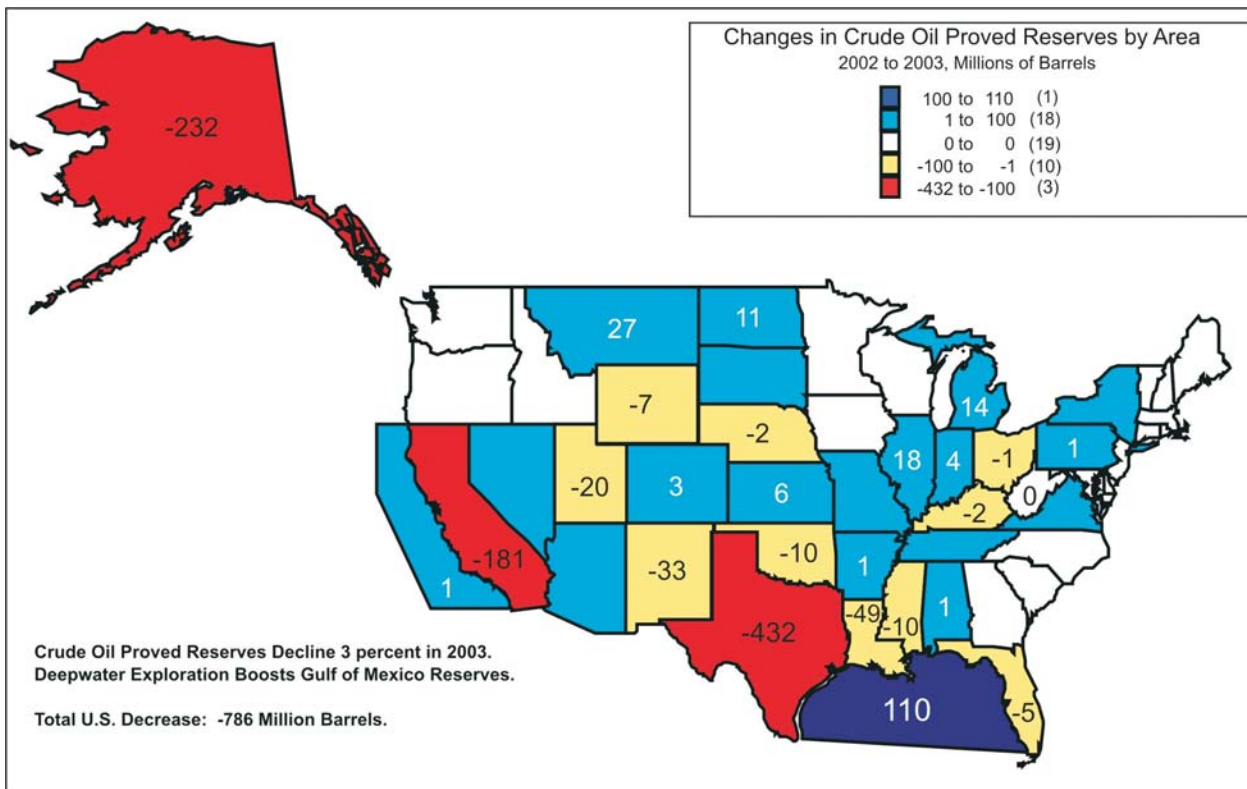


Figure 17. Changes in Crude Oil Proved Reserves by Area, 2002 to 2003



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

## Discussion of Reserves Changes

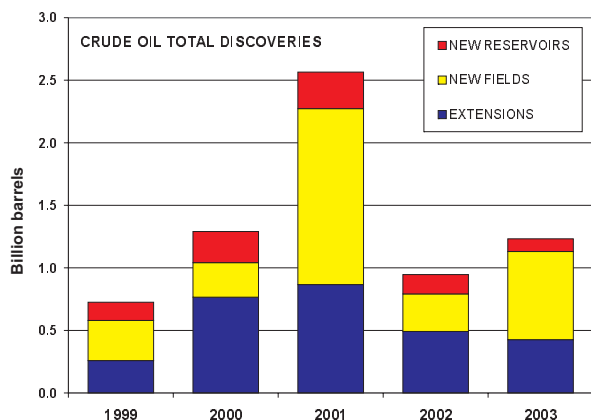
Figure 17 maps the change in crude oil proved reserves from 2002 to 2003 by area. Here's how the top four areas fared compared to the total United States:

| Area                            | Change in U.S. Oil Reserves (million barrels) |
|---------------------------------|---|
| Texas                           | -432  |
| Gulf of Mexico Federal Offshore | +110  |
| Alaska                          | -232  |
| California                      | -181  |
| <b>Area Total</b>               | <b>-735</b>                                   |
| <b>U.S. Total</b>               | <b>-786</b>                                   |

Figure 2 in Chapter 2 shows the components of the changes in crude oil proved reserves for 2003 and the preceding 10 years.

