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U.S. Energy Information  
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# U.S. Crude Oil and Natural Gas Proved Reserves, 2012

April 2014



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## U.S. Crude Oil and Natural Gas Proved Reserves, 2012

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### Highlights

- U.S. crude oil and lease condensate proved reserves increased year-over-year by 4.5 billion barrels (15.4%) because of a large volume of extensions to existing fields (5.2 billion barrels) particularly in Texas and North Dakota.
- U.S. wet natural gas proved reserves decreased 26 trillion cubic feet (7.5%) in 2012. Low natural gas prices, reflected in a 34% decline in the 12-month, first-of-the-month, average spot price of natural gas at the Henry Hub between 2011 and 2012, led to large negative net revisions (-45.6 trillion cubic feet) to the reserves of existing fields that offset almost all gains from extensions of existing fields.
- Proved crude oil reserves in the Eagle Ford tight oil play in southwest Texas surpassed those in the Bakken Formation of North Dakota to become the largest tight oil play in the United States.
- Proved natural gas reserves in the Marcellus Shale gas play in Pennsylvania and West Virginia surpassed those in the Barnett Shale play of Texas to become the largest shale gas play in the United States.
- U.S. oil and natural gas production both increased in 2012—crude oil and lease condensate production rose about 16%, and, despite the drop in proved natural gas reserves, wet natural gas production rose about 6%.
- EIA anticipates that natural gas proved reserves for 2013 will be affected positively by the recovery in natural gas prices from 2012 to 2013.

### National summary

Proved reserves are volumes of oil and natural gas that geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions.

In 2012, oil and gas exploration and production companies operating in the United States added 4.5 billion barrels of crude oil and lease condensate proved reserves, an increase of 15.4% from 2011—the largest annual increase since 1970.<sup>1</sup> U.S. proved reserves of crude oil and lease condensate have now risen for four consecutive years. Also, proved reserves of oil exceeded 33.4 billion barrels for the first time since 1976.

Proved reserves of U.S. wet natural gas<sup>2</sup> decreased 7.5% (a loss of 26 trillion cubic feet) to 323 trillion cubic feet in 2012 (Table 1). Total discoveries of oil and natural gas proved reserves both exceeded U.S. production in 2012, with the largest discoveries occurring onshore within the Lower 48 states. The 2012 decline interrupted a 14-year trend of consecutive increases in natural gas proved reserves (Figure 1).

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<sup>1</sup> In 1970, the U.S. increased its proved oil reserves by 10.3 billion barrels of Alaskan crude, the largest ever single year increase.

<sup>2</sup> Wet natural gas includes both natural gas and natural gas liquids.

**Table 1. U.S. proved reserves, and reserves changes, 2011-12**

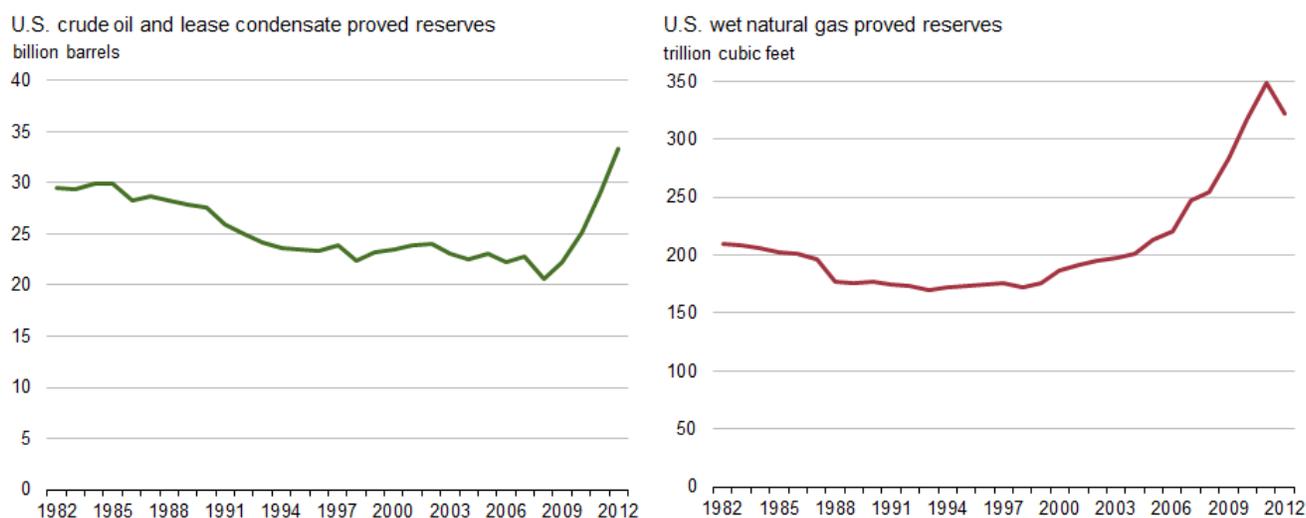
	<b>Crude Oil and Lease Condensate</b>	<b>Wet Natural Gas</b>
	billion barrels	trillion cubic feet
<b>U.S. proved reserves at December 31, 2011</b>	<b>29.0</b>	<b>348.8</b>
Total discoveries	5.4	48.2
Net revisions	0.9	-45.6
Net adjustments, sales, acquisitions	0.6	-2.7
Production	-2.4	-26.1
<b>Net additions to U.S. proved reserves</b>	<b>4.5</b>	<b>-26.1</b>
<b>U.S. proved reserves at December 31, 2012</b>	<b>33.4</b>	<b>322.7</b>
<b>Percentage change in U.S. proved reserves</b>	<b>15.4%</b>	<b>-7.5%</b>

Notes: Wet natural gas includes natural gas plant liquids. Columns may not add to total because of independent rounding.

Source: U.S. Energy Information Administration, Form EIA-23L, "Annual Survey of Domestic Oil and Gas Reserves."

U.S. proved reserves of natural gas declined in 2012 because of low natural gas prices. The average reference price of natural gas<sup>3</sup> companies use to estimate reserves declined 34% between 2011 and 2012. Natural gas prices began to decline in the latter part of 2011 and continued to drop through spring 2012. This prompted large downward net revisions of 45.6 trillion cubic feet to the proved reserves of existing gas fields — enough to cancel out almost all the gains from total discoveries in 2012.

The average price of oil<sup>4</sup>, on the other hand, remained relatively constant in 2012 at an average daily spot price of \$95 per barrel, and as a result, net revisions added almost a billion barrels of crude oil and lease condensate proved reserves.

**Figure 1. U.S. oil and natural gas proved reserves, 1982-2012**

Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Reserves," 1982-2012

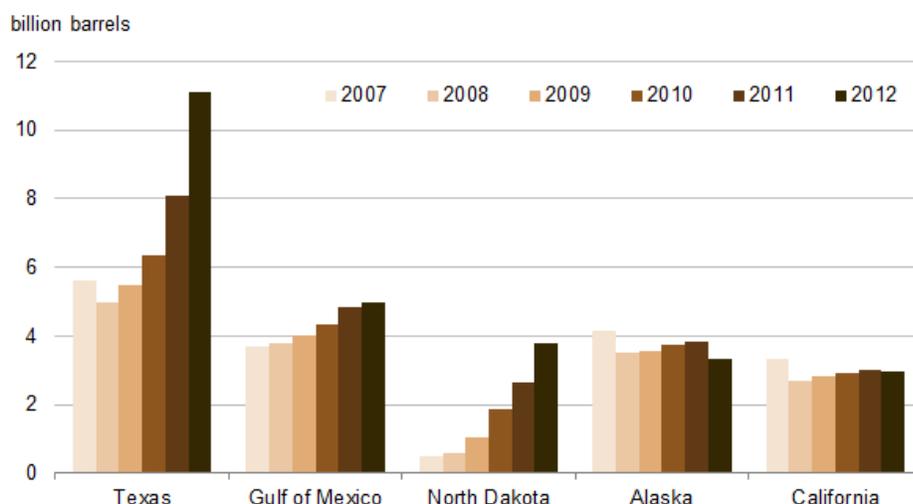


<sup>3</sup> The 12-month, first-day-of-the-month average spot price of Henry Hub natural gas declined from \$4.15 per million British thermal units (MMBtu) in 2011 to \$2.75 per MMBtu in 2012.

<sup>4</sup> The 12-month, first-day-of-the-month average spot price of West Texas Intermediate crude oil was \$95.01 per barrel in 2012, 1% less than in 2011 (\$95.84).

Proved reserves of crude oil and lease condensate increased in three of the top five largest crude oil and lease condensate states (Texas, the Gulf of Mexico federal offshore, and North Dakota) in 2012 (Figure 2). Of the top five U.S. oil reserve states, Texas had the largest increase by a wide margin, about 3.0 billion barrels (67% of the net increase in 2012). The Texas increase is primarily from ongoing development in the Permian and Western Gulf basins in the western and south-central portions of the state. The Gulf of Mexico federal offshore added 137 million barrels (3% of the net increase). North Dakota reported the second-largest increase, 1.1 billion barrels (25% of the net increase). This increase was driven by development activity in the Williston Basin. In 2012, North Dakota’s proved reserves of crude oil and lease condensate exceeded those of Alaska and California, making North Dakota the third largest oil reserve state in the United States. Collectively, North Dakota and Texas accounted for 92% of the net increase in total U.S. proved oil reserves in 2012.

**Figure 2. Proved reserves of the top five U.S. oil reserve states, 2007-12**

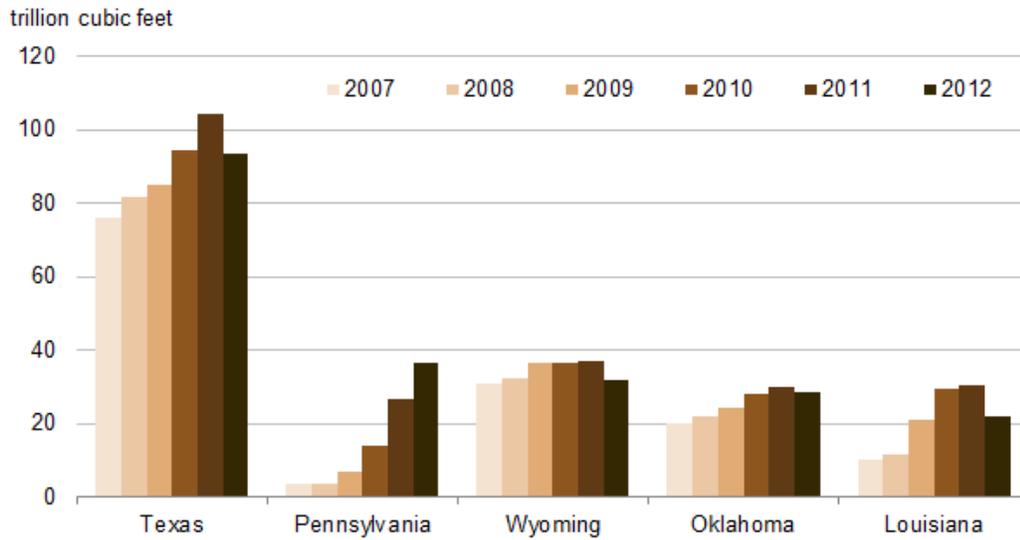


Notes: Includes crude oil and lease condensate. "Gulf of Mexico" (not a state) refers instead to the Federal offshore waters of the Gulf of Mexico. The state offshore portions of Texas, Alaska, and California are included in the state subtotal.  
 Source: U.S. Energy Information Administration, Form EIA-23L, "Annual Survey of Domestic Oil and Gas Reserves," 2007-12.



Proved wet natural gas reserves decreased in four of the top five U.S. gas reserve states (Texas, Wyoming, Louisiana, and Oklahoma) in 2012 (Figure 3). Pennsylvania was the only state in the top five to report an increase (9.8 Tcf) in natural gas proved reserves in 2012, as a result of development of the Marcellus Shale play. In 2012, Pennsylvania went from fifth to the second largest gas reserve state.

**Figure 3. Proved reserves of the top five U.S. gas reserve states, 2007-12**



Note: Includes natural gas plant liquids.

Source: U.S. Energy Information Administration, Form EIA-23L, "Annual Survey of Domestic Oil and Gas Reserves," 2007-12.

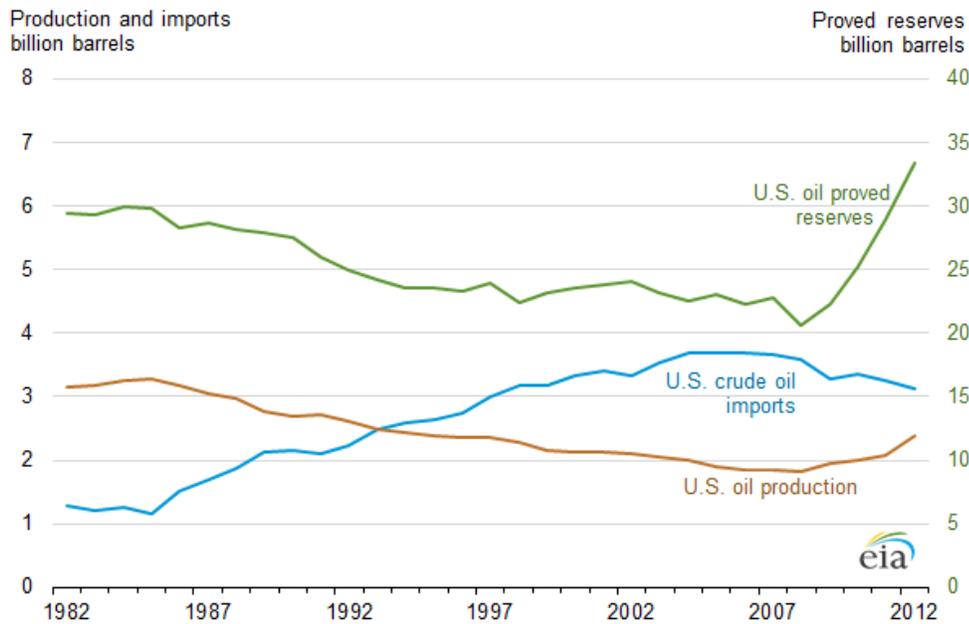


Note: Includes natural gas plant liquids.

Source: U.S. Energy Information Administration, Form EIA-23L, "Annual Survey of Domestic Oil and Gas Reserves," 2007-2012.

U.S. oil and natural gas production both increased in 2012, reflecting the growing role of domestically produced hydrocarbons in meeting current and projected U.S. energy demand. U.S. production of crude oil and lease condensate increased about 16% from 2011 to 2012 (Figure 4).

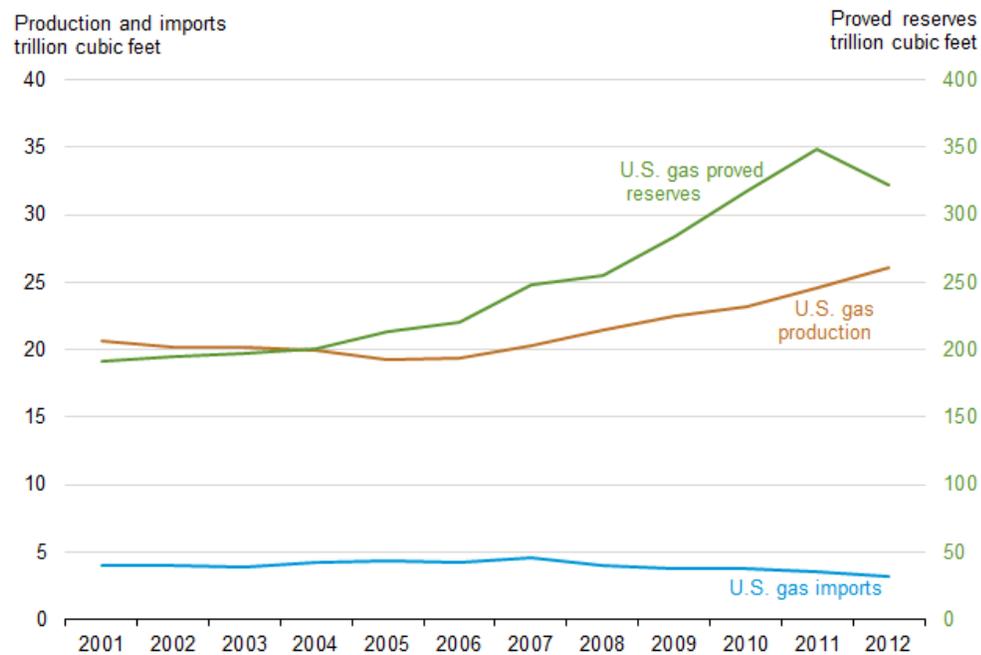
**Figure 4. U.S. crude oil and lease condensate reserves, production, and imports, 1982-2012**



Sources: U.S. Energy Information Administration, Form EIA-23L, "Annual Survey of Domestic Oil and Gas Reserves" and Form EIA-814, "Monthly Imports Report."

Despite the drop in natural gas proved reserves in 2012, U.S. natural gas production increased about 6% from 2011 to 2012 (Figure 5).

**Figure 5. U.S. wet natural gas reserves, production, and imports, 2001-12**



Sources: U.S. Energy Information Administration, Form EIA-23L, "Annual Survey of Domestic Oil and Gas Reserves" and U.S. Department of Energy, Office of Fossil Energy, "Natural Gas Imports and Exports."

The U.S. Energy Information Administration (EIA) reduced the overall burden on respondents by implementing changes to its sample design and its methodology for estimation of proved reserves for state and state subdivision totals in 2012. The description of these changes and a summary of other statistical data are in the 2012 Proved Reserves Estimation Methodology Appendix [insert link to Methodology Appendix].

## Background

This report provides estimates of U.S. proved reserves of crude oil and lease condensate, and natural gas for calendar year 2012. Starting with the data filed on Form EIA-23L, “Annual Survey of Domestic Oil and Gas Reserves,” by 727 sampled operators of U.S. oil and gas fields, EIA estimated the U.S. total proved reserves and the subtotal for individual states and state subdivisions. EIA's estimation methodology is described in the 2012 Reserves Estimation Methodology appendix [add link to appendix].

[Proved reserves](#) are estimated volumes of hydrocarbon resources that analysis of geologic and engineering data demonstrates with reasonable certainty<sup>5</sup> are recoverable under existing economic and operating conditions. Reserves estimates change from year to year as new discoveries are made, existing fields are more thoroughly appraised, existing reserves are produced, and prices and technologies change. Discoveries include new fields, identification of new reservoirs in previously discovered fields, and extensions, which are additions to reserves that result from additional drilling and exploration in previously discovered reservoirs. Within a given year, extensions are typically the largest percentage of total discoveries. While discoveries of new fields and reservoirs are important indicators of new resources, they generally account for a small portion of overall annual reserve additions.

Revisions occur primarily when operators change their estimates of what they will be able to produce from the properties they operate in response to changing prices or improvements in technology. Higher prices typically increase estimates (positive revisions) as operators consider a broader portion of the resource base economically producible, or proved. Lower prices, on the other hand, generally reduce estimates (negative revisions) as the economically producible base diminishes.

The Securities and Exchange Commission (SEC) requires some oil and gas companies to report their oil and gas reserves publicly. There are important differences between EIA's and SEC's reporting systems. First, EIA collects information from a sample of both publicly traded and privately held companies, while SEC reporting requirements apply only to companies with more than \$10 million in assets and whose securities are held by more than 500 owners. Second, EIA requires sampled companies to report the estimated proved reserves of each field they operate (irrespective of its ownership share, only one company is the designated operator of a given oil or natural gas field), while the SEC requires companies to report the proved reserves they own (irrespective of field operatorship).

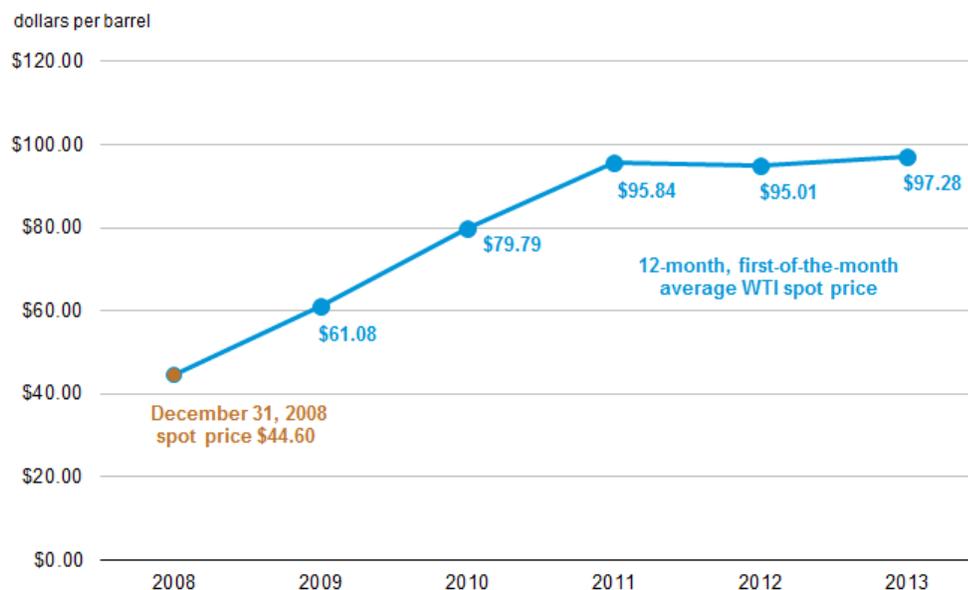
The 2012 reporting period represents the fourth year companies reporting to the SEC followed revised rules for determining the prices underpinning their proved reserves estimates. Designed to make estimates less sensitive to price fluctuations during the year, the revisions require companies to use an average of the 12 first-day-of-the-month prices. Prior to the 2009 reporting year, companies' estimates were based on the market price on the last trading day of the year.

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<sup>5</sup> Reasonable certainty assumes a probability of recovery of 90% or greater.

Because actual prices received by operators depend on their contractual arrangements, location, hydrocarbon quality, and other factors, spot market prices are not necessarily the prices used by operators in their reserve estimates for EIA. They do, however, provide a benchmark or trend indicator. The 12-month, first-day-of-the-month, average crude oil spot price<sup>6</sup> for 2012 was \$95.01 per barrel, a 1% decrease in the average oil price from the prior year (Figure 6).

**Figure 6. WTI crude oil spot prices used to estimate proved reserves, 2008-13**

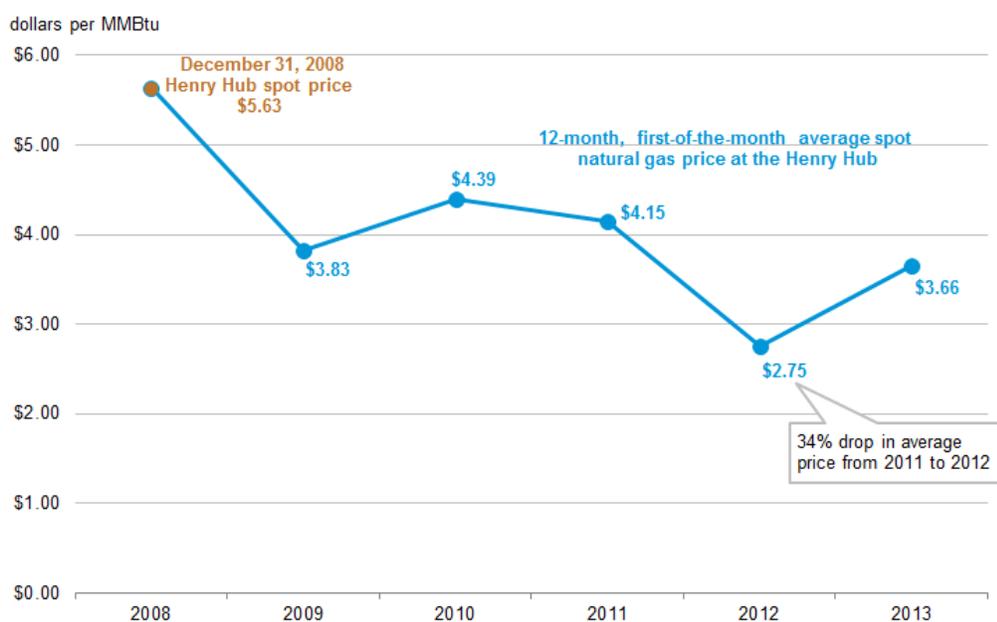


Note: Prior to the 2009 reporting year, companies' estimates were based on the market price on the last trading day of the year (usually December 31).  
 Source: Thomson Reuters, spot price of West Texas Intermediate crude oil.



The 12-month, first-day-of-the-month average natural gas spot price for 2012 was \$2.75 per MMBtu, representing a 34% decrease in the average gas price from the previous year (Figure 7).

<sup>6</sup> Spot prices: West Texas Intermediate (WTI) for crude oil; Henry Hub for natural gas.

**Figure 7. Henry Hub natural gas spot prices used to estimate proved reserves, 2008-13**

Note: Natural gas spot prices are based on delivery at the Henry Hub in Louisiana. Prior to the 2009 reporting year, companies' estimates were based on the market price on the last trading day of the year (usually December 31). Source: Thomson Reuters.



For the 2012 reporting period, the decline in natural gas prices reflects both continued increases in domestic production and significantly rising inventories. In the first half of 2012, the daily Henry Hub spot price dipped below \$2.00 per MMBtu, averaging just \$1.95 per MMBtu in April. The previous occurrence of natural gas prices below \$2.00 per MMBtu was in November 1999. Natural gas prices rose by the end of 2012 to finish well above \$3.00 per MMBtu.

**Price Outlook for 2013.** The 12-month, first-day-of-the-month, average spot price of WTI rose from \$95.01 per barrel in 2012 to \$97.28 per barrel in 2013. Because of this increase, EIA anticipates higher price-driven revisions to crude oil proved reserves in 2013. The average natural gas spot price continued to rise throughout 2013, resulting in an average annual natural gas spot price in 2013 of \$3.66 per MMBtu. EIA anticipates that proved natural gas reserves for 2013 will be affected positively by the recovery in natural gas prices from 2012 to 2013.

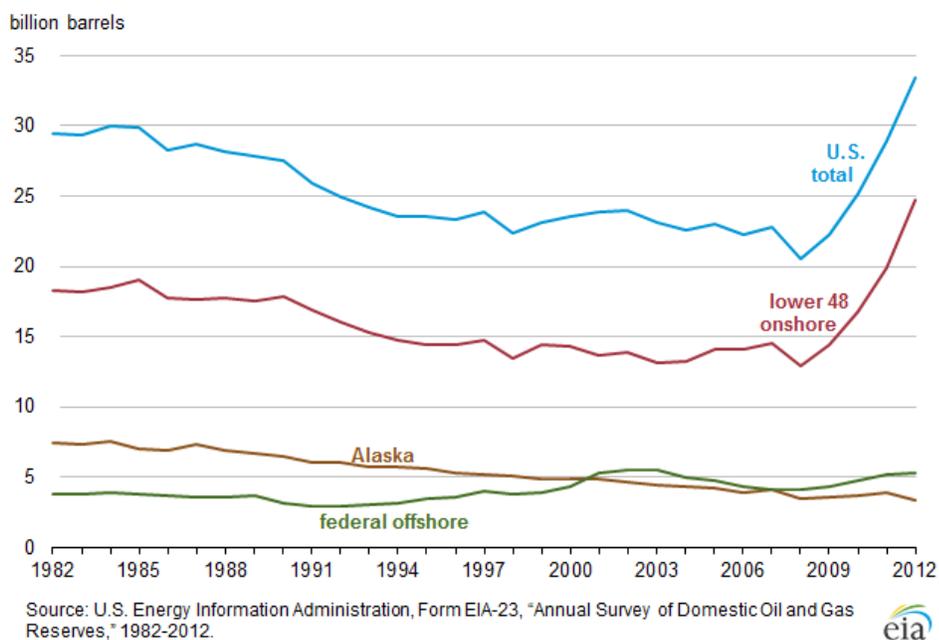
The aggregated production data for crude oil and lease condensate, and natural gas, include volumes that have been reported to EIA by operators on Form EIA-23, and volumes that are based on EIA estimates. The production numbers in the tables and figures of this report are offered only as an indicator of production trends and may differ from EIA's official production series based on state-reported data, which are provided elsewhere on the EIA website for [oil](#) and [natural gas](#).

## Crude oil and lease condensate proved reserves

### Overview

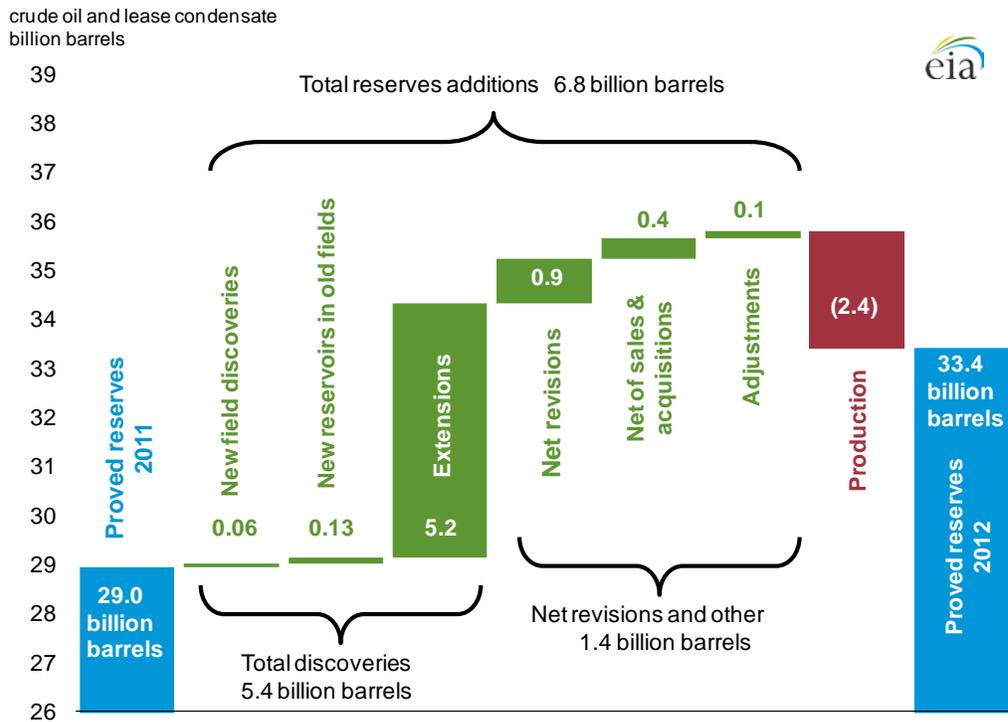
The continued application of horizontal drilling and hydraulic fracturing technologies again played a key role in adding crude oil proved reserves onshore in the Lower 48 states. The year 2012 is the fourth consecutive year in which U.S. crude oil proved reserves showed significant gains (Figure 8).

**Figure 8. U.S. crude oil and lease condensate proved reserves, 1982-2012**



U.S. crude oil and lease condensate proved reserves rose by 4.5 billion barrels in 2012, attributable to 5.2 billion barrels of extensions and, to a lesser degree, net revisions (Figure 9). Among individual states, Texas had the year's largest volumetric increase in oil proved reserves (nearly 3 billion barrels), driven largely by horizontal drilling and hydraulic fracturing activity in tight oil plays, (petroleum-bearing formations of relatively low porosity and permeability such as the Eagle Ford, the Wolfcamp, and other formations which must be hydraulically fractured to produce oil at commercial rates). Development of tight oil plays added significantly to prove oil reserves in other states, most notably North Dakota. Drilling in the Bakken and underlying Three Forks formations in the Williston Basin accounted for North Dakota's net addition of 1.1 billion barrels of crude oil and lease condensate proved reserves in 2012.

Figure 9. U.S. crude oil and lease condensate proved reserves changes, 2012



Note: Component columns may not add to total due to independent rounding. Y-axis does not start at zero

Source: U.S. Energy Information Administration, Form EIA-23L, "Annual Survey of Domestic Oil and Gas Reserves."

More than 90% of the country's tight oil proved reserves in 2012 came from five tight oil plays (Table 2). With estimated 2012 proved reserves of 3.4 billion barrels, the Eagle Ford play of southwest Texas passed the Bakken play of the Williston Basin (with 3.2 billion barrels of proved reserves in 2012) to become ranked as the largest tight oil play in the United States. EIA has a [series of maps and animations](#) showing the nation's shale and other tight oil (and natural gas) resources.

**Table 2. Principal tight oil plays: oil production and proved reserves, 2011-12**

million barrels

Basin	Play	State(s)	2011	2011	2012	2012
			Production	Reserves	Production	Reserves
Western Gulf	Eagle Ford	TX	71	1,251	209	3,372
Williston	Bakken	ND, MT, SD	123	1,998	213	3,166
Ft. Worth	Barnett	TX	8	118	10	66
Appalachian	Marcellus	PA, WV	-	-	4	72
Denver-Julesberg	Niobrara	CO, KS, NE, WY	2	8	3	14
<b>Sub-total</b>			<b>204</b>	<b>3,375</b>	<b>439</b>	<b>6,690</b>
Other tight oil			24	253	41	648
<b>All U.S. tight oil</b>			<b>228</b>	<b>3,628</b>	<b>480</b>	<b>7,338</b>

Note: Includes lease condensate. Other tight oil includes fields reported as shale or low permeability on Form EIA-23 not assigned by EIA to the Eagle Ford, Bakken, Barnett, Marcellus, or Niobrara tight oil plays.

Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves," 2011 and 2012.

**Total discoveries.** Total discoveries consist of discoveries of new fields, identification of new reservoirs in fields discovered in prior years, and extensions (reserve additions that result from the additional drilling and exploration in previously discovered reservoirs). Total discoveries added 5.4 billion barrels to U.S. crude oil and lease condensate reserves in 2012. As is typical, extensions made up the bulk (96%) of total discoveries.

Geographically, the largest total oil discoveries in 2012 were from Texas, North Dakota, and Oklahoma. Texas led by a considerable margin, with discoveries of 3.0 billion barrels (mostly in the Eagle Ford play), while North Dakota added nearly 1 billion barrels, marking that state's fourth consecutive year as a major source of total discoveries. North Dakota's 2012 discoveries were from the Bakken (and Three Forks) play. Oklahoma discovered 319 million barrels of proved oil reserves in 2012.