### Total Discoveries

Total discoveries are those new reserves attributable to extensions of existing fields, new field discoveries, and new reservoir discoveries in old fields. They result from the drilling of exploratory wells.



Total discoveries of crude oil were 1,232 million barrels in 2003, 30 percent more than those of 2002. Only three areas had total discoveries exceeding 40 million barrels:

- The Gulf of Mexico Federal Offshore had 888 million barrels of total discoveries, 72 percent of the National total.
- Texas had 82 million barrels of total discoveries, 7 percent of the National total.

- Montana had 42 million barrels of total discoveries, 3 percent of the National total.

The United States discovered an average of 1,060 million barrels of new crude oil proved reserves per year in the prior 10 years (1993 through 2002). Total discoveries in 2003 (1,232 million barrels) were 16 percent higher than that average.

### Extensions

Operators reported 426 million barrels of extensions in 2003. The highest volume of extensions was reported in the Gulf of Mexico Federal Offshore (93 million barrels). Texas reported 77 million barrels of extensions. Montana was third with 42 million barrels of extensions.

In the prior 10 years, U.S. operators reported an average of 498 million barrels of extensions per year. The 2003 extensions were 15 percent less than that average.

### New Field Discoveries

There were 705 million barrels of new field discoveries of crude oil reported in 2003. Only two areas in the United States reported any new field discoveries, and only the Gulf of Mexico Federal Offshore contributed a significant volume (702 million barrels, or 99.6 percent).

In the prior 10 years, U.S. operators reported an average of 383 million barrels of reserves from new field discoveries per year. Reserves from new field discoveries in 2003 were 84 percent more than that average volume.

### New Reservoir Discoveries in Old Fields

Operators in the United States reported 101 million barrels of crude oil reserves from new reservoir discoveries in old fields in 2003. As with new field discoveries, the most significant portion of the new reservoir discoveries in old fields came from the Gulf of Mexico Federal Offshore—93 million barrels or 92 percent of the total. Louisiana had 6 million barrels (6 percent). Texas was third with 2 million barrels (2 percent).

In the prior 10 years, U.S. operators reported an average of 178 million barrels of reserves from new reservoir discoveries in old fields per year. Reserves

from new reservoir discoveries in old fields in 2003 were 43 percent less than that average.

## Revisions and Adjustments

Thousands of positive and negative revisions to proved reserves occur each year as infill wells are drilled, well performance is analyzed, new technology is applied, or economic conditions change. Adjustments are the annual changes in the published reserve estimates that cannot be directly attributed to the estimates for other reserve change categories because of the survey and statistical estimation methods employed.

There were 1,486 million barrels of revision increases, 1,392 million barrels of revision decreases, and 163 million barrels of adjustments in 2003. Combined, there were 257 million barrels of net revisions and adjustments for crude oil in 2003.

In the prior 10 years, net revisions and adjustments added an average of 916 million barrels per year. The 2003 net revisions and adjustments were substantially less than this volume and a major factor in the net loss of proved reserves of crude oil in 2003.

## Sales and Acquisitions

Sales represents that volume of crude oil proved reserves deducted from an operator's total by selling or transferring operations of existing oil fields 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 through purchase or operations transfer of an existing oil field or properties.

There are several reasons why sales and acquisitions volumes are not equal. Since operators have different engineering staffs and resources, or different development plans or schedules, the estimate of proved reserves for a field can change with a change in ownership. Timing of the transfer of operations can also impact these values.

In 2003, there were 1,107 million barrels of sales transactions between operators, and 709 million barrels of acquisitions -- yielding a net difference of -398 million barrels in 2003. This large net difference, like the reduced net revisions and adjustments, contributed to the net loss of proved reserves of crude oil in 2003.

## Production

U.S. production of crude oil in 2003 was an estimated 1,877 million barrels. This volume does not include lease condensate. This was less than 1 percent higher than 2002's production of 1,875 million barrels. The Gulf of Mexico Federal Offshore remained the largest producing area in the United States with 485 million barrels of production (26 percent of the National total). Texas and Alaska were second and third, each with 19 percent of the total. California was fourth with 13 percent.