**Net revisions and other changes.** Revisions to prove reserves occur primarily when operators change their estimates of what they will be able to produce from the properties they operate using existing technology and prices. Other small changes occur when operators buy and sell properties (revaluing the proved reserves in the process), and as various adjustments are made to reconcile estimated volumes.

Net revisions added 912 million barrels to oil proved reserves in 2012, despite a 1% decline in the average spot price.

The net change to U.S. proved oil reserves associated with buying and selling properties and adjustments is typically modest compared with net revisions. Net of sales and acquisitions added 415 million barrels to proved reserves in 2012. Adjustments (reserves changes that EIA cannot attribute to any other category) added 137 million barrels to reserves in 2012.

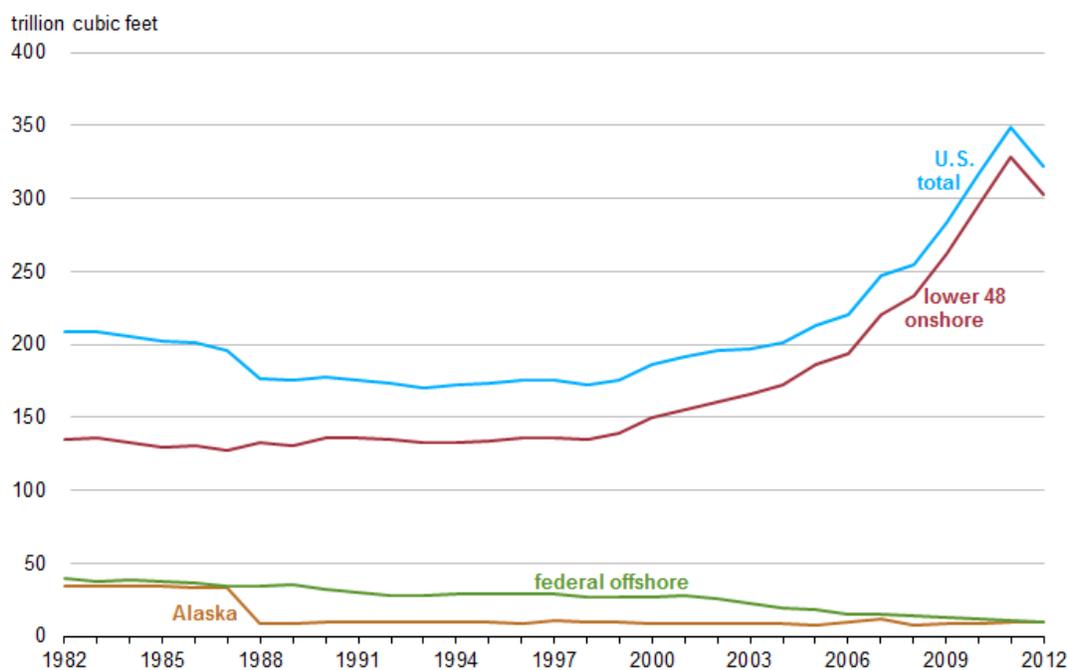
**Production.** The United States produced an estimated 2.4 billion barrels<sup>7</sup> of crude oil and lease condensate in 2012, an increase of about 16% from 2011. This represents the country's fourth consecutive annual production increase. Production from the onshore Lower 48 states (primarily Texas, California, and North Dakota) rose 27% over the previous year. Alaska and the Gulf of Mexico Federal Offshore both experienced production drops in 2012, 8% for Alaska and 5% for the Gulf, compared with 2011.

## Wet natural gas proved reserves (includes natural gas plant liquids) 2012

### Overview

Total reported U.S. proved reserves of wet natural gas declined by 7% (a drop of 26.1 Tcf) in 2012, the first reported decrease in natural gas proved reserves since 1998. Prior to 2012, U.S. natural gas proved reserves had increased in every year since 1999. This growth has been especially pronounced in recent years as a result of expanding exploration and development activity in several of the [nation's shale formations](#), (e.g., Barnett, Haynesville, Marcellus, Fayetteville, Woodford, and Eagle Ford plays) (Figure 9). The decrease was mostly attributable to a 34% drop in the average natural gas price, resulting in a net downward revision of 48.3 Tcf (Table 3).

**Figure 10. U.S. wet natural gas proved reserves, 1982-2012**



Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves," 1982-2012.



<sup>7</sup> The oil production estimates in this report are based on data reported on Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves." They may differ from the official U.S. EIA production data for crude oil and lease condensate for 2012 contained in the *Petroleum Supply Annual 2012*, DOE/EIA-0340(12).

**Table 3. Changes to proved reserves of wet natural gas by source, 2012**

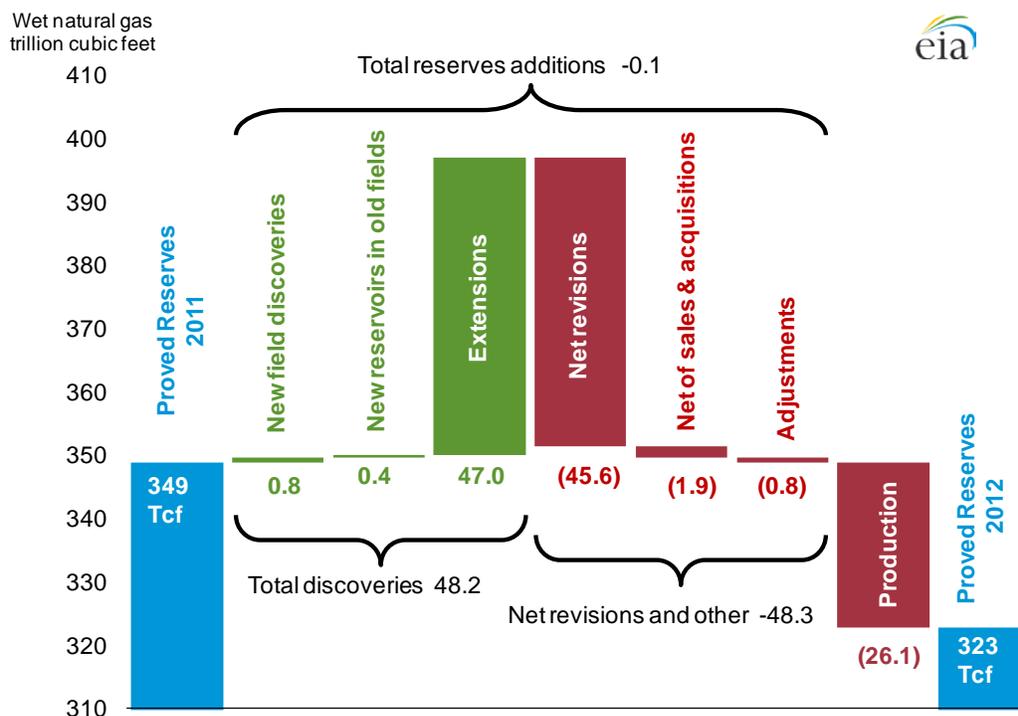
trillion cubic feet

Source of Gas	Year-End 2011	2012		Year-End 2012	
	Proved Reserves	2012 Discoveries	Revisions & Other Changes	2012 Production	Proved Reserves
Coalbed Methane	16.8	0.2	-1.7	-1.7	13.6
Shale	131.6	32.8	-24.7	-10.4	129.4
Other (Conventional & Tight)					
Lower 48 Onshore	180.0	14.6	-22.2	-12.3	160.2
Lower 48 Offshore	10.8	0.5	-0.1	-1.4	9.9
Alaska	9.5	0.0	0.4	-0.3	9.7
<b>U.S. TOTAL</b>	<b>348.8</b>	<b>48.2</b>	<b>-48.3</b>	<b>-26.1</b>	<b>322.7</b>

Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves," 2011 and 2012.

**Total discoveries.** Total wet natural gas discoveries were 48 Tcf in 2012, and 98% of total wet natural gas discoveries came from extensions of existing fields (Figure 11). New field discoveries and new reservoir discoveries in previously discovered fields totaled 0.8 Tcf and 0.4 Tcf, respectively. Total discoveries of wet natural gas reserves were highest in Pennsylvania, with total discoveries of 13.3 Tcf, edging out Texas, which reported 13.2 Tcf of total discoveries. West Virginia and Oklahoma both discovered approximately 5.3 Tcf, while Louisiana discovered 3.2 Tcf. Total discoveries in each of these states were driven principally by shale gas developments.

Figure 11. U.S. wet natural gas proved reserves changes, 2012



Note: Component columns may not add to total due to independent rounding. Y-axis does not start at zero.

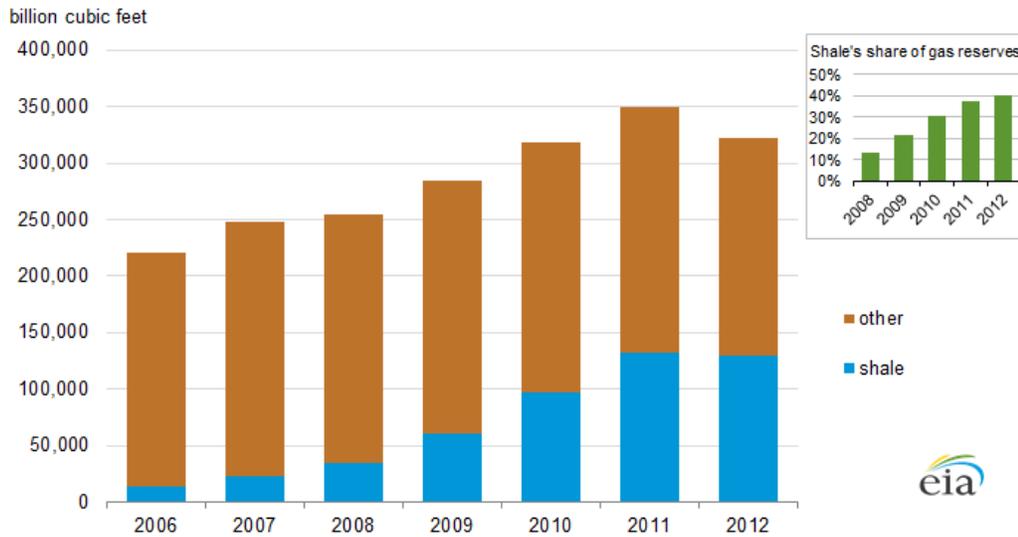
Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves"

**Net revisions and other changes.** Net revisions of wet natural gas proved reserves reduced the U.S. total natural gas reserves by 45.6 trillion cubic feet from 2011 to 2012.

The net change to wet natural gas proved reserves from the purchase and sale of properties and adjustments resulted in an additional loss of 2.7 Tcf in 2012. When combined with the net revisions, the decline was greater than the 2012 volume of total discoveries.

In 2012, the share of shale gas relative to total U.S. natural gas proved reserves continued its rise, from 38% in 2011 to 40% in 2012 (Figure 12).

**Figure 12. U.S. wet natural gas proved reserves (shale and other sources), 2006-12**

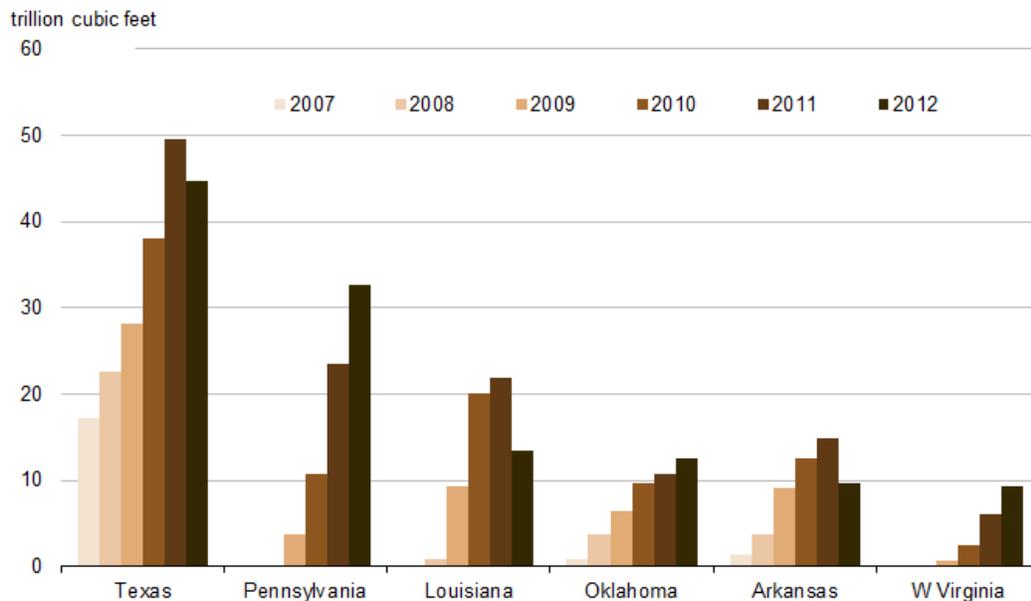


Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves," 2008-12

Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves," 2008-2012.

At the state level, Pennsylvania and West Virginia reported the largest net increases in natural gas proved reserves in 2012 (9.8 and 4.3 trillion cubic feet, respectively), driven by continued development of the Marcellus Shale gas play. However, three states with mature shale gas plays—Texas, Louisiana, and Arkansas—all experienced declines in their shale natural gas proved reserves in 2012 (Figure 13).

**Figure 13. Proved shale gas reserves of the top six U.S. shale gas states, 2007-12**



Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves," 2007-12.

Virtually all U.S. shale natural gas proved reserves in 2012 came from the six largest U.S. shale plays (Table 4). The Marcellus is now ranked as the largest shale gas play in the United States, with proved reserves totaling nearly 43 Tcf. The Marcellus, the Eagle Ford, and the Woodford Shale plays increased in proved reserves, while the more mature Barnett, Haynesville, and Fayetteville Shale plays recorded significant decreases. EIA has a [series of maps](#) showing the nation's shale gas resources for both shale plays and geologic basins.

**Table 4. Principal shale gas plays: natural gas production and proved reserves, 2011-12**

Basin	Shale Play	State(s)	2011		2012		Change 2012-2011	
			Production	Reserves	Production	Reserves	Production	Reserves
Appalachian	Marcellus	PA,WV,KY,TN,NY,OH	1.4	31.9	2.4	42.8	1.0	10.9
Fort Worth	Barnett	TX	2.0	32.6	2.0	23.7	0.0	-8.9
Texas-Louisiana Salt	Haynesville/Bossier	TX,LA	2.5	29.5	2.7	17.7	0.2	-11.8
Western Gulf	Eagle Ford	TX	0.4	8.4	0.9	16.2	0.5	7.8
Anadarko	Woodford	TX, OK	0.5	10.8	0.6	11.1	0.1	0.3
Arkoma	Fayetteville	AR	0.9	14.8	1.0	9.7	0.1	-5.1
<b>Sub-total</b>			<b>7.7</b>	<b>128.0</b>	<b>9.6</b>	<b>121.2</b>	<b>1.9</b>	<b>-6.8</b>
Other shale gas			0.3	3.6	0.8	8.2	0.5	4.6
<b>All U.S. shale gas</b>			<b>8.0</b>	<b>131.6</b>	<b>10.4</b>	<b>129.4</b>	<b>2.4</b>	<b>-2.2</b>

Note: Table values are based on shale gas proved reserves and production volumes reported and imputed from data on Form EIA-23. For certain reasons (e.g., incorrect or incomplete submissions, misidentification of shale versus non-shale reservoirs), the actual proved reserves and production of natural gas from shale plays may be higher or lower. Other shale gas includes fields reported as shale on Form EIA-23 not assigned by EIA to the Marcellus, Barnett, Haynesville/Bossier, Eagle Ford, Woodford, or Fayetteville Shale gas plays.

The production estimates are offered only as an observed indicator of production trends and may differ from EIA production volumes listed elsewhere on the EIA website. Natural gas is measured at 60 degrees Fahrenheit and atmospheric pressure base of 14.73 pounds per square inch (psia).

Sources: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves," 2011 and 2012.

**Production.** U.S. production of wet natural gas in 2012 totaled 26.1 Tcf<sup>8</sup>, an increase of about 6% from 2011. This represents the seventh consecutive annual increase and the highest annual production volume since 1977. Production rose the most in Pennsylvania and Texas, but there were also production increases in Arkansas, Louisiana, and Oklahoma, even as proved gas reserves in these states declined in 2012.

### *Nonassociated natural gas*

Nonassociated natural gas, sometimes called gas well gas, is defined as natural gas not in contact with significant quantities of crude oil in a reservoir. Proved reserves of nonassociated natural gas declined by 36.5 Tcf in 2012, a 12% drop from 2011 (Table 11). Estimated production of nonassociated natural gas increased 4%—from 21.9 Tcf in 2011 to 22.7 Tcf in 2012.

### *Associated-dissolved natural gas*

Associated-dissolved natural gas, sometimes called casinghead gas, is defined as the combined volume of natural gas which occurs in crude oil reservoirs either as free gas (associated) or as gas in solution with crude oil (dissolved). Proved reserves of associated-dissolved natural gas increased by 10.3 Tcf in 2012, a 24%

<sup>8</sup> The natural gas production estimates in this report are based on data reported on Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves." Estimates may differ from the official U.S. EIA production data for natural gas published in the *Natural Gas Annual 2012*, DOE/EIA-0131(12).

increase from 2011 (Table 12). Estimated production of associated-dissolved natural gas increased 25%—from 2.7 Tcf in 2011 to 3.4 Tcf in 2012.