The 2003 Form EIA-23 National production estimates (2,068 million barrels of crude oil and lease condensate) were slightly less than the comparable Petroleum Supply Annual (PSA) 2003 volumes for crude oil and lease condensate production combined (2,073 million barrels).

## Areas of Note: Large Discoveries and Reserves Additions

The following State and area discussions summarize notable activities during 2003 concerning expected new field reserves, development plans, and possible production rates as reported in various trade publications. The citations do not necessarily reflect EIA's concurrence, but are considered important enough to be brought to the reader's attention.

The following areas were the major success stories for crude oil reserves and production for 2003.

### Gulf of Mexico Federal Offshore

The Gulf of Mexico Federal Offshore led the Nation in total discoveries of crude oil proved reserves in 2003, 888 million barrels of total discoveries which is 72 percent of the National total.

- **Atlantis Field:** On February 10, 2003, BHP Billiton announced the results of appraisal well drilling and approved full funding for the development of the Atlantis Field. BHP Billiton has 44 percent interest in the Atlantis Field, BP is the operator with 56 percent interest. The estimate of recovery is 635 million barrels of oil equivalent. The Atlantis Field is located in the Atwater Foldbelt, approximately 125 miles south of New Orleans in the vicinity of Green Canyon Block 743. Comprising seven blocks in the area at water depths ranging from 4,400 to 7,100 feet. The field will be developed using a moored

semi-submersible production facility with a gross design capacity of 150,000 barrels of oil and 180 million cubic feet of natural gas per day. Atlantis is believed to be the third largest oil and gas field yet discovered in the Gulf of Mexico. {38}

- **Tahiti Field:** On April 22, 2003 ChevronTexaco announced positive results from two Tahiti appraisal wells, confirming one of the most significant net pay accumulations in the history of the deepwater Gulf of Mexico. The two-well appraisal program confirmed that the reservoirs in Tahiti are well developed and correlate over a three-mile distance. These results validated the hydrocarbon reservoirs found in the Tahiti discovery well, with one appraisal well encountering more than 1,000 feet of net pay in high-quality sandstones.

The Tahiti appraisal wells, located in Green Canyon blocks 596 and 640, approximately 190 miles southwest of New Orleans, were drilled in slightly more than 4,000 feet of water. The wells were drilled simultaneously using two rigs, the *Glomar Explorer* and the Transocean Inc. *Discoverer Deep Seas*, each drilling a vertical well with a sidetrack.

The Tahiti appraisal program has provided verification of the company's initial estimates of 400 million to 500 million barrels of ultimate recoverable oil reserves. The estimates were announced in June 2002, soon after the discovery. {39}

- **New Water-Depth Drilling Record:** On November 17, 2003 Transocean Inc. and ChevronTexaco announced that the Transocean drillship *Discoverer Deep Seas* had set a new world water-depth drilling record by spudding a well in 10,011 feet of water in the U.S. Gulf of Mexico. The record — set while constructing ChevronTexaco's Toledo well in Alaminos Canyon block 951 — marks the first time in the offshore drilling industry's history that a drilling rig has explored for oil and natural gas in more than 10,000 feet of water.

The previous world water-depth drilling record was 9,727 feet of water in the U.S. Gulf of Mexico by another Transocean drillship, the *Discoverer Spirit*, in October 2001 working for Unocal. {40}

## Other Gain Areas

**Montana:** Montana reported a net increase of 27 million barrels of proved oil reserves in 2003 and had the third largest volume of extensions nationwide in 2003 (42 million barrels).

**Illinois:** Proved oil reserves in Illinois were revised upwards by 17 percent (18 million barrels) in 2003 as compared to 2002.

## Areas of Note: Large Reserves Declines

The following areas had large declines in crude oil proved reserves due to downward revisions or unreplaced production.

### Texas

Texas' crude oil proved reserves declined 9 percent (-432 million barrels) in 2003. Operators also reported a production decrease of 1 percent (-4 million barrels) from the 2002 level.

### Alaska

Alaskan crude oil proved reserves declined 5 percent (-232 million barrels) in 2003. Alaskan operators reported revision increases and extensions in 2003, but this did not offset Alaska's oil production—an estimated 357 million barrels in 2003. Alaska production decreased 1 percent (-4 million barrels) from its 2002 level.

### California

There was a net decline of 5 percent (-181 million barrels) in California's crude oil proved reserves in 2003. California's crude oil production declined 4 percent (-11 million barrels) from its 2002 level.