### *Shale natural gas*

Shale natural gas is a type of unconventional natural gas where a shale formation is both the source rock and the producing reservoir. Proved reserves of U.S. shale natural gas declined by 2.2 Tcf in 2012, a 2% drop from 2011 (Tables 13 and 14). Estimated production of shale natural gas increased 30%—from 8.0 Tcf in 2011 to 10.4 Tcf in 2012.

### *Coalbed natural gas*

Coalbed natural gas, also called coalbed methane, is a type of unconventional natural gas emitted from coal seams, usually by desorption as the seam is dewatered. Proved reserves of U.S. coalbed natural gas decreased by 3.2 Tcf in 2012, a 19% drop from 2011 (Tables 15 and 16). Estimated production of coalbed natural gas decreased 6%—from 1.8 Tcf in 2011 to 1.7 Tcf in 2012.

## Dry natural gas

Dry natural gas is the volume of gas (primarily methane) that remains after natural gas liquids and non-hydrocarbon impurities are removed from the natural gas stream—first at lease separation facilities near the producing well (lease condensate), then downstream at natural gas processing plants (natural gas plant liquids).

Designating the total U.S. supply of dry natural gas as “proved reserves” is a misnomer, because dry natural gas is a processed fuel. As part of the 2013 EIA NGL Realignment<sup>9</sup> of natural gas liquids and related terminology, EIA will no longer publish an estimate of dry natural gas proved reserves. An estimate of expected future production<sup>10</sup> of dry natural gas from total wet natural gas reserves is presented in Table 17, “Expected natural gas plant liquids and dry natural gas from total wet natural gas proved reserves, 2012.”

## Lease condensate and natural gas plant liquids

Operators of natural gas fields report their lease condensate reserves and production estimates to EIA on Form EIA-23, “Annual Survey of Domestic Oil and Gas Reserves.” EIA calculates the expected yield of natural gas plant liquids using its wet natural gas reserves estimates and a recovery factor determined for each area of origin. Data from Form EIA-64A, “Annual Report of the Origin of Natural Gas Liquids Production,” are the basis of EIA’s recovery factors.

Proved reserves of lease condensate have increased significantly in recent years as operators sharpened their exploration and development focus on liquids-rich portions of natural gas plays to take advantage of comparatively higher liquids prices. The annual crude-oil-to-natural-gas-price ratio, which averaged about 8.0 from 2000 to 2008, rose sharply thereafter, increasing from 23.1 in 2011 to 34.5 in 2012. It is useful to note that the average crude-oil-to-natural-gas-price ratio for 2013 was 26.6, suggesting that exploration for natural gas may recover some of its share from liquids-rich plays.

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<sup>9</sup> EIA’s NGL Realignment presentation can be viewed at <http://www.eia.gov/petroleum/workshop/ngl/pdf/overview061413.pdf>

<sup>10</sup> Expected future production is equivalent to a proved reserves estimate for natural gas plant liquids or dry natural gas.

### *Lease condensate*

Lease condensate is a mixture consisting primarily of hydrocarbons heavier than pentanes that is recovered as a liquid from natural gas in lease separation facilities. This category excludes natural gas plant liquids, such as butane and propane, which are recovered at downstream natural gas processing plants or facilities. Lease condensate is often blended directly into crude oil to enhance quality.

U.S. lease condensate proved reserves increased by 19% in 2012 to 2,874 million barrels, mostly as a result of extensions. Texas had the largest increase in lease condensate proved reserves in 2012 (393 million barrels), followed by Oklahoma (75 million barrels). Additions to lease condensate proved reserves are associated in large part with expanding drilling programs in liquids-rich portions of shale and other tight formations, such as the Eagle Ford in Texas and the Woodford in Oklahoma. Lease condensate accounted for 8.6% of total oil proved reserves in 2012. U.S. lease condensate production increased 19%, from 231 million barrels in 2011 to 274 million barrels in 2012.

### *Natural gas plant liquids*

Natural gas plant liquids remain in gaseous form at the surface and must be separated as liquids at natural gas processing plants, fractionating and cycling plants, and in some instances, field facilities. Lease condensate is excluded. Products obtained include liquefied petroleum gases (ethane, propane, and butanes), pentanes plus, and isopentane. Components may be further fractionated or mixed.

As with dry natural gas, the potential U.S. supply of natural gas plant liquids is not “proved reserves” because these liquids are extracted from wet natural gas downstream of the producing wells at a natural gas processing plant. As part of the 2013 EIA NGL Realignment, EIA will no longer publish an estimate of natural gas plant liquids proved reserves. Instead, an estimate of what volume of these liquids might be extracted from total wet natural gas reserves is presented in Table 17, “Expected natural gas plant liquids and dry natural gas from total wet natural gas proved reserves, 2012.”

### **Reserves in nonproducing reservoirs**

Not all proved reserves were contained in reservoirs that were actively producing in 2012. Nonproducing reserves are those waiting for well workovers, drilling additional development or replacement wells, installing production equipment or pipeline facilities, and awaiting depletion of other zones or reservoirs before recompletion in reservoirs not currently open to production. Table 18 shows the estimated volumes of nonproducing proved reserves of crude oil, lease condensate, nonassociated natural gas, associated-dissolved natural gas, and total wet natural gas for 2012.

## Maps and additional data tables

### *Maps*

Figure 14. Crude oil and lease condensate proved reserves by state/area, 2012

Figure 15. Changes in crude oil and lease condensate proved reserves by state/area, 2011 to 2012

Figure 16. Wet natural gas proved reserves by state/area, 2012

Figure 17. Changes in wet natural gas proved reserves by state/area, 2011 to 2012

### *Oil tables*

Table 5. Total U.S. proved reserves of crude oil and lease condensate, crude oil, and lease condensate, 2001-2012

Table 6. Crude oil and lease condensate proved reserves, reserves changes, and production, 2012

Table 7. Crude oil proved reserves, reserves changes, and production, 2012

Table 8. Lease condensate proved reserves, reserves changes, and production, 2012

### *Natural gas tables*

Table 9. Total U.S. proved reserves of wet natural gas, 2001-2012

Table 10. Total natural gas proved reserves, reserves changes, and production, wet after lease separation, 2012

Table 11. Nonassociated natural gas proved reserves, reserves changes, and production, wet after lease separation, 2012

Table 12. Associated-dissolved natural gas proved reserves, reserves changes, and production, wet after lease separation, 2012

Table 13. Shale natural gas proved reserves and production, 2009-2012

Table 14. Shale natural gas proved reserves, reserves changes, and production, 2012

Table 15. Coalbed methane proved reserves and production, 2008-2012

Table 16. Coalbed methane proved reserves, reserves changes, and production, 2012

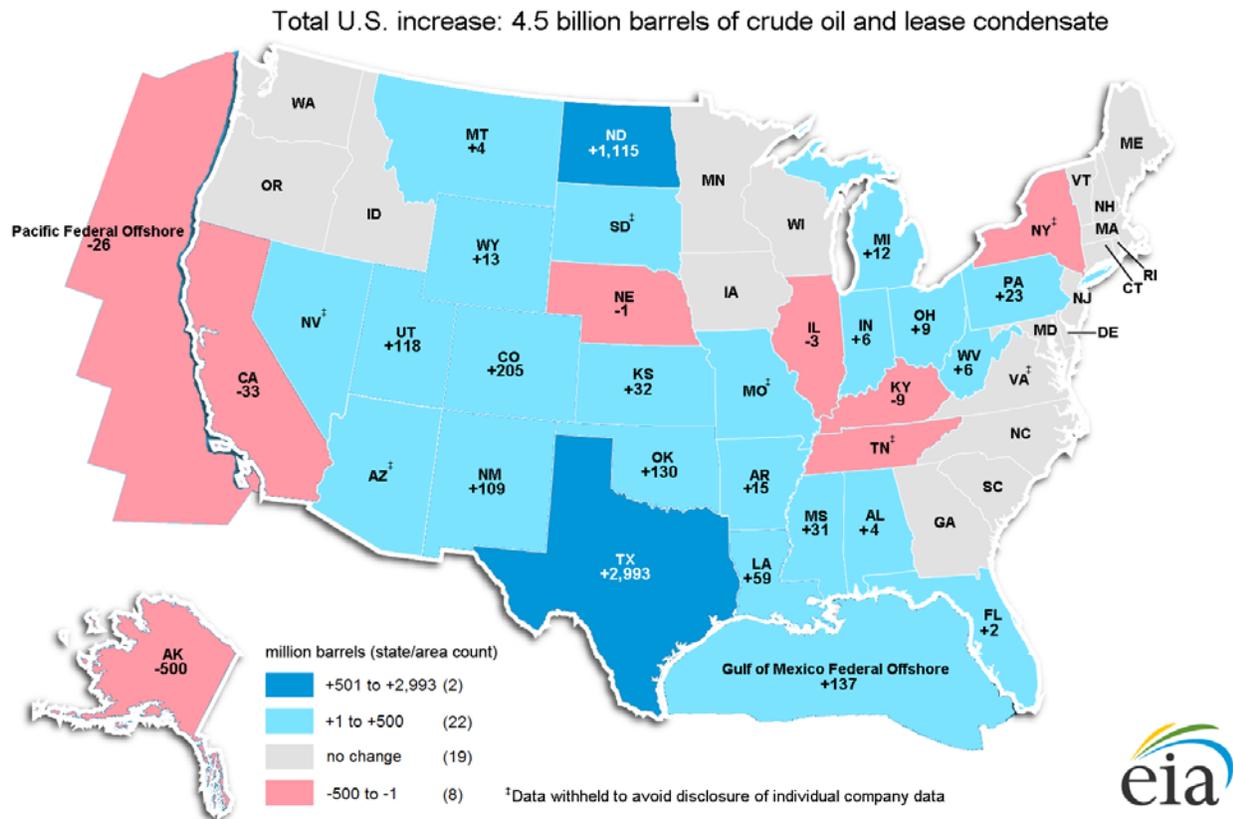
Table 17. Expected natural gas plant liquids and dry natural gas from total wet natural gas proved reserves, 2012

### *Miscellaneous/other tables*

Table 18. Reported proved nonproducing reserves of crude oil, lease condensate, nonassociated gas, associated-dissolved gas, and total gas (wet after lease separation), 2012

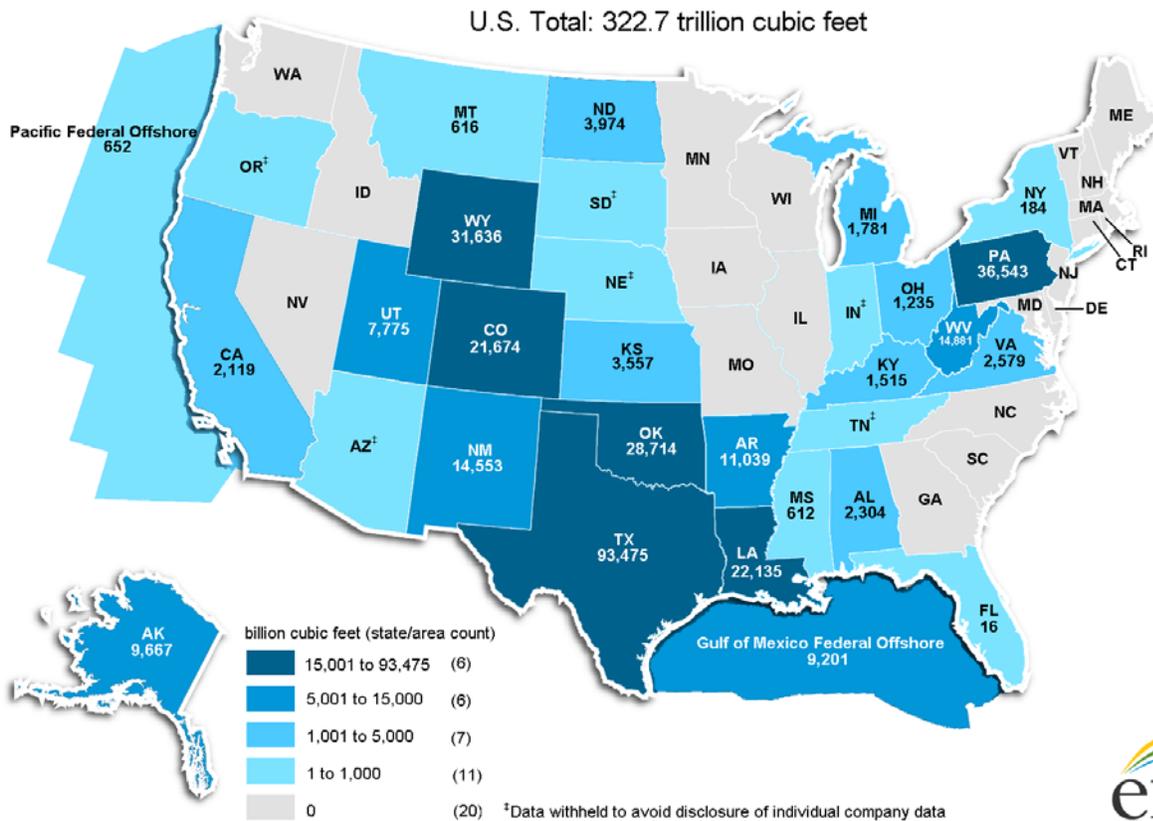


Figure 15. Changes in crude oil and lease condensate proved reserves by state/area, 2011 to 2012



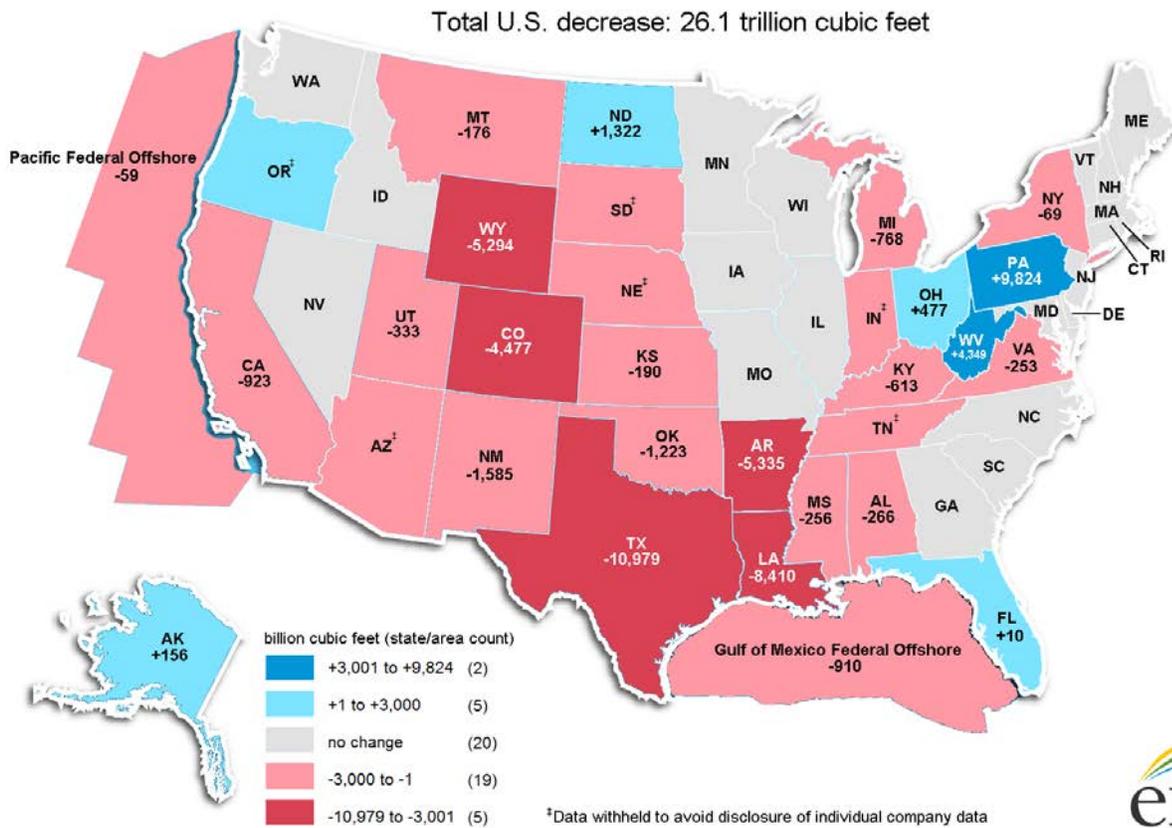
Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves."

Figure 16. Wet natural gas proved reserves by state/area, 2012



Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves."

Figure 17. Changes in wet natural gas proved reserves by state/area, 2011 to 2012



Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves."



**Table 5. Total U.S. proved reserves of crude oil and lease condensate, crude oil, and lease condensate, 2002-12**

million barrels

Year	Adjustments (1)	Net Revisions (2)	Revisions <sup>a</sup> and Adjustments (3)	Net of Sales <sup>b</sup> and Acquisitions (4)	Extensions (5)	New Field Discoveries (6)	New Reservoir Discoveries in Old Fields (7)	Total <sup>c</sup> Discoveries (8)	Estimated Production (9)	Proved <sup>d</sup> Reserves 12/31 (10)	Change from Prior Year (11)
<b>Crude Oil and Lease Condensate (million barrels)</b>											
2002	423	682	1,105	51	600	318	187	1,105	2,082	24,023	180
2003	192	-9	183	-416	530	717	137	1,384	2,068	23,106	-917
2004	80	444	524	37	731	36	159	926	2,001	22,592	-514
2005	237	558	795	327	946	209	57	1,212	1,907	23,019	427
2006	109	43	152	189	685	38	62	785	1,834	22,311	-708
2007	21	1,275	1,296	44	865	81	87	1,033	1,872	22,812	501
2008	318	-2,189	-1,871	187	968	166	137	1,271	1,845	20,554	-2,258
2009	46	2,008	2,054	95	1,305	141	95	1,541	1,929	22,315	1,761
2010	188	1,943	2,131	667	1,766	124	169	2,059	1,991	25,181	2,866
2011	207	1,414	1,621	537	3,107	481	88	3,676	2,065	28,950	3,769
2012	137	912	1,049	415	5,191	55	129	5,375	2,386	33,403	4,453
<b>Crude Oil (million barrels)</b>											
2002	416	720	1,136	24	492	300	154	946	1,875	22,677	231
2003	163	94	257	-398	426	705	101	1,232	1,877	21,891	-786
2004	74	420	494	23	617	33	132	782	1,819	21,371	-520
2005	221	569	790	278	805	205	41	1,051	1,733	21,757	386
2006	94	2	96	194	504	30	43	577	1,652	20,972	-785
2007	65	1,200	1,265	-19	651	66	73	790	1,691	21,317	345
2008	278	-2,039	-1,761	166	805	142	124	1,071	1,672	19,121	-2,196
2009	-4	1,863	1,859	95	1,155	122	81	1,358	1,751	20,682	1,561
2010	144	1,859	2,003	605	1,495	88	161	1,744	1,767	23,267	2,585
2011	199	1,325	1,524	480	2,571	477	59	3,107	1,834	26,544	3,277
2012	109	935	1,044	416	4,462	53	122	4,637	2,112	30,529	3,985
<b>Lease Condensate (million barrels)</b>											
2002	7	-38	-31	27	108	18	33	159	207	1,346	-51
2003	29	-103	-74	-18	104	12	36	152	191	1,215	-131
2004	6	24	30	14	114	3	27	144	182	1,221	6
2005	16	-11	5	49	141	4	16	161	174	1,262	41
2006	15	41	56	-5	181	8	19	208	182	1,339	77
2007	-44	75	31	63	214	15	14	243	181	1,495	156
2008	40	-150	-110	21	163	24	13	200	173	1,433	-62
2009	50	145	195	0	150	19	14	183	178	1,633	200
2010	44	84	128	62	271	36	8	315	224	1,914	281
2011	8	89	97	57	536	4	29	569	231	2,406	492
2012	28	-23	5	-1	729	2	7	738	274	2,874	468

a Revisions and adjustments = Col. 1 + Col. 2.

b Net of sales and acquisitions = acquisitions - sales

c Total discoveries = Col. 5 + Col. 6 + Col. 7.

d Proved reserves = Col. 10 from prior year + Col. 3 + Col. 4 + Col. 8 - Col. 9

Notes: Old means discovered in a prior year. New means discovered during the report year. One barrel = 42 U.S. gallons.

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 U.S. EIA production data for crude oil and lease condensate for 2012 contained in the Petroleum Supply Annual 2012, DOE/EIA-0340(12) and the Natural Gas Annual 2012, DOE/EIA-0131(12).

See EIA Petroleum & Other Liquids Data at <http://www.eia.gov/petroleum/data.cfm>

Sources: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves," 2002-2012

Table 6. Crude oil and lease condensate proved reserves, reserves changes, and production, 2012

million barrels

State and Subdivision	Published Proved Reserves 12/31/11	Changes in Reserves During 2012							New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	Proved Reserves 12/31/12
		Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)					
Alaska	3,852	-1	84	451	0	0	59	0	0	191	3,352	
<b>Lower 48 States</b>	<b>25,098</b>	<b>138</b>	<b>4,825</b>	<b>3,546</b>	<b>819</b>	<b>1,234</b>	<b>5,132</b>	<b>55</b>	<b>129</b>	<b>2,195</b>	<b>30,051</b>	
Alabama	65	6	10	2	0	0	0	0	0	10	69	
Arkansas	40	15	4	3	0	0	5	0	0	6	55	
<b>California</b>	<b>3,009</b>	<b>8</b>	<b>507</b>	<b>391</b>	<b>1</b>	<b>8</b>	<b>32</b>	<b>2</b>	<b>0</b>	<b>198</b>	<b>2,976</b>	
Coastal Region Onshore	564	2	90	16	1	2	1	0	0	22	620	
Los Angeles Basin Onshore	295	-8	20	36	0	1	8	0	0	15	265	
San Joaquin Basin Onshore	1,950	14	382	318	0	5	6	2	0	148	1,893	
State Offshore	200	0	15	21	0	0	17	0	0	13	198	
Colorado	555	23	149	117	31	21	205	7	0	52	760	
Florida	22	2	6	3	0	0	0	0	0	3	24	
Illinois	54	-8	7	1	0	0	3	0	0	4	51	
Indiana	7	3	1	0	0	0	3	0	0	1	13	
Kansas	350	7	80	50	8	8	37	1	0	43	382	
Kentucky	22	-10	4	2	0	0	0	0	0	1	13	
<b>Louisiana</b>	<b>525</b>	<b>44</b>	<b>98</b>	<b>67</b>	<b>21</b>	<b>23</b>	<b>50</b>	<b>1</b>	<b>1</b>	<b>70</b>	<b>584</b>	
North	136	12	19	8	10	1	0	0	0	12	138	
South Onshore	328	16	60	46	10	18	49	1	1	47	370	
State Offshore	61	16	19	13	1	4	1	0	0	11	76	
Michigan	59	-2	19	3	0	1	0	3	1	7	71	
Mississippi	245	40	37	28	9	10	8	1	0	28	276	
Montana	384	-7	19	38	7	8	55	0	1	27	388	
Nebraska	21	1	1	0	0	0	0	0	0	3	20	
<b>New Mexico</b>	<b>960</b>	<b>-30</b>	<b>200</b>	<b>151</b>	<b>45</b>	<b>28</b>	<b>192</b>	<b>0</b>	<b>1</b>	<b>86</b>	<b>1,069</b>	
East	921	-28	193	148	45	26	192	0	1	83	1,029	
West	39	-2	7	3	0	2	0	0	0	3	40	
North Dakota	2,658	33	744	370	236	218	941	9	27	251	3,773	
Ohio	55	-8	10	3	0	3	11	1	0	5	64	
Oklahoma	1,150	-79	153	222	18	62	316	0	3	85	1,280	
Pennsylvania	44	6	22	12	0	0	12	0	0	5	67	
<b>Texas</b>	<b>8,108</b>	<b>239</b>	<b>1,333</b>	<b>1,131</b>	<b>240</b>	<b>510</b>	<b>2,941</b>	<b>23</b>	<b>60</b>	<b>742</b>	<b>11,101</b>	
RRC District 1	893	-19	302	253	7	6	1,194	19	8	112	2,031	
RRC District 2 Onshore	691	-11	148	51	1	50	761	0	28	107	1,508	
RRC District 3 Onshore	261	53	165	43	27	43	16	1	1	42	428	
RRC District 4 Onshore	222	46	22	103	21	4	54	0	0	21	203	
RRC District 5	28	1	11	3	0	24	9	0	0	5	65	
RRC District 6	232	18	17	31	18	23	30	0	0	19	252	
RRC District 7B	126	5	19	5	1	1	0	0	0	11	134	
RRC District 7C	672	63	66	139	13	30	254	0	8	50	891	
RRC District 8	2,709	69	401	339	78	242	500	3	2	205	3,304	
RRC District 8A	1,800	10	103	66	60	49	17	0	13	108	1,758	
RRC District 9	181	-7	13	17	13	11	31	0	0	22	177	
RRC District 10	290	10	66	80	1	27	75	0	0	40	347	
State Offshore	3	1	0	1	0	0	0	0	0	0	3	

**Table 6. Crude oil and lease condensate proved reserves, reserves changes, and production, 2012 (cont.)**

million barrels

State and Subdivision	Published Proved Reserves 12/31/11	Changes in Reserves During 2012							New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	Proved Reserves 12/31/12
		Adjustme nts (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)					
Utah	582	36	75	45	2	26	59	0	0	31	700	
West Virginia	51	-14	11	7	0	0	19	0	0	3	57	
Wyoming	919	-18	68	86	7	19	93	0	1	57	932	
<b>Federal Offshore<sup>a</sup></b>	<b>5,171</b>	<b>-153</b>	<b>1,264</b>	<b>807</b>	<b>193</b>	<b>288</b>	<b>145</b>	<b>7</b>	<b>34</b>	<b>474</b>	<b>5,282</b>	
Pacific (California)	352	-50	6	6	0	38	1	0	0	15	326	
Gulf of Mexico (Louisiana) <sup>a</sup>	4,567	-93	1,077	760	187	245	113	7	20	387	4,602	
Gulf of Mexico (Texas)	252	-10	181	41	6	5	31	0	14	72	354	
Miscellaneous <sup>b</sup>	42	4	3	7	1	1	5	0	0	3	44	
<b>U.S. Total</b>	<b>28,950</b>	<b>137</b>	<b>4,909</b>	<b>3,997</b>	<b>819</b>	<b>1,234</b>	<b>5,191</b>	<b>55</b>	<b>129</b>	<b>2,386</b>	<b>33,403</b>	

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

Notes: 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 U.S. EIA production data for crude oil and lease condensate for 2012 contained in the Petroleum Supply Annual 2012, DOE/EIA-0340(12) and the Natural Gas Annual 2012, DOE/EIA-0131(12). One barrel = 42 U.S. gallons.

See EIA Petroleum & Other Liquids Data at <http://www.eia.gov/petroleum/data.cfm>

Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves."

Table 7. Crude oil proved reserves, reserves changes, and production, 2012

million barrels

State and Subdivision	Changes in Reserves During 2012										
	Published Proved Reserves 12/31/11	Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	Proved Reserves 12/31/12
Alaska	3,816	-1	84	451	0	0	59	0	0	171	3,336
<b>Lower 48 States</b>	<b>22,728</b>	<b>110</b>	<b>4,235</b>	<b>2,933</b>	<b>734</b>	<b>1,150</b>	<b>4,403</b>	<b>53</b>	<b>122</b>	<b>1,941</b>	<b>27,193</b>
Alabama	46	5	9	1	0	0	0	0	0	8	51
Arkansas	38	16	3	3	0	0	5	0	0	6	53
<b>California</b>	<b>3,005</b>	<b>9</b>	<b>506</b>	<b>389</b>	<b>1</b>	<b>8</b>	<b>32</b>	<b>2</b>	<b>0</b>	<b>198</b>	<b>2,974</b>
Coastal Region Onshore	564	2	90	16	1	2	1	0	0	22	620
Los Angeles Basin Onshore	295	-8	20	36	0	1	8	0	0	15	265
San Joaquin Basin Onshore	1,949	15	381	318	0	5	6	2	0	148	1,892
State Offshore	197	0	15	19	0	0	17	0	0	13	197
Colorado	423	22	103	93	1	19	184	5	0	44	618
Florida	22	2	6	3	0	0	0	0	0	3	24
Illinois	54	-8	7	1	0	0	3	0	0	4	51
Indiana	7	3	1	0	0	0	3	0	0	1	13
Kansas	343	7	78	47	8	8	35	1	0	42	375
Kentucky	17	-9	3	1	0	0	0	0	0	1	9
<b>Louisiana</b>	<b>417</b>	<b>34</b>	<b>65</b>	<b>46</b>	<b>18</b>	<b>21</b>	<b>44</b>	<b>1</b>	<b>1</b>	<b>56</b>	<b>463</b>
North	103	13	6	4	9	0	0	0	0	9	100
South Onshore	264	10	43	32	9	17	43	1	1	38	300
State Offshore	50	11	16	10	0	4	1	0	0	9	63
Michigan	44	-3	18	2	0	1	0	3	1	6	56
Mississippi	238	43	29	28	7	9	8	1	0	27	266
Montana	384	-9	19	38	7	8	55	0	1	27	386
Nebraska	14	0	1	0	0	0	0	0	0	2	13
<b>New Mexico</b>	<b>866</b>	<b>-29</b>	<b>174</b>	<b>126</b>	<b>41</b>	<b>27</b>	<b>170</b>	<b>0</b>	<b>0</b>	<b>76</b>	<b>965</b>
East	853	-26	174	126	41	25	170	0	0	75	954
West	13	-3	0	0	0	2	0	0	0	1	11
North Dakota	2,649	33	740	369	236	218	940	9	27	250	3,761
Ohio	41	-7	6	0	0	0	1	1	0	3	39
Oklahoma	879	-68	74	158	9	50	226	0	1	61	934
Pennsylvania	24	0	16	10	0	0	0	0	0	3	27
<b>Texas</b>	<b>7,014</b>	<b>208</b>	<b>1,076</b>	<b>816</b>	<b>216</b>	<b>464</b>	<b>2,418</b>	<b>23</b>	<b>57</b>	<b>614</b>	<b>9,614</b>
RRC District 1	682	-20	198	158	7	6	1,069	19	8	86	1,711
RRC District 2 Onshore	462	15	94	36	1	28	489	0	25	74	1,002
RRC District 3 Onshore	185	40	145	27	19	39	10	1	1	28	347
RRC District 4 Onshore	20	18	5	3	18	2	1	0	0	3	22
RRC District 5	22	1	8	2	0	24	9	0	0	4	58
RRC District 6	140	18	10	17	17	19	16	0	0	12	157
RRC District 7B	121	3	19	3	1	1	0	0	0	10	130
RRC District 7C	649	55	63	131	13	29	251	0	8	48	863
RRC District 8	2,638	68	386	322	77	238	480	3	2	200	3,216
RRC District 8A	1,787	10	97	65	55	49	15	0	13	107	1,744
RRC District 9	155	-5	11	15	8	10	30	0	0	20	158
RRC District 10	151	4	40	36	0	19	48	0	0	22	204
State Offshore	2	1	0	1	0	0	0	0	0	0	2

Table 7. Crude oil proved reserves, reserves changes, and production, 2012 (cont.)

million barrels

State and Subdivision	Changes in Reserves During 2012										Proved Reserves 12/31/12
	Published Proved Reserves 12/31/11	Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	
Utah	504	34	48	14	2	26	44	0	0	27	613
West Virginia	21	-13	1	1	0	0	0	0	0	1	7
Wyoming	660	-16	45	35	5	15	86	0	0	44	706
<b>Federal Offshore<sup>a</sup></b>	<b>4,976</b>	<b>-148</b>	<b>1,204</b>	<b>745</b>	<b>182</b>	<b>275</b>	<b>144</b>	<b>7</b>	<b>34</b>	<b>434</b>	<b>5,131</b>
Pacific (California)	350	-50	6	6	0	38	1	0	0	15	324
Gulf of Mexico (Louisiana) <sup>a</sup>	4,438	-90	1,047	717	180	234	112	7	20	367	4,504
Gulf of Mexico (Texas)	188	-8	151	22	2	3	31	0	14	52	303
Miscellaneous <sup>b</sup>	42	4	3	7	1	1	5	0	0	3	44
<b>U.S. Total</b>	<b>26,544</b>	<b>109</b>	<b>4,319</b>	<b>3,384</b>	<b>734</b>	<b>1,150</b>	<b>4,462</b>	<b>53</b>	<b>122</b>	<b>2,112</b>	<b>30,529</b>

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

Notes: 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 U.S. EIA production data for crude oil for 2012 contained in the Petroleum Supply Annual 2012, DOE/EIA-0340(12). One barrel = 42 U.S. gallons.

See EIA Petroleum & Other Liquids Data at <http://www.eia.gov/petroleum/data.cfm>

Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves."