## Other Decline Areas

Discovery and development of new or existing oil fields was also outpaced by crude oil production in the following areas of the United States.

**Louisiana:** Proved oil reserves decreased by 10 percent (-49 million barrels).

**New Mexico:** Proved oil reserves decreased by 5 percent (-33 million barrels).

## Reserves in Nonproducing Status

Not all proved reserves of crude oil reported in 2003 were producing. Operators reported 5,580 million barrels of proved reserves in nonproducing status, 6 percent more than reported in 2002 (5,271 million barrels). Nonproducing crude oil reserves (not including lease condensate) are listed in **Table 7**.

Nonproducing reserves are those awaiting well workovers, the drilling of extensions or additional development wells, installation of production or pipeline facilities, and depletion of other zones or reservoirs before recompletion in reservoirs not currently open to production.

**Table 7. Reported Reserves in Nonproducing Status for Crude Oil, 2003<sup>a</sup>**  
(Million Barrels of 42 U.S. Gallons)

| State and Subdivision               | Nonproducing<br>Crude Oil<br>Reserves | State and Subdivision                | Nonproducing<br>Crude Oil<br>Reserves |
|-------------------------------------|---------------------------------------|--------------------------------------|---------------------------------------|
| Alaska . . . . .                    | 734                                   | North Dakota . . . . .               | 47                                    |
| Lower 48 States . . . . .           | 4,846                                 | Ohio . . . . .                       | 8                                     |
| Alabama . . . . .                   | 2                                     | Oklahoma . . . . .                   | 92                                    |
| Arkansas . . . . .                  | 2                                     | Pennsylvania . . . . .               | 1                                     |
| California . . . . .                | 313                                   | Texas . . . . .                      | 613                                   |
| Coastal Region Onshore . . . . .    | 61                                    | RRC District 1 . . . . .             | 14                                    |
| Los Angeles Basin Onshore . . . . . | 117                                   | RRC District 2 Onshore . . . . .     | 12                                    |
| San Joaquin Basin Onshore . . . . . | 110                                   | RRC District 3 Onshore . . . . .     | 37                                    |
| State Offshore . . . . .            | 25                                    | RRC District 4 Onshore . . . . .     | 7                                     |
| Colorado . . . . .                  | 61                                    | RRC District 5 . . . . .             | 2                                     |
| Florida . . . . .                   | 6                                     | RRC District 6 . . . . .             | 16                                    |
| Illinois . . . . .                  | 0                                     | RRC District 7B . . . . .            | 5                                     |
| Indiana . . . . .                   | 0                                     | RRC District 7C . . . . .            | 12                                    |
| Kansas . . . . .                    | 18                                    | RRC District 8 . . . . .             | 165                                   |
| Kentucky . . . . .                  | 4                                     | RRC District 8A . . . . .            | 319                                   |
| Louisiana . . . . .                 | 190                                   | RRC District 9 . . . . .             | 16                                    |
| North . . . . .                     | 14                                    | RRC District 10 . . . . .            | 6                                     |
| South Onshore . . . . .             | 150                                   | State Offshore . . . . .             | 2                                     |
| State Offshore . . . . .            | 26                                    | Utah . . . . .                       | 76                                    |
| Michigan . . . . .                  | 14                                    | Virginia . . . . .                   | 0                                     |
| Mississippi . . . . .               | 68                                    | West Virginia . . . . .              | 0                                     |
| Montana . . . . .                   | 79                                    | Wyoming . . . . .                    | 61                                    |
| Nebraska . . . . .                  | 0                                     | Federal Offshore . . . . .           | 3,041                                 |
| New Mexico . . . . .                | 133                                   | Pacific (California) . . . . .       | 93                                    |
| East . . . . .                      | 133                                   | Gulf of Mexico (Louisiana) . . . . . | 2,801                                 |
| West . . . . .                      | 0                                     | Gulf of Mexico (Texas) . . . . .     | 147                                   |
| New York . . . . .                  | 0                                     | Miscellaneous <sup>b</sup> . . . . . | 17                                    |
|                                     |                                       | <b>U.S. Total . . . . .</b>          | <b>5,580</b>                          |

<sup>a</sup>Includes only those operators who produced 400,000 barrels of crude oil or 2 billion cubic feet of natural gas, or both, during the report year (Category I or Category II operators).

<sup>b</sup>Includes Arizona, Missouri, Nevada, South Dakota, and Tennessee.

Source: Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves," 2003.