Table 8. Lease condensate proved reserves, reserves changes, and production, 2012

million barrels

State and Subdivision	Published Proved Reserves 12/31/11	Changes in Reserves During 2012							New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	Proved Reserves 12/31/12
		Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)			
Alaska	36	0	0	0	0	0	0	0	0	20	16
<b>Lower 48 States</b>	<b>2,370</b>	<b>28</b>	<b>590</b>	<b>613</b>	<b>85</b>	<b>84</b>	<b>729</b>	<b>2</b>	<b>7</b>	<b>254</b>	<b>2,858</b>
Alabama	19	1	1	1	0	0	0	0	0	2	18
Arkansas	2	-1	1	0	0	0	0	0	0	0	2
<b>California</b>	<b>4</b>	<b>-1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>
Coastal Region Onshore	0	0	0	0	0	0	0	0	0	0	0
Los Angeles Basin											
Onshore	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Basin											
Onshore	1	-1	1	0	0	0	0	0	0	0	1
State Offshore	3	0	0	2	0	0	0	0	0	0	1
Colorado	132	1	46	24	30	2	21	2	0	8	142
Florida	0	0	0	0	0	0	0	0	0	0	0
Kansas	7	0	2	3	0	0	2	0	0	1	7
Kentucky	5	-1	1	1	0	0	0	0	0	0	4
<b>Louisiana</b>	<b>108</b>	<b>10</b>	<b>33</b>	<b>21</b>	<b>3</b>	<b>2</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>121</b>
North	33	-1	13	4	1	1	0	0	0	3	38
South Onshore	64	6	17	14	1	1	6	0	0	9	70
State Offshore	11	5	3	3	1	0	0	0	0	2	13
Michigan	15	1	1	1	0	0	0	0	0	1	15
Mississippi	7	-3	8	0	2	1	0	0	0	1	10
Montana	0	2	0	0	0	0	0	0	0	0	2
Nebraska	7	1	0	0	0	0	0	0	0	1	7
<b>New Mexico</b>	<b>94</b>	<b>-1</b>	<b>26</b>	<b>25</b>	<b>4</b>	<b>1</b>	<b>22</b>	<b>0</b>	<b>1</b>	<b>10</b>	<b>104</b>
East	68	-2	19	22	4	1	22	0	1	8	75
West	26	1	7	3	0	0	0	0	0	2	29
North Dakota	9	0	4	1	0	0	1	0	0	1	12
Oklahoma	271	-11	79	64	9	12	90	0	2	24	346
<b>Texas</b>	<b>1,094</b>	<b>31</b>	<b>257</b>	<b>315</b>	<b>24</b>	<b>46</b>	<b>523</b>	<b>0</b>	<b>3</b>	<b>128</b>	<b>1,487</b>
RRC District 1	211	1	104	95	0	0	125	0	0	26	320
RRC District 2 Onshore	229	-26	54	15	0	22	272	0	3	33	506
RRC District 3 Onshore	76	13	20	16	8	4	6	0	0	14	81
RRC District 4 Onshore	202	28	17	100	3	2	53	0	0	18	181
RRC District 5	6	0	3	1	0	0	0	0	0	1	7
RRC District 6	92	0	7	14	1	4	14	0	0	7	95
RRC District 7B	5	2	0	2	0	0	0	0	0	1	4
RRC District 7C	23	8	3	8	0	1	3	0	0	2	28
RRC District 8	71	1	15	17	1	4	20	0	0	5	88
RRC District 8A	13	0	6	1	5	0	2	0	0	1	14
RRC District 9	26	-2	2	2	5	1	1	0	0	2	19
RRC District 10	139	6	26	44	1	8	27	0	0	18	143
State Offshore	1	0	0	0	0	0	0	0	0	0	1

**Table 8. Lease condensate proved reserves, reserves changes, and production, 2012**

million barrels

State and Subdivision	Changes in Reserves During 2012										Proved Reserves 12/31/12
	Published Proved Reserves 12/31/11	Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	
Utah	78	2	27	31	0	0	15	0	0	4	87
West Virginia	30	-1	10	6	0	0	19	0	0	2	50
Wyoming	259	-2	23	51	2	4	7	0	1	13	226
<b>Federal Offshore<sup>a</sup></b>	<b>195</b>	<b>-5</b>	<b>60</b>	<b>62</b>	<b>11</b>	<b>13</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>151</b>
Pacific (California)	2	0	0	0	0	0	0	0	0	0	2
Gulf of Mexico (Louisiana) <sup>a</sup>	129	-3	30	43	7	11	1	0	0	20	98
Gulf of Mexico (Texas)	64	-2	30	19	4	2	0	0	0	20	51
Miscellaneous <sup>b</sup>	34	5	10	5	0	3	22	0	0	4	65
<b>U.S. Total</b>	<b>2,406</b>	<b>28</b>	<b>590</b>	<b>613</b>	<b>85</b>	<b>84</b>	<b>729</b>	<b>2</b>	<b>7</b>	<b>274</b>	<b>2,874</b>

<sup>a</sup> Includes federal offshore Alabama<sup>b</sup> Includes Arizona, Nevada, New York, Ohio, Pennsylvania, South Dakota, Tennessee, and Virginia.

Notes: 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 U.S. EIA production data for lease condensate for 2011 contained in the Petroleum Supply Annual 2012, DOE/EIA-0340(12) and the Natural Gas Annual 2012, DOE/EIA-0131(2). One barrel = 42 U.S. gallons.

See EIA Petroleum & Other Liquids Data at <http://www.eia.gov/petroleum/data.cfm>

Sources: U.S. Energy Information Administration, 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."

**Table 9. Total U.S. proved reserves of wet natural gas, 2001-12**

billion cubic feet

Year	Adjustments (1)	Net Revisions (2)	Revisions <sup>a</sup> and Adjustments (3)	Net of Sales <sup>b</sup> and Acquisitions (4)	Extensions (5)	New Field Discoveries (6)	New Reservoir Discoveries in Old Fields (7)	Total <sup>c</sup> Discoveries (8)	Estimated Production (9)	Proved <sup>d</sup> Reserves 12/31 (10)	Change from Prior Year (11)
<b>Wet Natural Gas (billion cubic feet)</b>											
2001	1,849	-2,438	-589	2,715	17,183	3,668	2,898	23,749	20,642	191,743	5,233
2002	4,006	1,038	5,044	428	15,468	1,374	1,752	18,594	20,248	195,561	3,818
2003	2,323	-1,715	608	1,107	17,195	1,252	1,653	20,100	20,231	197,145	1,584
2004	170	825	995	1,975	19,068	790	1,244	21,102	20,017	201,200	4,055
2005	1,693	2,715	4,408	2,674	22,069	973	1,243	24,285	19,259	213,308	12,108
2006	946	-2,099	-1,153	3,178	22,834	425	1,197	24,456	19,373	220,416	7,108
2007	990	15,936	16,926	452	28,255	814	1,244	30,313	20,318	247,789	27,373
2008	271	-3,254	-2,983	937	27,800	1,229	1,678	30,707	21,415	255,035	7,246
2009	5,923	-1,899	4,024	-222	43,500	1,423	2,656	47,579	22,537	283,879	28,844
2010	1,292	4,055	5,347	2,766	46,283	895	1,701	48,879	23,224	317,647	33,768
2011	2,715	-112	2,603	3,298	47,635	987	1,260	49,882	24,621	348,809	31,162
2012	-810	-45,614	-46,424	-1,859	47,053	780	408	48,241	26,097	322,670	-26,139

<sup>a</sup> Revisions and adjustments = Col. 1 + Col. 2.<sup>b</sup> Net of sales and acquisitions = acquisitions - sales<sup>c</sup> Total discoveries = Col. 5 + Col. 6 + Col. 7.<sup>d</sup> Proved reserves = Col. 10 from prior year + Col. 3 + Col. 4 + Col. 8 - Col. 9.

Notes: Old means discovered in a prior year. New means discovered during the report year. 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 U.S. EIA production data for wet and dry natural gas for 2012 contained in the Natural Gas Annual 2012, DOE/EIA-0131(12). Natural gas is measured at 60 degrees Fahrenheit and atmospheric pressure base of 14.73 pounds per square inch absolute (psia).

See EIA Natural Gas Data at <http://www.eia.gov/naturalgas/data.cfm>

Sources: U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 2001 through 2012 annual reports.

**Table 10. Total natural gas proved reserves, reserves changes, and production, wet after lease separation, 2012**

billion cubic feet

State and subdivision	Published Proved Reserves 12/31/11	Adjustments (+,-)	Changes in reserves during 2012					New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	Proved Reserves 12/31/12
			Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extension (+)				
Alaska	9,511	-3	758	340	2	0	44	0	0	301	9,667
<b>Lower 48 States</b>	<b>339,298</b>	<b>-807</b>	<b>41,747</b>	<b>87,779</b>	<b>9,948</b>	<b>8,091</b>	<b>47,009</b>	<b>780</b>	<b>408</b>	<b>25,796</b>	<b>313,003</b>
Alabama	2,570	104	102	262	11	22	0	0	0	221	2,304
Arkansas	16,374	-740	1,754	6,612	1	6	1,399	0	11	1,152	11,039
<b>California</b>	<b>3,042</b>	<b>-523</b>	<b>571</b>	<b>573</b>	<b>303</b>	<b>97</b>	<b>8</b>	<b>4</b>	<b>10</b>	<b>214</b>	<b>2,119</b>
Coastal Region											
Onshore	173	2	158	17	0	0	1	0	0	12	305
Los Angeles Basin											
Onshore	102	12	9	18	0	0	0	0	0	7	98
San Joaquin Basin											
Onshore	2,685	-536	403	523	303	97	3	4	10	190	1,650
State Offshore	82	-1	1	15	0	0	4	0	0	5	66
Colorado	26,151	-500	2,241	4,822	1,748	467	1,639	9	0	1,763	21,674
Florida	6	-2	16	4	0	0	0	0	0	0	16
Kansas	3,747	-252	798	511	953	693	333	5	0	303	3,557
Kentucky	2,128	-273	46	297	0	0	0	0	0	89	1,515
<b>Louisiana</b>	<b>30,545</b>	<b>628</b>	<b>3,797</b>	<b>12,876</b>	<b>356</b>	<b>289</b>	<b>3,171</b>	<b>5</b>	<b>13</b>	<b>3,081</b>	<b>22,135</b>
North	27,411	122	2,924	12,109	277	176	2,841	0	0	2,621	18,467
South Onshore	2,615	284	747	510	54	104	318	5	13	373	3,149
State Offshore	519	222	126	257	25	9	12	0	0	87	519
Michigan	2,549	-105	550	1,081	0	0	0	7	1	140	1,781
Mississippi	868	64	92	302	160	110	4	1	0	65	612
Montana	792	43	32	195	31	4	38	0	0	67	616
<b>New Mexico</b>	<b>16,138</b>	<b>79</b>	<b>2,555</b>	<b>3,500</b>	<b>344</b>	<b>127</b>	<b>745</b>	<b>2</b>	<b>5</b>	<b>1,254</b>	<b>14,553</b>
East	4,884	7	897	937	343	122	642	2	5	446	4,833
West	11,254	72	1,658	2,563	1	5	103	0	0	808	9,720
New York	253	76	12	108	43	0	21	0	0	27	184
North Dakota	2,652	-61	1,029	326	264	229	929	18	25	257	3,974
Ohio	758	-41	181	162	0	71	494	14	5	85	1,235
Oklahoma	29,937	-635	4,484	8,346	1,223	1,052	5,293	47	8	1,903	28,714
Pennsylvania	26,719	-287	5,496	6,428	5	12	12,873	416	0	2,253	36,543
<b>Texas</b>	<b>104,454</b>	<b>753</b>	<b>9,964</b>	<b>27,003</b>	<b>3,018</b>	<b>3,301</b>	<b>12,886</b>	<b>61</b>	<b>209</b>	<b>8,132</b>	<b>93,475</b>
RRC District 1	6,127	90	1,955	1,595	33	20	2,973	39	1	436	9,141
RRC District 2											
Onshore	3,690	38	442	673	12	214	2,681	0	76	471	5,985
RRC District 3											
Onshore	2,490	245	682	712	242	205	136	11	9	395	2,429
RRC District 4											
Onshore	10,054	989	1,056	2,268	602	72	1,272	1	5	1,013	9,566
RRC District 5	28,187	-943	341	8,314	539	294	394	0	3	1,783	17,640
RRC District 6	15,995	-1,034	2,180	5,380	300	406	1,013	0	8	1,162	11,726
RRC District 7B	3,887	651	47	1,123	163	133	234	0	0	303	3,363
RRC District 7C	5,236	618	482	1,274	96	122	811	1	53	354	5,599
RRC District 8	8,088	523	1,292	1,794	446	760	1,184	8	2	654	8,963
RRC District 8A	1,289	2	113	38	31	28	17	1	1	102	1,280
RRC District 9	10,920	-697	230	1,141	385	306	1,064	0	51	666	9,682
RRC District 10	8,373	255	1,128	2,680	146	741	1,107	0	0	771	8,007
State Offshore	118	16	16	11	23	0	0	0	0	22	94

**Table 10. Total natural gas proved reserves, reserves changes, and production, wet after lease separation, 2012 (cont.)**

billion cubic feet

State and subdivision	Changes in reserves during 2012										Proved Reserves 12/31/12
	Published Proved Reserves 12/31/11	Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisition (+)	Extension (+)	New Field Discoveries (+)	New Reservoir Discoveries in Oil Fields (+)	Estimated Production (-)	
Utah	8,108	282	1,390	1,984	12	23	460	0	0	492	7,775
Virginia	2,832	66	32	332	0	0	134	0	0	153	2,579
West Virginia	10,532	259	1,733	2,202	280	107	5,227	104	0	599	14,881
Wyoming	36,930	896	1,873	7,059	564	651	1,001	0	11	2,103	31,636
<b>Federal Offshore<sup>a</sup></b>	<b>10,820</b>	<b>-526</b>	<b>2,980</b>	<b>2,748</b>	<b>618</b>	<b>830</b>	<b>349</b>	<b>87</b>	<b>108</b>	<b>1,429</b>	<b>9,853</b>
Pacific (California)	711	-51	16	14	0	12	0	0	0	22	652
Gulf of Mexico (Louisiana) <sup>b</sup>	8,555	-390	2,355	2,301	540	775	252	68	51	1,121	7,704
Gulf of Mexico (Texas)	1,554	-85	609	433	78	43	97	19	57	286	1,497
Miscellaneous <sup>b</sup>	393	-112	19	46	14	0	5	0	2	14	233
<b>U.S. Total</b>	<b>348,809</b>	<b>-810</b>	<b>42,505</b>	<b>88,119</b>	<b>9,950</b>	<b>8,091</b>	<b>47,053</b>	<b>780</b>	<b>408</b>	<b>26,097</b>	<b>322,670</b>

<sup>a</sup> Includes federal offshore Alabama.<sup>b</sup> Includes Arizona, Illinois, Indiana, Maryland, Missouri, Nebraska, Nevada, Oregon, South Dakota, and Tennessee.

Notes: 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 U.S. Energy Information Administration production data for natural gas for 2012 contained in the Natural Gas Annual 2012, DOE/EIA-0131(12).

See EIA Natural Gas Data at <http://www.eia.gov/naturalgas/data.cfm>

Natural gas is measured at 60 degrees Fahrenheit and atmospheric pressure base of 14.73 pounds per square inch absolute (psia).

Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves."

**Table 11. Nonassociated natural gas proved reserves, reserves changes, and production, wet after lease separation, 2012**

billion cubic feet

State and Subdivision	Changes in Reserves During 2012										Proved Reserves 12/31/12
	Published Proved Reserves 12/31/11	Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	
Alaska	976	-1	263	142	2	0	30	0	0	129	995
<b>Lower 48 States</b>	<b>305,010</b>	<b>-1,194</b>	<b>34,080</b>	<b>81,727</b>	<b>8,817</b>	<b>5,941</b>	<b>36,993</b>	<b>629</b>	<b>179</b>	<b>22,575</b>	<b>268,519</b>
Alabama	2,522	47	84	256	11	22	0	0	0	204	2,204
Arkansas	16,328	-778	1,749	6,603	1	6	1,388	0	11	1,143	10,957
<b>California</b>	<b>510</b>	<b>57</b>	<b>86</b>	<b>121</b>	<b>303</b>	<b>93</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>59</b>	<b>272</b>
Coastal Region Onshore	1	0	1	0	0	0	0	0	0	0	2
Los Angeles Basin Onshore	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Basin Onshore	506	58	84	120	303	93	0	0	9	58	269
State Offshore	3	-1	1	1	0	0	0	0	0	1	1
Colorado	23,633	-468	1,727	4,579	1,747	298	922	3	0	1,563	18,226
Florida	4	0	16	4	0	0	0	0	0	0	16
Kansas	3,620	-333	757	461	952	693	180	0	0	273	3,231
Kentucky	2,030	-271	45	294	0	0	0	0	0	88	1,422
<b>Louisiana</b>	<b>29,906</b>	<b>469</b>	<b>3,638</b>	<b>12,680</b>	<b>337</b>	<b>267</b>	<b>3,057</b>	<b>4</b>	<b>12</b>	<b>2,974</b>	<b>21,362</b>
North	27,313	124	2,913	12,096	276	176	2,839	0	0	2,608	18,385
South Onshore	2,125	187	660	375	36	91	214	4	12	296	2,586
State Offshore	468	158	65	209	25	0	4	0	0	70	391
Michigan	2,472	-97	515	1,073	0	0	0	0	0	130	1,687
Mississippi	806	67	79	294	159	107	0	0	0	56	550
Montana	522	46	6	175	27	0	0	0	0	45	327
Nebraska	19	-3	0	8	0	0	0	0	0	1	7
<b>New Mexico</b>	<b>13,586</b>	<b>80</b>	<b>1,900</b>	<b>3,056</b>	<b>100</b>	<b>57</b>	<b>267</b>	<b>0</b>	<b>4</b>	<b>1,004</b>	<b>11,734</b>
East	2,475	31	253	515	100	52	164	0	4	208	2,156
West	11,111	49	1,647	2,541	0	5	103	0	0	796	9,578
New York	245	72	11	102	43	0	21	0	0	26	178
North Dakota	141	-24	1	15	0	1	0	9	0	8	105
Ohio	684	-164	137	152	0	71	487	14	0	65	1,012
Oklahoma	27,683	-549	4,169	7,683	1,209	733	3,529	47	4	1,706	25,018
Pennsylvania	26,585	-292	5,466	6,390	5	12	12,868	416	0	2,242	36,418
<b>Texas</b>	<b>90,947</b>	<b>-118</b>	<b>7,730</b>	<b>24,789</b>	<b>2,655</b>	<b>2,307</b>	<b>7,752</b>	<b>10</b>	<b>98</b>	<b>6,840</b>	<b>74,442</b>
RRC District 1	5,227	20	1,620	1,380	28	8	1,374	1	0	326	6,516
RRC District 2 Onshore	2,766	15	212	516	11	172	1,659	0	23	334	3,986
RRC District 3 Onshore	2,091	164	608	655	224	175	122	7	8	331	1,965
RRC District 4 Onshore	9,993	892	1,032	2,238	552	68	1,263	1	5	997	9,467
RRC District 5	28,147	-951	338	8,291	539	274	384	0	3	1,778	17,587
RRC District 6	15,524	-1,035	1,960	5,261	251	388	984	0	8	1,113	11,204
RRC District 7B	3,754	585	24	1,101	162	133	234	0	0	284	3,183
RRC District 7C	2,857	408	248	814	57	38	37	1	0	195	2,523
RRC District 8	3,006	184	451	1,031	281	74	136	0	0	230	2,309
RRC District 8A	31	-11	2	3	1	3	1	0	0	2	20
RRC District 9	9,963	-609	177	1,120	380	282	712	0	51	555	8,521
RRC District 10	7,475	213	1,044	2,370	146	692	846	0	0	681	7,073
State Offshore	113	7	14	9	23	0	0	0	0	14	88

**Table 11. Nonassociated natural gas proved reserves, reserves changes, and production, wet after lease separation, 2012 (cont.)**

billion cubic feet

State and Subdivision	Published Proved Reserves 12/31/11	Changes in Reserves During 2012						New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	Proved Reserves 12/31/12
		Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)				
Utah	7,199	304	1,284	1,929	1	0	358	0	0	441	6,774
Virginia	2,832	66	32	332	0	0	134	0	0	153	2,579
West Virginia	10,480	275	1,733	2,189	280	107	5,227	104	0	597	14,860
Wyoming	36,612	793	1,811	6,998	560	634	678	0	11	2,051	30,930
<b>Federal Offshore<sup>a</sup></b>	<b>5,374</b>	<b>-361</b>	<b>1,086</b>	<b>1,506</b>	<b>413</b>	<b>533</b>	<b>120</b>	<b>22</b>	<b>28</b>	<b>894</b>	<b>3,989</b>
Pacific (California)	0	0	0	0	0	0	0	0	0	0	0
Gulf of Mexico (Louisiana) <sup>a</sup>	4,359	-296	866	1,161	339	496	106	3	22	710	3,346
Gulf of Mexico (Texas)	1,015	-65	220	345	74	37	14	19	6	184	643
Miscellaneous <sup>b</sup>	270	-12	18	38	14	0	5	0	2	12	219
<b>U.S. Total</b>	<b>305,986</b>	<b>-1,195</b>	<b>34,343</b>	<b>81,869</b>	<b>8,819</b>	<b>5,941</b>	<b>37,023</b>	<b>629</b>	<b>179</b>	<b>22,704</b>	<b>269,514</b>

a Includes federal offshore Alabama.

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

Notes: 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 U.S. Energy Information Administration production data for nonassociated natural gas for 2012 contained in the Natural Gas Annual 2012, DOE/EIA-0131(12).

See EIA Natural Gas Data at <http://www.eia.gov/naturalgas/data.cfm>

Natural gas is measured at 60 degrees Fahrenheit and atmospheric pressure base of 14.73 pounds per square inch absolute (psia).

Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves."

**Table 12. Associated-dissolved natural gas proved reserves, reserves changes, and production, wet after lease separation, 2012**

billion cubic feet

State and Subdivision	Published Proved Reserves 12/31/11	Changes in Reserves During 2012							New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	Proved Reserves 12/31/12
		Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)			
Alaska	8,535	-2	495	198	0	0	14	0	0	172	8,672
<b>Lower 48 States</b>	<b>34,288</b>	<b>387</b>	<b>7,667</b>	<b>6,052</b>	<b>1,131</b>	<b>2,150</b>	<b>10,016</b>	<b>151</b>	<b>229</b>	<b>3,221</b>	<b>44,484</b>
Alabama	48	57	18	6	0	0	0	0	0	17	100
Arkansas	46	38	5	9	0	0	11	0	0	9	82
<b>California</b>	<b>2,532</b>	<b>-580</b>	<b>485</b>	<b>452</b>	<b>0</b>	<b>4</b>	<b>8</b>	<b>4</b>	<b>1</b>	<b>155</b>	<b>1,847</b>
Coastal Region Onshore	172	2	157	17	0	0	1	0	0	12	303
Los Angeles Basin Onshore	102	12	9	18	0	0	0	0	0	7	98
San Joaquin Basin Onshore	2,179	-594	319	403	0	4	3	4	1	132	1,381
State Offshore	79	0	0	14	0	0	4	0	0	4	65
Colorado	2,518	-32	514	243	1	169	717	6	0	200	3,448
Florida	2	-2	0	0	0	0	0	0	0	0	0
Kansas	127	81	41	50	1	0	153	5	0	30	326
Kentucky	98	-2	1	3	0	0	0	0	0	1	93
<b>Louisiana</b>	<b>639</b>	<b>159</b>	<b>159</b>	<b>196</b>	<b>19</b>	<b>22</b>	<b>114</b>	<b>1</b>	<b>1</b>	<b>107</b>	<b>773</b>
North	98	-2	11	13	1	0	2	0	0	13	82
South Onshore	490	97	87	135	18	13	104	1	1	77	563
State Offshore	51	64	61	48	0	9	8	0	0	17	128
Michigan	77	-8	35	8	0	0	0	7	1	10	94
Mississippi	62	-3	13	8	1	3	4	1	0	9	62
Montana	270	-3	26	20	4	4	38	0	0	22	289
Nebraska	0	0	0	0	0	0	0	0	0	0	0
<b>New Mexico</b>	<b>2,552</b>	<b>-1</b>	<b>655</b>	<b>444</b>	<b>244</b>	<b>70</b>	<b>478</b>	<b>2</b>	<b>1</b>	<b>250</b>	<b>2,819</b>
East	2,409	-24	644	422	243	70	478	2	1	238	2,677
West	143	23	11	22	1	0	0	0	0	12	142
New York	8	4	1	6	0	0	0	0	0	1	6
North Dakota	2,511	-37	1,028	311	264	228	929	9	25	249	3,869
Ohio	74	123	44	10	0	0	7	0	5	20	223
Oklahoma	2,254	-86	315	663	14	319	1,764	0	4	197	3,696
Pennsylvania	134	5	30	38	0	0	5	0	0	11	125
<b>Texas</b>	<b>13,507</b>	<b>871</b>	<b>2,234</b>	<b>2,214</b>	<b>363</b>	<b>994</b>	<b>5,134</b>	<b>51</b>	<b>111</b>	<b>1,292</b>	<b>19,033</b>
RRC District 1	900	70	335	215	5	12	1,599	38	1	110	2,625
RRC District 2 Onshore	924	23	230	157	1	42	1,022	0	53	137	1,999
RRC District 3 Onshore	399	81	74	57	18	30	14	4	1	64	464
RRC District 4 Onshore	61	97	24	30	50	4	9	0	0	16	99
RRC District 5	40	8	3	23	0	20	10	0	0	5	53
RRC District 6	471	1	220	119	49	18	29	0	0	49	522
RRC District 7B	133	66	23	22	1	0	0	0	0	19	180
RRC District 7C	2,379	210	234	460	39	84	774	0	53	159	3,076
RRC District 8	5,082	339	841	763	165	686	1,048	8	2	424	6,654
RRC District 8A	1,258	13	111	35	30	25	16	1	1	100	1,260
RRC District 9	957	-88	53	21	5	24	352	0	0	111	1,161
RRC District 10	898	42	84	310	0	49	261	0	0	90	934
State Offshore	5	9	2	2	0	0	0	0	0	8	6

**Table 12. Associated-dissolved natural gas proved reserves, reserves changes, and production, wet after lease separation, 2012 (cont.)**

billion cubic feet

State and Subdivision	Published Proved Reserves 12/31/11	Changes in Reserves During 2012							New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	Proved Reserves 12/31/12
		Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)			
Utah	909	-22	106	55	11	23	102	0	0	51	1,001
West Virginia	52	-16	0	13	0	0	0	0	0	2	21
Wyoming	318	103	62	61	4	17	323	0	0	52	706
<b>Federal Offshore<sup>a</sup></b>	<b>5,446</b>	<b>-165</b>	<b>1,894</b>	<b>1,242</b>	<b>205</b>	<b>297</b>	<b>229</b>	<b>65</b>	<b>80</b>	<b>535</b>	<b>5,864</b>
Pacific (California)	711	-51	16	14	0	12	0	0	0	22	652
Gulf of Mexico (Louisiana) <sup>a</sup>	4,196	-94	1,489	1,140	201	279	146	65	29	411	4,358
Gulf of Mexico (Texas)	539	-20	389	88	4	6	83	0	51	102	854
Miscellaneous <sup>b</sup>	104	-97	1	0	0	0	0	0	0	1	7
<b>U.S. Total</b>	<b>42,823</b>	<b>385</b>	<b>8,162</b>	<b>6,250</b>	<b>1,131</b>	<b>2,150</b>	<b>10,030</b>	<b>151</b>	<b>229</b>	<b>3,393</b>	<b>53,156</b>

<sup>a</sup> Includes federal offshore Alabama.<sup>b</sup> Includes Arizona, Illinois, Indiana, Maryland, Missouri, Nevada, Oregon, South Dakota, Tennessee, and Virginia.

Notes: 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 U.S. Energy Information Administration production data for associated-dissolved natural gas for 2012 contained in the Natural Gas Annual 2012, DOE/EIA-0131(12).

See EIA Natural Gas Data at <http://www.eia.gov/naturalgas/data.cfm>

Natural gas is measured at 60 degrees Fahrenheit and atmospheric pressure base of 14.73 pounds per square inch absolute (psia).

Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves."

**Table 13. Shale natural gas proved reserves and production, 2009-12**

billion cubic feet

State and Subdivision	Reserves				Production			
	2009	2010	2011	2012	2009	2010	2011	2012
Alaska	0	0	0	0	0	0	0	0
<b>Lower 48 States</b>	<b>60,644</b>	<b>97,449</b>	<b>131,616</b>	<b>129,396</b>	<b>3,110</b>	<b>5,336</b>	<b>7,994</b>	<b>10,371</b>
Arkansas	9,070	12,526	14,808	9,779	527	794	940	1,027
<b>California</b>	<b>0</b>	<b>0</b>	<b>855</b>	<b>777</b>	<b>0</b>	<b>0</b>	<b>101</b>	<b>90</b>
San Joaquin Basin Onshore	0	0	855	777	0	0	101	90
Colorado	4	4	10	53	1	1	3	9
Florida	0	0	0	0	0	0	0	0
Kansas	0	0	0	2	0	0	0	1
Kentucky	55	10	41	34	5	4	4	4
<b>Louisiana</b>	<b>9,307</b>	<b>20,070</b>	<b>21,950</b>	<b>13,523</b>	<b>293</b>	<b>1,232</b>	<b>2,084</b>	<b>2,204</b>
North	9,307	20,070	21,950	13,523	293	1,232	2,084	2,204
South	0	0	0	0	0	0	0	0
State Offshore	0	0	0	0	0	0	0	0
Michigan	2,499	2,306	1,947	1,345	132	120	106	108
Mississippi	0	0	0	19	0	0	0	2
Montana	137	186	192	216	7	13	13	16
<b>New Mexico</b>	<b>36</b>	<b>123</b>	<b>144</b>	<b>176</b>	<b>2</b>	<b>6</b>	<b>9</b>	<b>13</b>
East	7	35	23	93	1	3	5	10
West	29	88	121	83	1	3	4	3
New York	0	0	0	0	0	0	0	0
North Dakota	368	1,185	1,649	3,147	25	64	95	203
Ohio	0	0	0	0	0	0	0	0
Oklahoma	6,389	9,670	10,733	12,572	249	403	476	637
Pennsylvania	3,790	10,708	23,581	32,681	65	396	1,068	2,036
<b>Texas</b>	<b>28,167</b>	<b>38,048</b>	<b>49,588</b>	<b>44,778</b>	<b>1,789</b>	<b>2,218</b>	<b>2,900</b>	<b>3,649</b>
RRC District 1	435	1,564	5,123	8,340	11	41	156	362
RRC District 2 Onshore	0	395	1,692	4,743	0	7	141	327
RRC District 3 Onshore	0	0	1	6	0	0	0	0
RRC District 4 Onshore	78	565	2,611	3,091	5	26	154	305
RRC District 5	13,691	16,032	19,747	11,513	954	1,053	1,266	1,256
RRC District 6	1,161	4,381	6,584	4,172	28	219	382	486
RRC District 7B	2,022	2,435	3,466	2,952	145	140	184	258
RRC District 7C	0	13	27	81	0	0	0	2
RRC District 8	24	90	61	583	3	7	5	22
RRC District 8A	0	0	0	0	0	0	0	0
RRC District 9	10,756	12,573	10,276	9,260	643	725	612	626
RRC District 10	0	0	0	37	0	0	0	5
State Offshore	0	0	0	0	0	0	0	0
Utah	0	0	0	0	0	0	0	0
Virginia	0	0	0	135	0	0	0	3
West Virginia	688	2,491	6,043	9,408	11	80	192	345
Wyoming	0	1	0	216	0	0	0	7
Federal Offshore	0	0	0	0	0	0	0	0
Miscellaneous <sup>3</sup>	134	121	75	535	4	9	3	17
<b>U.S. Total</b>	<b>60,644</b>	<b>97,449</b>	<b>131,616</b>	<b>129,396</b>	<b>3,110</b>	<b>5,336</b>	<b>7,994</b>	<b>10,371</b>

<sup>3</sup>Includes Indiana, Missouri, and Tennessee.

Notes: The above table is based on shale natural gas proved reserves and production volumes reported and imputed from data on Form EIA-23 "Annual Survey of Domestic Oil and Gas Reserves." For certain reasons (e.g. incorrect or incomplete respondent submissions, respondent mis-identification of shale vs. non-shale reservoirs) the actual proved reserves and production of natural gas from shales may be higher or lower. The production estimates are offered only as an observed indicator of production trends and may differ from official U.S. EIA production volumes listed elsewhere on the U.S. EIA web page.

Natural gas is measured at 60 degrees Fahrenheit and atmospheric pressure base of 14.73 pounds per square inch absolute (psia).

Sources: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves," 2009-2012.

**Table 14. Shale natural gas proved reserves, reserves changes, and production, wet after lease separation, 2012**

billion cubic feet

## Changes in Reserves During 2012

State and Subdivision	Published Proved Reserves 12/31/11	Adjustments (+,-)	Revision		Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	Proved Reserves 12/31/12
			Increases (+)	Decreases (-)							
Alaska	0	0	0	0	0	0	0	0	0	0	0
<b>Lower 48 States</b>	<b>131,616</b>	<b>526</b>	<b>17,469</b>	<b>42,706</b>	<b>1,785</b>	<b>1,807</b>	<b>32,359</b>	<b>353</b>	<b>128</b>	<b>10,371</b>	<b>129,396</b>
Arkansas	14,808	-754	1,533	6,151	0	0	1,370	0	0	1,027	9,779
California	855	1	258	248	0	0	1	0	0	90	777
San Joaquin Basin Onshore	855	1	258	248	0	0	1	0	0	90	777
Colorado	10	31	13	1	1	0	4	6	0	9	53
Kansas	0	0	0	0	0	0	0	3	0	1	2
Kentucky	41	0	1	4	0	0	0	0	0	4	34
<b>Louisiana</b>	<b>21,950</b>	<b>241</b>	<b>1,422</b>	<b>10,558</b>	<b>17</b>	<b>6</b>	<b>2,683</b>	<b>0</b>	<b>0</b>	<b>2,204</b>	<b>13,523</b>
North Onshore	21,950	241	1,422	10,558	17	6	2,683	0	0	2,204	13,523
South Onshore	0	0	0	0	0	0	0	0	0	0	0
Michigan	1,947	-98	520	916	0	0	0	0	0	108	1,345
Mississippi	0	21	0	0	0	0	0	0	0	2	19
Montana	192	-7	18	2	3	3	31	0	0	16	216
<b>New Mexico</b>	<b>144</b>	<b>45</b>	<b>18</b>	<b>56</b>	<b>0</b>	<b>0</b>	<b>38</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>176</b>
East	23	28	17	3	0	0	38	0	0	10	93
West	121	17	1	53	0	0	0	0	0	3	83
North Dakota	1,649	253	901	199	181	142	770	1	14	203	3,147
Oklahoma	10,733	393	3,332	3,771	586	471	2,590	47	0	637	12,572
Pennsylvania	23,581	-63	4,411	5,080	5	12	11,610	251	0	2,036	32,681
<b>Texas</b>	<b>49,588</b>	<b>446</b>	<b>3,748</b>	<b>14,749</b>	<b>759</b>	<b>1,106</b>	<b>8,893</b>	<b>40</b>	<b>114</b>	<b>3,649</b>	<b>44,778</b>
RRC District 1	5,123	47	1,852	1,272	4	6	2,911	39	0	362	8,340
RRC District 2											
Onshore	1,692	494	326	320	0	210	2,604	0	64	327	4,743
RRC District 3											
Onshore	1	1	1	0	0	2	1	0	0	0	6
RRC District 4											
Onshore	2,611	300	253	1,160	0	0	1,392	0	0	305	3,091
RRC District 5	19,747	-516	30	6,895	191	262	332	0	0	1,256	11,513
RRC District 6	6,584	-225	999	2,907	2	0	209	0	0	486	4,172
RRC District 7B	3,466	567	17	1,028	162	130	220	0	0	258	2,952
RRC District 7C	27	1	20	9	0	0	44	0	0	2	81
RRC District 8	61	249	19	47	19	215	126	1	0	22	583
RRC District 8A	0	0	0	0	0	0	0	0	0	0	0
RRC District 9	10,276	-483	200	1,111	381	281	1,054	0	50	626	9,260
RRC District 10	0	11	31	0	0	0	0	0	0	5	37
Virginia	0	-1	0	0	0	0	139	0	0	3	135
West Virginia	6,043	13	1,214	962	219	0	3,664	0	0	345	9,408
Wyoming	0	0	4	0	0	0	219	0	0	7	216
Miscellaneous <sup>3</sup>	75	5	76	9	14	67	347	5	0	17	535
<b>U.S. Total</b>	<b>131,616</b>	<b>526</b>	<b>17,469</b>	<b>42,706</b>	<b>1,785</b>	<b>1,807</b>	<b>32,359</b>	<b>353</b>	<b>128</b>	<b>10,371</b>	<b>129,396</b>

<sup>3</sup> Includes Indiana, Missouri, and Tennessee.

Notes: The above table is based on shale natural gas proved reserves and production volumes reported and imputed from data on Form EIA-23 "Annual Survey of Domestic Oil and Gas Reserves." For certain reasons (e.g. incorrect or incomplete respondent submissions, respondent mis-identification of shale vs. non-shale reservoirs) the actual proved reserves and production of natural gas from shales may be higher or lower. The production estimates are offered only as an observed indicator of production trends and may differ from official U.S. EIA production volumes listed elsewhere on the U.S. EIA web page.

Natural gas is measured at 60 degrees Fahrenheit and atmospheric pressure base of 14.73 pounds per square inch absolute (psia).

Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves."

Table 15. Coalbed methane proved reserves and production, 2008-12

billion cubic feet

State and Subdivision	Reserves					Production				
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
Alaska	0	0	0	0	0	0	0	0	0	0
<b>Lower 48 States</b>	<b>20,798</b>	<b>18,578</b>	<b>17,508</b>	<b>16,817</b>	<b>13,591</b>	<b>1,966</b>	<b>1,914</b>	<b>1,886</b>	<b>1,763</b>	<b>1,655</b>
Alabama	1,727	1,342	1,298	1,210	1,006	107	105	102	98	91
Arkansas	31	22	28	21	10	3	3	3	4	2
California	0	0	0	0	0	0	0	0	0	0
Colorado	8,238	7,348	6,485	6,580	5,074	497	498	533	516	486
Florida	0	0	0	0	0	0	0	0	0	0
Kansas	301	163	258	228	183	47	43	41	37	34
Kentucky	0	0	0	0	0	0	0	0	0	0
<b>Louisiana</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>
North	9	0	0	0	0	1	1	0	0	0
South Onshore	0	0	0	0	0	0	0	0	0	0
State Offshore	0	0	0	0	0	0	0	0	0	0
Michigan	0	0	0	0	0	0	0	0	0	0
Mississippi	0	0	0	0	0	0	0	0	0	0
Montana	75	37	64	25	11	14	12	10	6	3
<b>New Mexico</b>	<b>3,991</b>	<b>3,646</b>	<b>3,532</b>	<b>3,358</b>	<b>2,772</b>	<b>443</b>	<b>432</b>	<b>402</b>	<b>374</b>	<b>355</b>
East	530	474	523	507	362	23	26	27	27	28
West	3,461	3,172	3,009	2,851	2,410	420	406	375	347	327
New York	0	0	0	0	0	0	0	0	0	0
North Dakota	0	0	0	0	0	0	0	0	0	0
Ohio	1	0	0	0	0	0	0	0	0	0
Oklahoma	511	338	325	274	439	69	55	45	39	68
Pennsylvania	102	131	129	124	106	11	16	3	4	15
<b>Texas</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>81</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11</b>
RRC District 1	0	0	0	0	0	0	0	0	0	0
RRC District 2										
Onshore	0	0	0	0	1	0	0	0	0	0
RRC District 3										
Onshore	0	0	0	0	71	0	0	0	0	10
RRC District 4										
Onshore	0	0	0	0	1	0	0	0	0	0
RRC District 5	0	0	0	0	0	0	0	0	0	0
RRC District 6	0	0	0	0	0	0	0	0	0	0
RRC District 7B	0	0	0	0	0	0	0	0	0	0
RRC District 7C	0	0	0	0	0	0	0	0	0	0
RRC District 8	0	0	0	0	0	0	0	0	0	0
RRC District 8A	0	0	0	0	0	0	0	0	0	0
RRC District 9	0	0	0	0	0	0	0	0	0	0
RRC District 10	0	0	0	0	8	0	0	0	0	1
State Offshore	0	0	0	0	0	0	0	0	0	0
Utah	893	725	718	679	518	71	71	66	60	55
Virginia	1,851	2,261	1,752	1,623	1,535	101	111	97	100	99
West Virginia	246	220	220	139	107	28	31	17	18	9
Wyoming	2,781	2,328	2,683	2,539	1,736	573	535	566	506	426
Federal Offshore	0	0	0	0	0	0	0	0	0	0
Miscellaneous <sup>a</sup>	41	17	16	17	13	1	1	1	1	1
<b>U.S. Total</b>	<b>20,798</b>	<b>18,578</b>	<b>17,508</b>	<b>16,817</b>	<b>13,591</b>	<b>1,966</b>	<b>1,914</b>	<b>1,886</b>	<b>1,763</b>	<b>1,655</b>

<sup>a</sup> Includes Illinois and Indiana.

Notes: Natural gas is measured at 60 degrees Fahrenheit and atmospheric pressure base of 14.73 pounds per square inch absolute (psia).

Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves," 2008-2012.

Table 16. Coalbed methane proved reserves, reserves changes, and production, 2012

billion cubic feet

State and Subdivision	Published Proved Reserves 12/31/11	Changes in Reserves During 2012							New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	Proved Reserves 12/31/12
		Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)			
Alaska	0	0	0	0	0	0	0	0	0	0	
<b>Lower 48 States</b>	<b>16,817</b>	<b>1,327</b>	<b>971</b>	<b>3,871</b>	<b>200</b>	<b>36</b>	<b>166</b>	<b>0</b>	<b>0</b>	<b>1,655</b>	<b>13,591</b>
Alabama	1,210	21	16	150	0	0	0	0	0	91	1,006
Arkansas	21	0	1	10	0	0	0	0	0	2	10
California	0	0	0	0	0	0	0	0	0	0	0
Colorado	6,580	181	343	1,566	0	0	22	0	0	486	5,074
Florida	0	0	0	0	0	0	0	0	0	0	0
Kansas	228	53	21	85	0	0	0	0	0	34	183
Kentucky	0	0	0	0	0	0	0	0	0	0	0
<b>Louisiana</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
North Onshore	0	0	0	0	0	0	0	0	0	0	0
South Onshore	0	0	0	0	0	0	0	0	0	0	0
State Offshore	0	0	0	0	0	0	0	0	0	0	0
Michigan	0	0	0	0	0	0	0	0	0	0	0
Mississippi	0	0	0	0	0	0	0	0	0	0	0
Montana	25	17	0	28	0	0	0	0	0	3	11
<b>New Mexico</b>	<b>3,358</b>	<b>56</b>	<b>255</b>	<b>602</b>	<b>0</b>	<b>0</b>	<b>60</b>	<b>0</b>	<b>0</b>	<b>355</b>	<b>2,772</b>
East	507	0	0	117	0	0	0	0	0	28	362
West	2,851	56	255	485	0	0	60	0	0	327	2,410
New York	0	0	0	0	0	0	0	0	0	0	0
North Dakota	0	0	0	0	0	0	0	0	0	0	0
Ohio	0	0	0	0	0	0	0	0	0	0	0
Oklahoma	274	764	39	550	21	0	1	0	0	68	439
Pennsylvania	124	120	0	123	0	0	0	0	0	15	106
<b>Texas</b>	<b>0</b>	<b>92</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>81</b>
RRC District 1	0	0	0	0	0	0	0	0	0	0	0
RRC District 2											
Onshore	0	1	0	0	0	0	0	0	0	0	1
RRC District 3											
Onshore	0	81	0	0	0	0	0	0	0	10	71
RRC District 4											
Onshore	0	1	0	0	0	0	0	0	0	0	1
RRC District 5	0	0	0	0	0	0	0	0	0	0	0
RRC District 6	0	0	0	0	0	0	0	0	0	0	0
RRC District 7B	0	0	0	0	0	0	0	0	0	0	0
RRC District 7C	0	0	0	0	0	0	0	0	0	0	0
RRC District 8	0	0	0	0	0	0	0	0	0	0	0
RRC District 8A	0	0	0	0	0	0	0	0	0	0	0
RRC District 9	0	0	0	0	0	0	0	0	0	0	0
RRC District 10	0	9	0	0	0	0	0	0	0	1	8
State Offshore	0	0	0	0	0	0	0	0	0	0	0
Utah	679	7	21	134	0	0	0	0	0	55	518
Virginia	1,623	49	30	71	0	0	3	0	0	99	1,535
West Virginia	139	1	3	10	17	0	0	0	0	9	107
Wyoming	2,539	-32	242	541	162	36	80	0	0	426	1,736
Federal Offshore	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous <sup>a</sup>	17	-2	0	1	0	0	0	0	0	1	13
<b>U.S. Total</b>	<b>16,817</b>	<b>1,327</b>	<b>971</b>	<b>3,871</b>	<b>200</b>	<b>36</b>	<b>166</b>	<b>0</b>	<b>0</b>	<b>1,655</b>	<b>13,591</b>

<sup>a</sup> Includes Illinois and Indiana.

Notes: Natural gas is measured at 60 degrees Fahrenheit and atmospheric pressure base of 14.73 pounds per square inch absolute (psia).

Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves."

**Table 17. Expected natural gas plant liquids and dry natural gas from total wet natural gas proved reserves, 2012**

million barrels and billion cubic feet

State and Subdivision	Total Wet Natural Gas Proved Reserves	Expected Future Production	
	2012 billion cubic feet	Natural Gas Plant Liquids million barrels	Dry Natural Gas billion cubic feet
Alaska	9,667	288	9,579
<b>Lower 48 States</b>	<b>313,003</b>	<b>10,489</b>	<b>298,457</b>
Alabama	2,304	55	2,228
Arkansas	11,039	3	11,035
<b>California</b>	<b>2,119</b>	<b>99</b>	<b>1,999</b>
Coastal Region Onshore	305	18	290
Los Angeles Basin Onshore	98	4	93
San Joaquin Basin Onshore	1,650	77	1,550
State Offshore	66	0	66
Colorado	21,674	705	20,666
Florida	16	0	16
Kansas	3,557	174	3,308
Kentucky	1,515	81	1,408
<b>Louisiana</b>	<b>22,135</b>	<b>189</b>	<b>21,949</b>
North	18,467	35	18,418
South Onshore	3,149	134	3,029
State Offshore	519	20	502
Michigan	1,781	26	1,750
Mississippi	612	4	607
Montana	616	10	602
<b>New Mexico</b>	<b>14,553</b>	<b>662</b>	<b>13,586</b>
East	4,833	310	4,386
West	9,720	352	9,200
North Dakota	3,974	297	3,569
Oklahoma	28,714	1,442	26,599
Pennsylvania	36,543	144	36,348
<b>Texas</b>	<b>93,475</b>	<b>4,727</b>	<b>86,924</b>
RRC District 1	9,141	197	8,868
RRC District 2 Onshore	5,985	374	5,462
RRC District 3 Onshore	2,429	184	2,154
RRC District 4 Onshore	9,566	562	8,743
RRC District 5	17,640	214	17,331
RRC District 6	11,726	269	11,340
RRC District 7B	3,363	295	2,943
RRC District 7C	5,599	524	4,890
RRC District 8	8,963	802	7,738
RRC District 8A	1,280	242	1,214
RRC District 9	9,682	542	8,894
RRC District 10	8,007	522	7,253
State Offshore	94	0	94
Utah	7,775	181	7,548
West Virginia	14,881	199	14,611
Wyoming	31,636	1,064	30,094
<b>Federal Offshore<sup>a</sup></b>	<b>9,853</b>	<b>405</b>	<b>9,392</b>
Pacific (California)	652	1	651
Gulf of Mexico (Louisiana) <sup>a</sup>	7,704	369	7,291
Gulf of Mexico (Texas)	1,497	35	1,450
Miscellaneous <sup>b</sup>	4,231	12	4,218
<b>U.S. Total</b>	<b>322,670</b>	<b>10,777</b>	<b>308,036</b>

a Includes federal offshore Alabama.

b Includes Arizona, Illinois, Indiana, Maryland, Missouri, Nebraska, Nevada, New York, Ohio, Oregon, South Dakota, Tennessee, and Virginia

Notes: Expected future production is equivalent to a proved reserves estimate for a downstream product. 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 U.S. EIA production data for 2012 natural gas plant liquids contained in the Petroleum Supply Annual 2012, DOE/EIA-0340(11) and the Natural Gas Annual 2012, DOE/EIA-0131(12). One barrel = 42 U.S. gallons.

Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves."

**Table 18. Reported proved nonproducing reserves of crude oil, lease condensate, nonassociated gas, associated dissolved gas, and total gas (wet after lease separation), 2012**

State and Subdivision	Crude Oil (Million bbls)	Lease Condensate (Million bbls)	Nonassociated Gas (Bcf)	Associated Dissolved Gas (Bcf)	Total Gas (Bcf)
Alaska	802	0	289	954	1,243
<b>Lower 48 States</b>	<b>11,082</b>	<b>1,429</b>	<b>90,512</b>	<b>18,596</b>	<b>109,108</b>
Alabama	2	0	38	2	40
Arkansas	11	0	3,450	70	3,520
<b>California</b>	<b>627</b>	<b>1</b>	<b>37</b>	<b>323</b>	<b>360</b>
Coastal Region Onshore	293	0	0	242	242
Los Angeles Basin Onshore	55	0	0	16	16
San Joaquin Basin Onshore	226	0	36	45	81
State Offshore	53	1	1	20	21
Colorado	283	79	4,694	1,692	6,386
Florida	3	0	0	0	0
Kansas	6	0	218	59	277
Kentucky	0	0	6	0	6
<b>Louisiana</b>	<b>157</b>	<b>40</b>	<b>9,755</b>	<b>240</b>	<b>9,995</b>
North	13	15	8,284	12	8,296
South Onshore	125	22	1,409	192	1,601
State Offshore	19	3	62	36	98
Michigan	0	5	95	0	95
Mississippi	82	0	127	0	127
Montana	95	1	48	76	124
<b>New Mexico</b>	<b>232</b>	<b>33</b>	<b>2,005</b>	<b>650</b>	<b>2,655</b>
East	232	29	660	646	1,306
West	0	4	1,345	4	1,349
New York	0	0	6	0	6
North Dakota	2,207	6	9	2,351	2,360
Ohio	2	6	246	6	252
Oklahoma	279	148	10,145	1,683	11,828
Pennsylvania	0	17	17,236	0	17,236
<b>Texas</b>	<b>4,293</b>	<b>896</b>	<b>26,632</b>	<b>8,546</b>	<b>35,178</b>
RRC District 1	1,266	257	4,532	1,992	6,524
RRC District 2 Onshore	711	369	2,307	1,400	3,707
RRC District 3 Onshore	118	25	556	115	671
RRC District 4 Onshore	1	90	4,741	14	4,755
RRC District 5	29	0	3,237	18	3,255
RRC District 6	32	39	4,643	206	4,849
RRC District 7B	19	0	840	17	857
RRC District 7C	438	14	387	1,457	1,844
RRC District 8	1,144	29	335	2,291	2,626
RRC District 8A	433	6	1	335	336
RRC District 9	32	8	2,452	372	2,824
RRC District 10	70	59	2,579	327	2,906
State Offshore	0	0	22	2	24
Utah	368	57	2,955	618	3,573
Virginia	0	0	697	0	697
West Virginia	1	23	2,529	3	2,532
Wyoming	233	68	7,745	216	7,961
<b>Federal Offshore<sup>b</sup></b>	<b>2,189</b>	<b>49</b>	<b>1,750</b>	<b>2,058</b>	<b>3,808</b>
Pacific (California)	25	2	0	46	46
Gulf of Mexico (Louisiana) <sup>b</sup>	2,130	39	1,515	1,951	3,466
Gulf of Mexico (Texas)	34	8	235	61	296
Miscellaneous <sup>c</sup>	12	0	89	3	92
<b>U.S. Total</b>	<b>11,884</b>	<b>1,429</b>	<b>90,801</b>	<b>19,550</b>	<b>110,351</b>

<sup>b</sup> Includes federal offshore Alabama.

<sup>c</sup> Includes Arizona, Illinois, Indiana, Maryland, Missouri, Nebraska, Nevada, Oregon, South Dakota, and Tennessee.

Notes: One barrel = 42 U.S. gallons. Natural gas is measured at 60 degrees Fahrenheit and atmospheric pressure base of 14.73 pounds per square inch absolute (psia).

Source: U.S. Energy Information Administration, Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves."