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U.S. Energy Information  
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# U.S. Crude Oil and Natural Gas Proved Reserves, 2013

December 2014



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## U.S. Crude Oil and Natural Gas Proved Reserves, 2013

[Proved reserves](#) are estimated volumes of hydrocarbon resources that analysis of geologic and engineering data demonstrates with reasonable certainty<sup>1</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.

### Highlights

- U.S. proved reserves of crude oil and lease condensate increased for the fifth year in a row in 2013, and exceeded 36 billion barrels for the first time since 1975.
- A sharp increase in proved natural gas reserves in 2013 more than offset the significant decline experienced in 2012, and set a new record<sup>2</sup> (354 trillion cubic feet) for U.S. natural gas proved reserves.
- An increase in natural gas prices used to characterize existing economic conditions contributed to the reported 2013 increase in proved natural gas reserves. For example, the 12-month, first-of-the-month average spot natural gas price at the Henry Hub increased from \$2.75 per million Btu (MMBtu) in 2012 to \$3.66 per MMBtu in 2013. Proved natural gas reserves had declined between 2011 and 2012 as the gas price declined (e.g., the 12-month, first-of-the-month average spot natural gas price at the Henry Hub decreased from \$4.15 per MMBtu in 2011 to \$2.75 per MMBtu in 2012).
- North Dakota's crude oil and lease condensate proved reserves surpassed those of the Federal Gulf of Mexico, ranking it second only to Texas among U.S. states.
- The Bakken/Three Forks play (covering portions of North Dakota, Montana, and South Dakota) regained its position as the largest tight oil play in the United States.
- Pennsylvania and West Virginia account for 70% of the increase in natural gas proved reserves.

### National summary

In 2013, U.S. crude oil and lease condensate proved reserves increased to 36.5 billion barrels—an increase of 3.1 billion barrels (9.3%) from 2012 (Table 1). U.S. proved reserves of crude oil and lease condensate have now risen for five consecutive years (Figure 1), and exceeded 36 billion barrels for the first time since 1975.

**Table 1. U.S. proved reserves, and reserves changes, 2012-13**

	Crude Oil and Lease Condensate	Total Natural Gas
	billion barrels	trillion cubic feet
<b>U.S. proved reserves at December 31, 2012</b>	<b>33.4</b>	<b>322.7</b>
Total discoveries	5.5	53.0
Net revisions	0.5	2.8
Net adjustments, sales, acquisitions	-0.2	2.0
Production	-2.7	-26.5
<b>Net additions to U.S. proved reserves</b>	<b>3.1</b>	<b>31.3</b>
<b>U.S. proved reserves at December 31, 2013</b>	<b>36.5</b>	<b>354.0</b>
<b>Percent change in U.S. proved reserves</b>	<b>9.3%</b>	<b>9.7%</b>

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

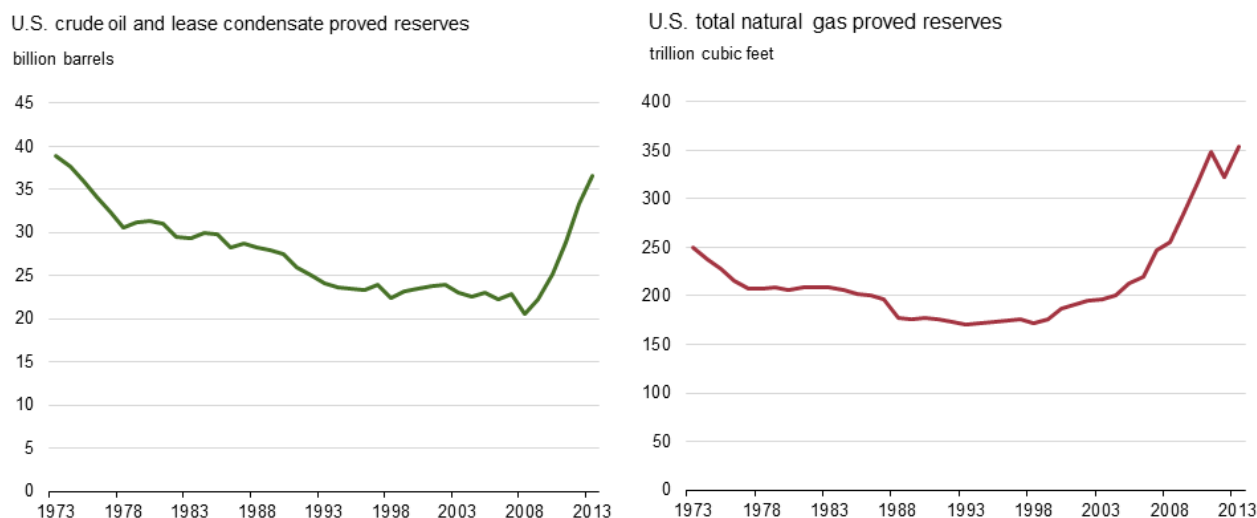
Source: U.S. Energy Information Administration, Form EIA-23L, Annual Survey of Domestic Oil and Gas Reserves.

<sup>1</sup> Reasonable certainty assumes a probability of recovery of 90% or greater.

<sup>2</sup> The previous U.S. record high levels for total natural gas proved reserves, wet after lease separation were: 349 Tcf in 2011, 318 Tcf in 2010, and 303 Tcf in 1967. The 1967 estimate is based on an American Petroleum Institute (API) published U.S. natural gas reserve estimate of 293 Tcf that excludes natural gas plant liquids. (Sources: EIA, American Petroleum Institute (API). Prior to EIA's creation in 1977, starting in 1925, U.S. crude oil and natural gas annual proved reserves were estimated by API.)

Proved reserves of U.S. total natural gas<sup>3</sup> increased 31 trillion cubic feet (Tcf) to 354 Tcf in 2013 (Table 1). This 10% increase offsets the 26 Tcf decline in 2012 and boosts the national total of proved natural gas reserves to a record high level.

**Figure 1. U.S. oil and natural gas proved reserves, 1973-2013**

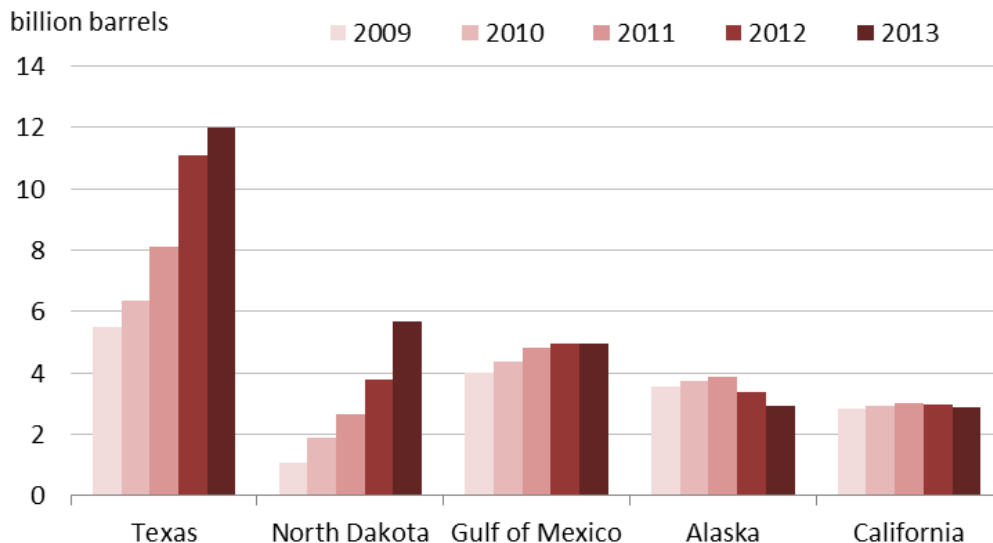


Sources: U.S. Energy Information Administration, Form EIA-23L, Annual Survey of Domestic Oil and Gas Reserves, 1977-2013, American Petroleum Institute, 1973-76.

Proved reserves of crude oil and lease condensate increased in Texas and North Dakota, two of the top five largest crude oil and lease condensate states in 2013 (Figure 2). In 2013, North Dakota had the largest increase in proved reserves, about 1.9 billion barrels (61% of the nation's total net increase in 2013). This increase was driven by continued development in the Williston Basin, site of the Bakken and Three Forks. In 2013, North Dakota's proved reserves of crude oil and lease condensate exceeded those of the federal offshore Gulf of Mexico, making it the second largest oil reserves state in the United States. Texas had the second largest increase, about 0.9 billion barrels, which came mostly from the Eagle Ford shale play and other tight formations in the Permian Basin. Collectively, North Dakota and Texas accounted for 90% of the overall net increase in U.S. proved oil reserves in 2013.

<sup>3</sup> Total natural gas (also known as natural gas, wet after lease separation) includes natural gas liquids that have yet to be extracted downstream at a processing plant, but does not include lease condensate.

**Figure 2. Proved reserves of the top five U.S. oil reserves states, 2009-13**

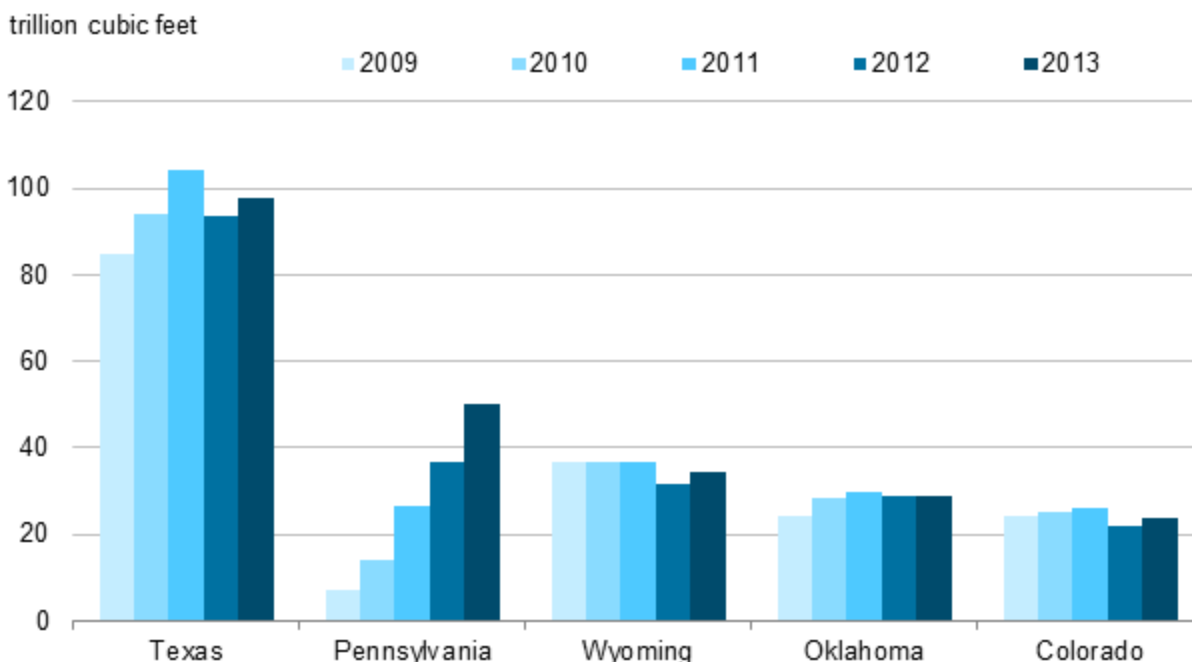


Note: Oil reserves include crude oil and lease condensate.

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Survey of Domestic Oil and Gas Reserves, 2009-13.

Proved natural gas reserves increased in each of the top five U.S. gas reserves states (Texas, Pennsylvania, Wyoming, Oklahoma, and Colorado) in 2013 (Figure 3). Pennsylvania had the largest increase (13.5 Tcf), the result of extensions to fields in the Marcellus shale play. The reserves additions in Texas and Oklahoma also were mostly from extensions in shale natural gas plays, but, in Wyoming and Colorado, positive net revisions to large conventional gas fields (associated with increased prices) added more gas reserves than extensions.

**Figure 3. Proved reserves of the top five U.S. gas reserves states, 2009-13**



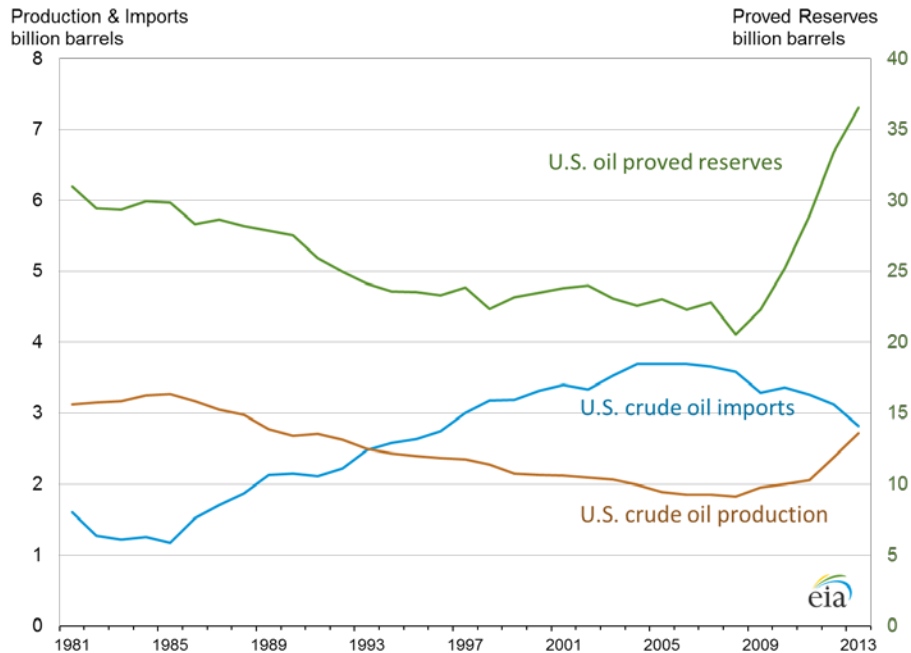
Note: Total natural gas includes natural gas plant liquids that have yet to be extracted downstream, and does not include lease condensate.

Source: U.S. Energy Information Administration, Form EIA-23L, Annual Survey of Domestic Oil and Gas Reserves, 2009-13.

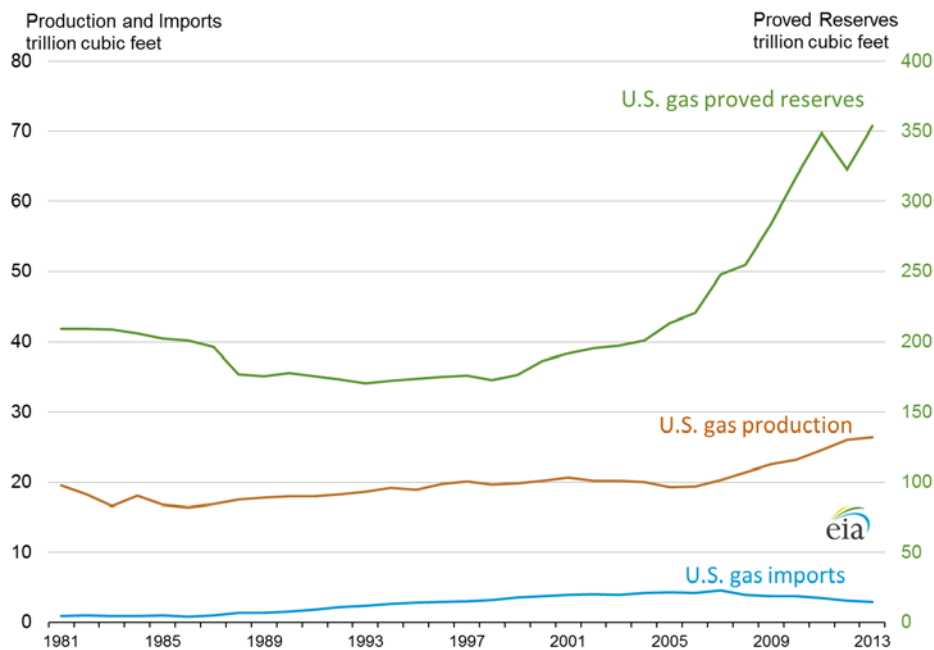


While U.S. oil reserves and production increased in 2013, imports of crude oil declined by nearly 10% (Figure 4). Similarly, U.S. natural gas proved reserves and production increased in 2013, and natural gas imports declined by 8% (Figure 5).

**Figure 4. U.S. crude oil and lease condensate proved reserves, production, and imports, 1981-2013**



**Figure 5. U.S. total natural gas proved reserves, production, and imports, 1981-2013**



Sources for Figures 4 and 5: U.S. Energy Information Administration, Form EIA-23L, Annual Survey of Domestic Oil and Gas Reserves; Form EIA-814, Monthly Imports Report; and U.S. Department of Energy, Office of Fossil Energy, Natural Gas Imports and Exports.

## Background

This report provides estimates of U.S. proved reserves of crude oil and lease condensate, and natural gas for calendar year 2013. Starting with the data filed on Form EIA-23L, Annual Survey of Domestic Oil and Gas Reserves, submitted by 480 sampled operators of U.S. oil and natural gas fields, EIA estimated the U.S. total proved reserves and the subtotal for individual states and state subdivisions. Results are summarized and tabulated in this report.

[Proved reserves](#) are estimated volumes of hydrocarbon resources that analysis of geologic and engineering data demonstrates with reasonable certainty 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.

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 West Texas Intermediate (WTI) crude oil spot price for 2013 was \$97.28 per barrel, a 2% increase over 2012 (Figure 6).

The 12-month, first-day-of-the-month average natural gas spot price at the Louisiana Henry Hub for 2013 was \$3.66 per MMBtu, representing a 33% increase over the previous year (Figure 7). Despite the increase, the 2013 average price remains below the average prices observed in the previous years, 2008-11. Natural gas reserves with a low yield of natural gas liquids (prices for which are linked more closely to crude oil), those located in more remote locations lacking necessary infrastructure, or within deeper reservoirs, were at an economic disadvantage in 2013 when compared with those with higher liquids content or lower cost (e.g., shallower) wells.

Figure 6. WTI crude oil spot prices, 2008-14

dollars per barrel

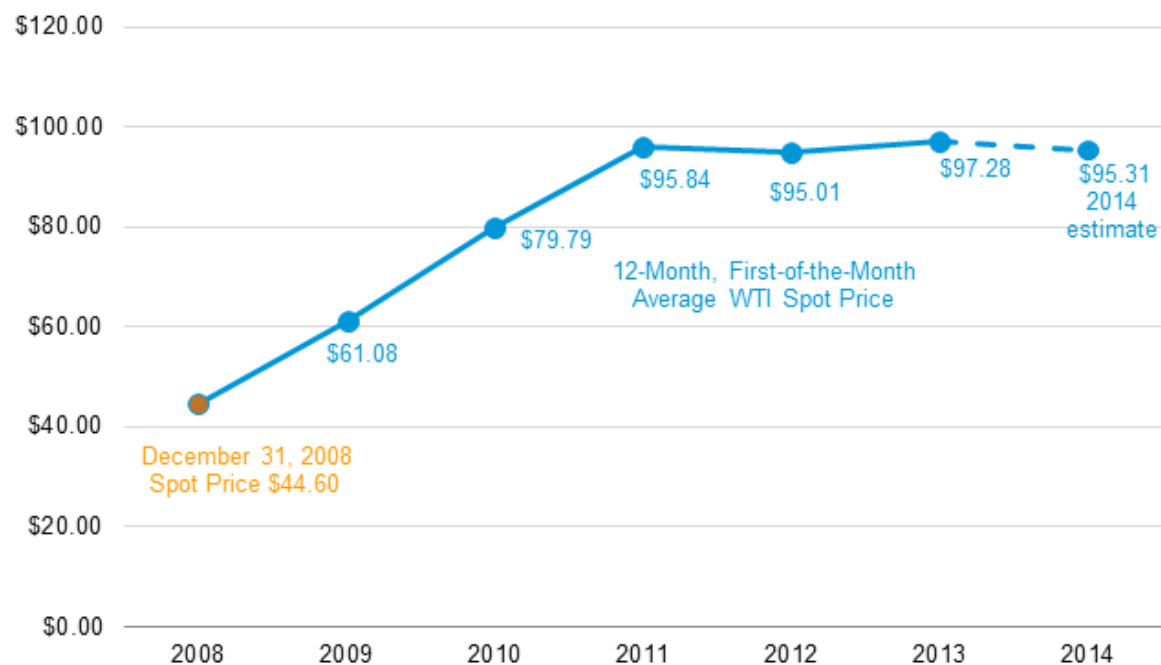
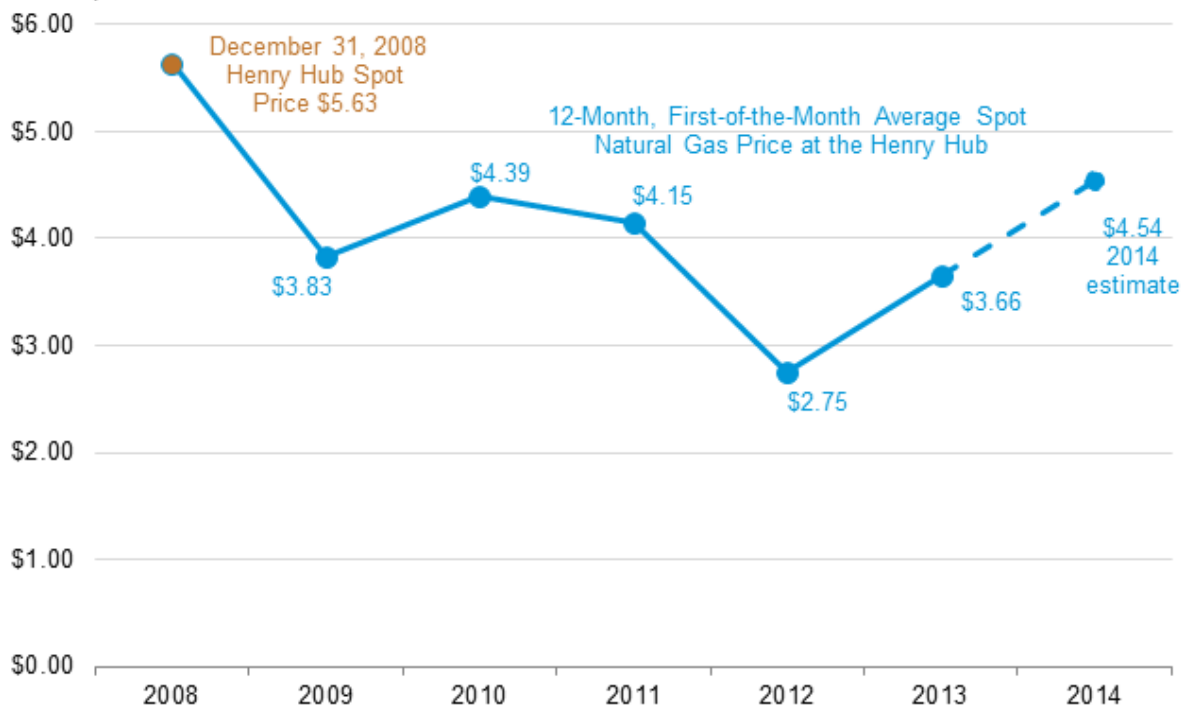


Figure 7. Henry Hub natural gas spot prices, 2008-14

dollars per MMBtu



**Price Outlook for 2014.** The first-day-of-the-month, average spot price of WTI crude oil from January to October 2014 averaged \$98.69 per barrel, an increase of 1 percent over the 2013 12-month average. However, in November 2014, the WTI crude oil spot price declined below \$80 per barrel and EIA forecasts an average

December 2014 WTI crude oil spot price of \$78 per barrel. This lowers the estimated 12-month, first-day-of-the-month average spot price for WTI in 2014 to \$95.31 (a 2% decline compared to 2013). EIA anticipates a commensurately modest decrease from net revisions to crude oil proved reserves in 2014. The average natural gas spot price through November 2014, on the other hand, has increased 25% to \$4.58 per MMBtu at the Henry Hub in Louisiana. EIA forecasts an average December 2014 Henry Hub spot price of \$4.10 per MMBtu, and this modifies the 2014 estimate slightly to \$4.54 per MMBtu. This is a 24% increase in annual average spot price and exceeds the average price in the previous five years. EIA therefore anticipates a more robust increase from net revisions to natural gas proved reserves in 2014.

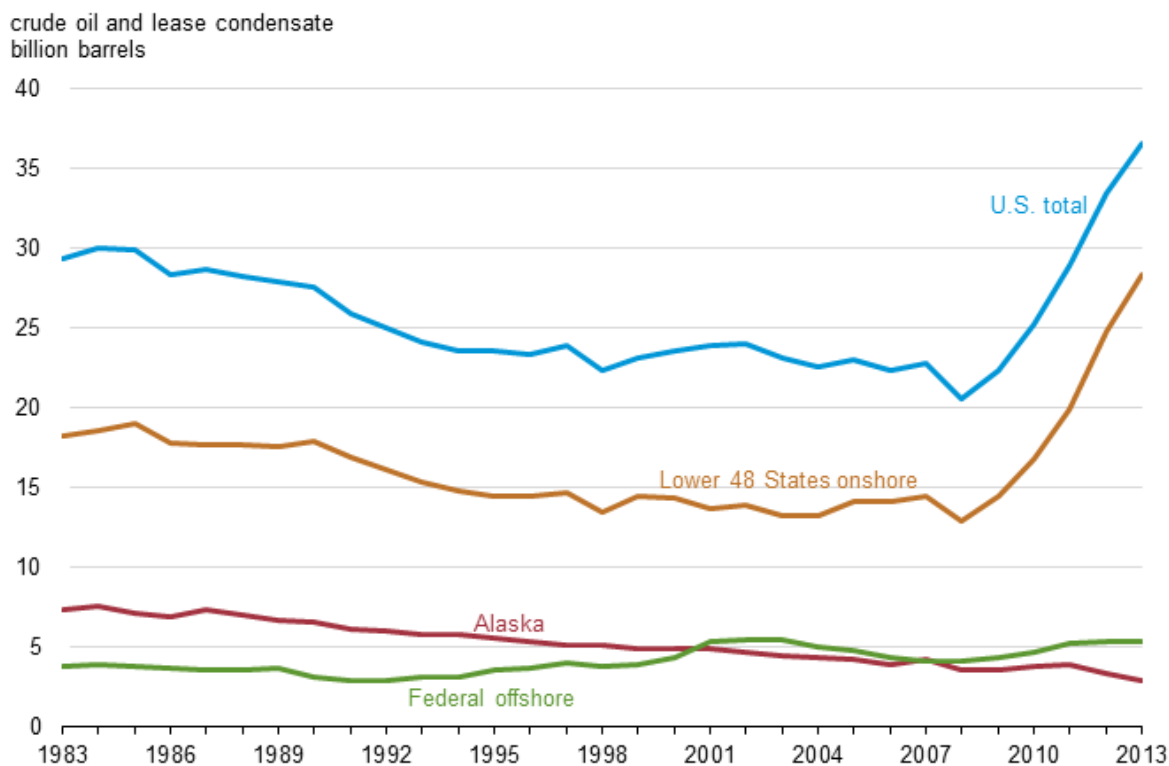
The aggregated production data for crude oil and lease condensate and for natural gas include volumes that have been reported to EIA by operators on Form EIA-23L, as well as volumes that are based on EIA estimates. The production numbers in the tables and figures of this report are offered only as an indicator of production trends and may differ slightly 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

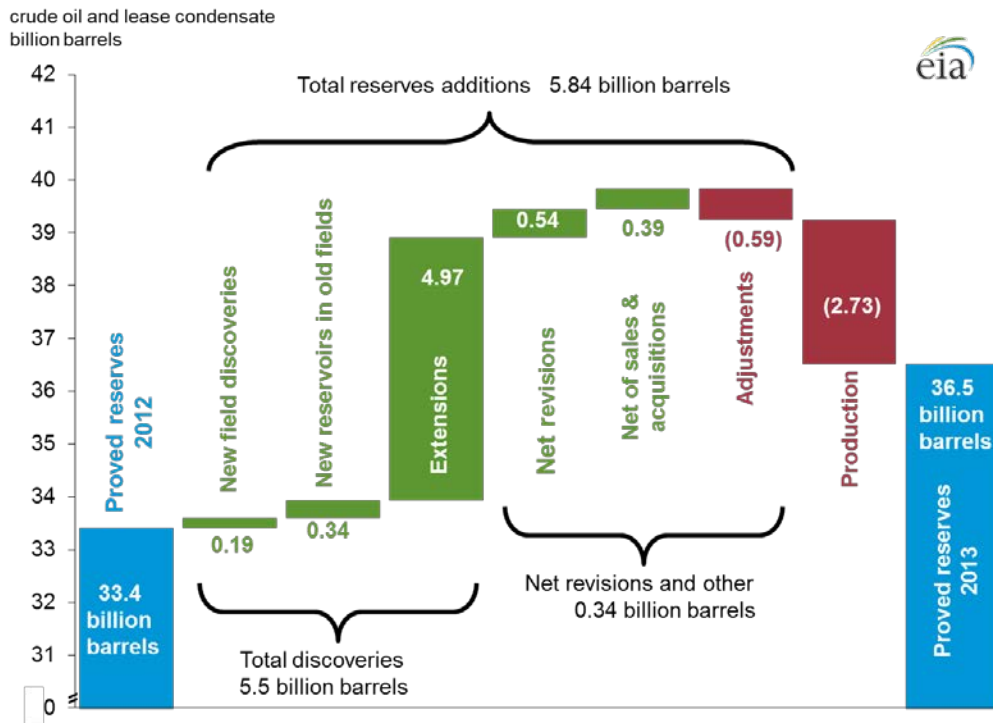
U.S. crude oil and lease condensate proved reserves increased for the fifth consecutive year in 2013 (Figure 8).

**Figure 8. U.S. crude oil and lease condensate proved reserves, 1983-2013**



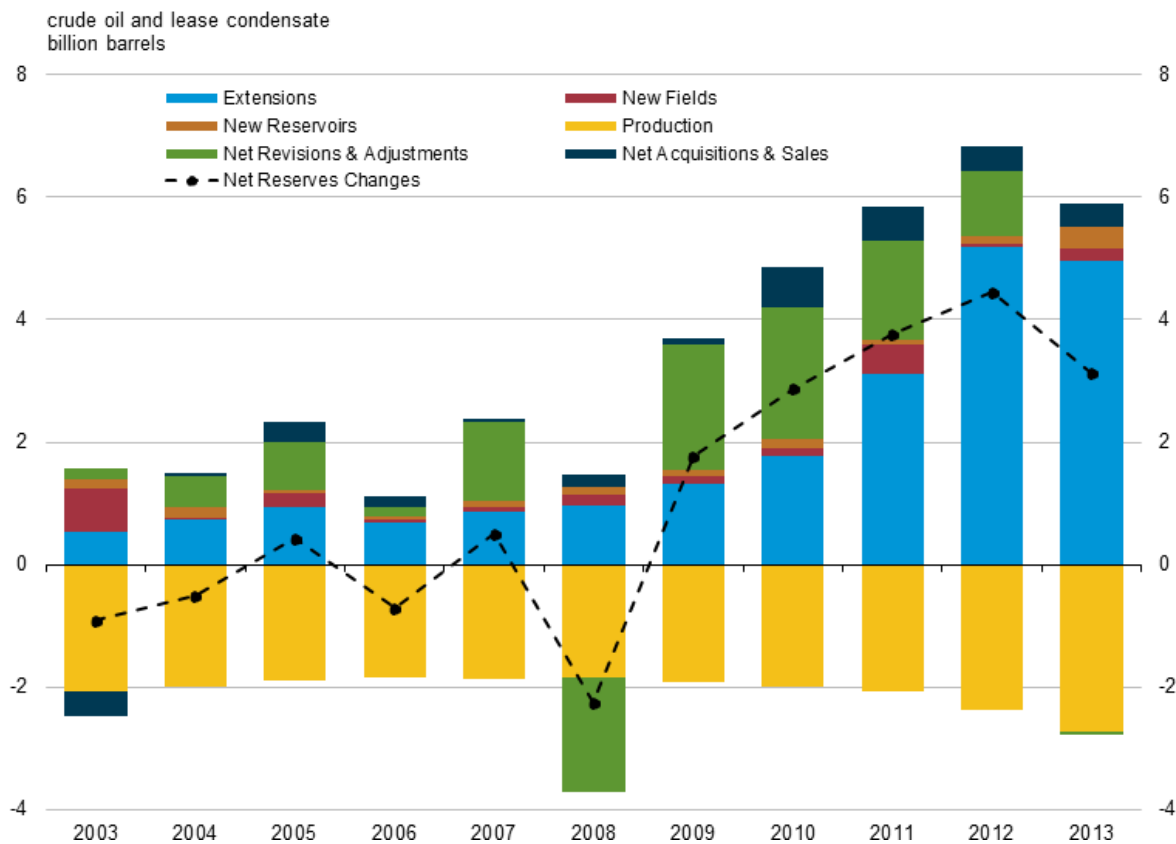
U.S. crude oil and lease condensate proved reserves rose by 3.1 billion barrels in 2013, attributable primarily to nearly 5 billion barrels of extensions to existing fields and, to a much lesser degree, net revisions (Figure 9a). For the past three years, the majority of oil reserves have been added by extensions to existing fields (Figure 9b).

Figure 9a. U.S. crude oil and lease condensate proved reserves changes, 2012-13



Note: Component columns may not add to total because of independent rounding. Y-axis has a non-standard scale.  
 Source: U.S. Energy Information Administration, Form EIA-23L, Annual Survey of Domestic Oil and Gas Reserves.

Figure 9b. Components of U.S. crude oil and lease condensate reserves changes, 2003-2013



North Dakota led all states in additions of proved oil reserves (1.9 billion barrels) because of ongoing development of the Bakken/Three Forks tight oil play in the Williston Basin. More than three-quarters of North Dakota reserves additions were from extensions in 2013.

Texas had the second-largest increase in crude oil and lease condensate proved reserves in 2013, adding 0.9 billion barrels. Extensions to fields in the liquids-rich section of the Eagle Ford shale play in south-central Texas (Railroad Commission Districts 1 and 2) and to oil fields in the Permian Basin (Districts 7C and 8) provided the largest portion of new Texas proved oil reserves.

As of December 31, 2013, tight oil<sup>4</sup> plays accounted for 28% of all U.S. crude oil and lease condensate proved reserves. More than 95% of U.S. tight oil proved reserves in 2013 came from six tight oil plays (Table 2). The Bakken/Three Forks play in the Williston Basin regained its rank as the largest tight oil play in the United States (it was surpassed by the Eagle Ford play in 2012). EIA has a [series of maps and animations](#) showing the nation's shale and other tight oil (and natural gas) resources.

**Table 2. U.S. tight oil plays: production and proved reserves, 2012-13**

million barrels

Basin	Play	State(s)	2012	2012	2013	2013	Change
			Production	Reserves	Production	Reserves	2012-13 Reserves
Williston	Bakken/Three Forks	ND, MT, SD	214	3,166	270	4,844	1,678
Western Gulf	Eagle Ford	TX	209	3,372	351	4,177	805
Permian	Bone Spring, Wolfcamp	NM, TX	12	236	21	335	99
Appalachian	Marcellus	PA, WV	4	72	11	129	57
Fort Worth	Barnett	TX	10	64	9	58	-6
Denver-Julesberg	Niobrara	CO, KS, NE, WY	3	14	2	17	3
<b>Sub-total</b>			<b>452</b>	<b>6,924</b>	<b>664</b>	<b>9,560</b>	<b>2,636</b>
Other tight oil			28	414	37	483	69
<b>U.S. tight oil</b>			<b>480</b>	<b>7,338</b>	<b>701</b>	<b>10,043</b>	<b>2,705</b>

Note: Includes lease condensate. Bakken/Three Forks tight oil includes fields reported as shale or low permeability on Form EIA-23L; "Other tight oil" includes fields reported as shale on Form EIA-23L not assigned by EIA to the Bakken/Three Forks, Barnett, Bone Spring, Eagle Ford, Marcellus, Niobrara, or Wolfcamp tight oil plays.  
Source: U.S. Energy Information Administration, Form EIA-23L, Annual Survey of Domestic Oil and Gas Reserves, 2012 and 2013.

**Total discoveries.** Total discoveries added 5.5 billion barrels to U.S. crude oil and lease condensate reserves in 2013. 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).

Geographically, the largest total discoveries were from Texas, North Dakota, and the federal waters of the Gulf of Mexico. Texas had total discoveries of 2.0 billion barrels, while North Dakota had discoveries of 1.6 billion barrels. Total discoveries in the Federal Gulf of Mexico were almost 500 million barrels, 181 million barrels of which came from new field discoveries. In 2013, 95% of the nation's reserves additions from new field discoveries were from the Federal Gulf of Mexico.

<sup>4</sup> *Tight oil* is oil produced from petroleum-bearing formations with low permeability such as the Eagle Ford, the Bakken, and other formations that must be hydraulically fractured to produce oil at commercial rates. A kerogen-bearing, thermally-mature shale is the source rock, and typically lends its name to the play.

**Net revisions and other changes.** Revisions to reserves occur primarily when operators change their estimates of what they will be able to economically produce from the properties they operate using existing technology and prices. Other 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 545 million barrels to U.S. crude oil and lease condensate proved reserves in 2013. North Dakota had the largest positive net revision of 2013—339 million barrels of crude oil and lease condensate proved reserves—as operators developed existing Bakken formation fields through infill drilling. The largest negative net revision was in Alaska, a decline of 305 million barrels. Alaskan operators cited reductions in well performance as the reason for the net downward revision.

The net change to U.S. crude oil and lease condensate proved reserves associated with buying and selling properties was 389 million barrels in 2013. Adjustments (reserves changes that EIA cannot attribute to any other category) reduced U.S. proved oil reserves by 595 million barrels. The largest was a downward adjustment of 265 million barrels in the federal waters off Louisiana (a correction from 2012).

**Production.** The United States produced an estimated 2.7 billion barrels<sup>5</sup> of crude oil and lease condensate in 2013, an increase of about 14% from 2012. This represents the country's fifth consecutive annual production increase. Production from the Lower 48 states rose 16% over the previous year. Alaska experienced a 3% production decline.

## Natural gas proved reserves

### Overview

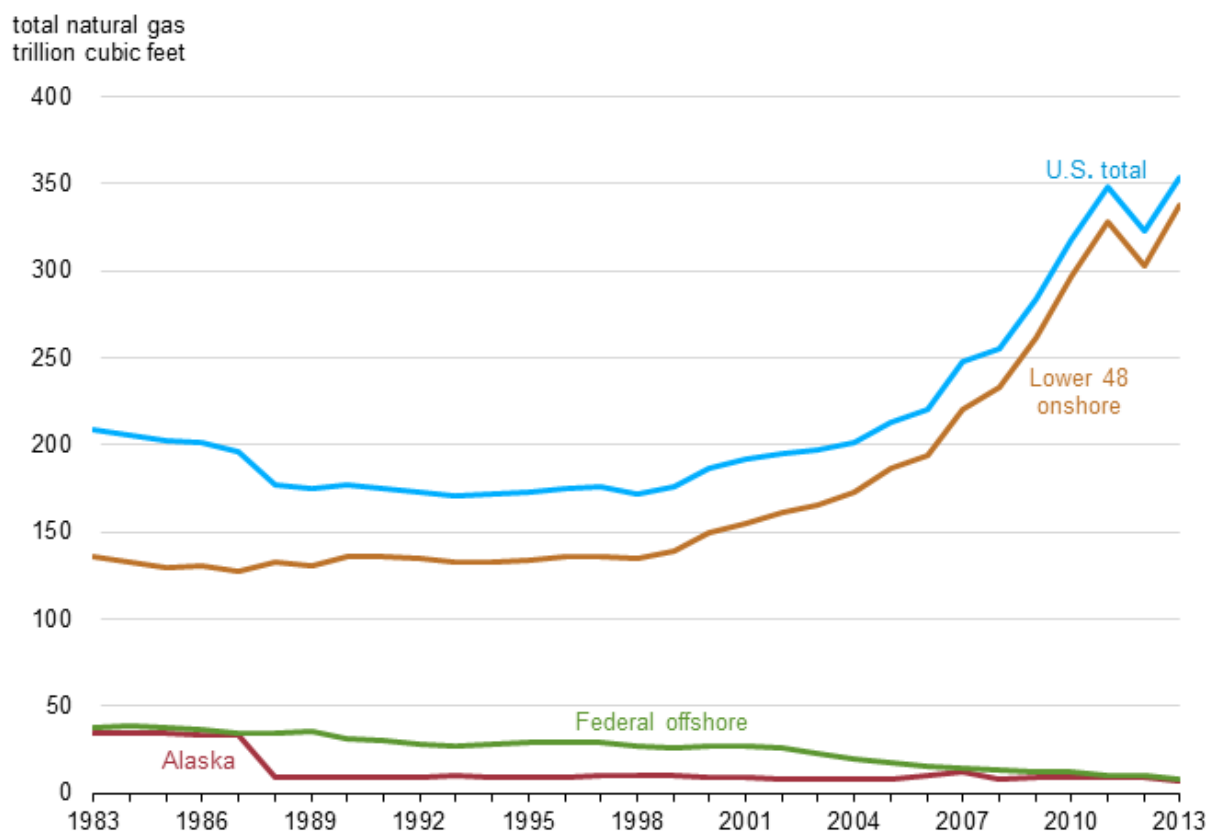
U.S. proved reserves of total natural gas (including natural gas plant liquids) increased by 10% (31.3 Tcf) in 2013 and reached a record high for the United States of 354 Tcf (Figure 10). The reserves were added onshore in the Lower 48 States from ongoing exploration and development activity in several of the [nation's shale formations](#), including the Barnett, Haynesville, Marcellus, Fayetteville, Woodford, and Eagle Ford plays. Natural gas proved reserves in Alaska and the federal waters of the Gulf of Mexico both declined in 2013.

At the state level, operators in Pennsylvania and West Virginia reported the largest net increases in natural gas proved reserves in 2013 (13.5 and 8.3 Tcf, respectively), driven by continued development of the Marcellus shale gas play. Texas added the third highest volume of natural gas proved reserves (4.4 Tcf), followed by Wyoming (2.9 Tcf); Arkansas and North Dakota each added over 2 Tcf.

**Total discoveries.** The U.S. total of natural gas discoveries was 53.0 Tcf in 2013 (Table 3), of which 96% were extensions to existing natural gas fields (Figures 11a and 11b). New field discoveries and new reservoir discoveries in previously discovered fields were 0.3 Tcf and 1.7 Tcf, respectively. Total discoveries of natural gas reserves were highest in Pennsylvania, at 15.8 Tcf. West Virginia had the second-largest total discoveries, at 10.1 Tcf. Texas was third with approximately 9.7 Tcf of gas discoveries, and fourth-place Oklahoma had 4 Tcf of discoveries. Total discoveries in each of these states were driven principally by shale gas developments.

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<sup>5</sup> The oil production estimates in this report are based on data reported on Form EIA-23L, Annual Survey of Domestic Oil and Gas Reserves. They may differ slightly from the official U.S. EIA production data for crude oil and lease condensate for 2013 contained in the *Petroleum Supply Annual 2013*, DOE/EIA-0340(13).

**Figure 10. U.S. total natural gas proved reserves, 1983-2013****Table 3. Changes to proved reserves of U.S. natural gas by source, 2012-13**

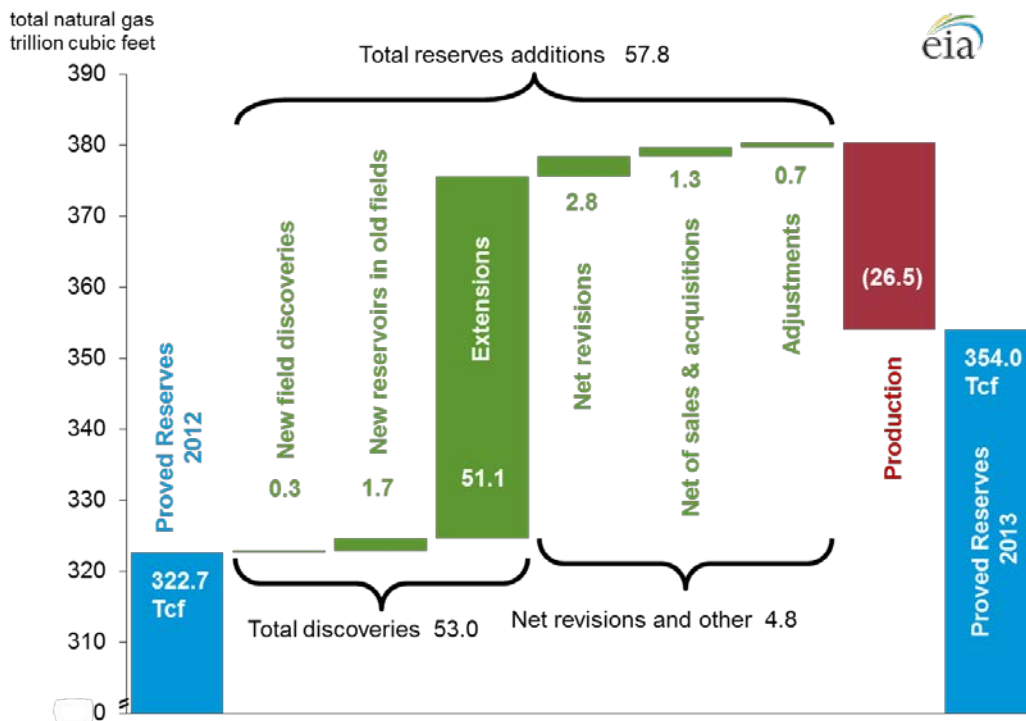
trillion cubic feet

Source of Gas	Year-End 2012		2013		Year-End 2013
	Proved Reserves	2013 Discoveries	Revisions & Other Changes	2013 Production	Proved Reserves
Coalbed Methane	13.6	0.3	0.0	-1.5	12.4
Shale	129.4	37.2	3.9	-11.4	159.1
Conventional & Other Tight					
Lower 48 Onshore	159.5	15.0	3.5	-12.0	166.0
Lower 48 Offshore	10.5	0.5	-0.5	-1.3	9.1
Alaska	9.7	0.1	-2.1	-0.3	7.4
<b>U.S. TOTAL</b>	<b>322.7</b>	<b>53.0</b>	<b>4.8</b>	<b>-26.5</b>	<b>354.0</b>

Note: Lower 48 Offshore includes state offshore and Federal offshore. Components 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, 2012 and 2013.

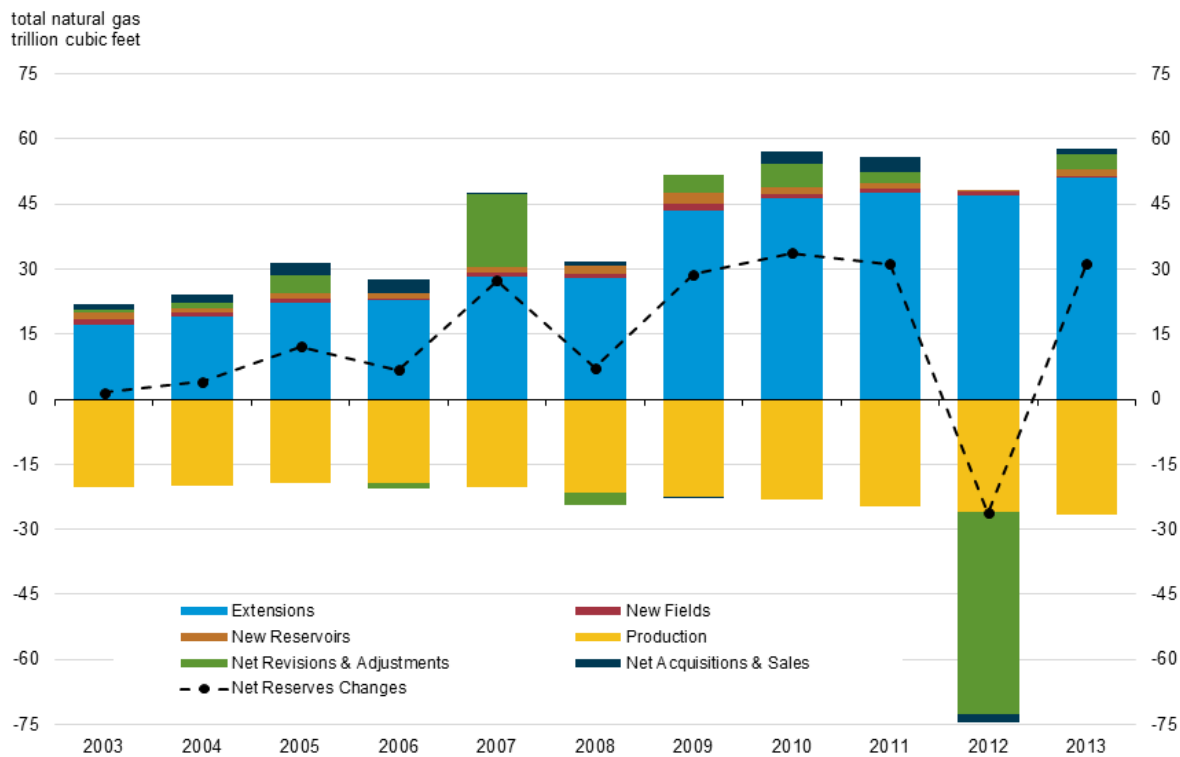


Figure 11a. U.S. total natural gas proved reserves changes, 2012-13



Note: Component columns may not add to total due to independent rounding. Y-axis has a non-standard scale.  
 Source: U.S. Energy Information Administration, Form EIA-23L, Annual Survey of Domestic Oil and Gas Reserves.

Figure 11b. Components of U.S. natural gas proved reserves changes, 2003-13



**Net revisions and other changes.** Net revisions added 2.8 Tcf to U.S. total natural gas proved reserves, wet after lease separation, in 2013. The 2013 average first-day-of-the-month spot prices of natural gas increased 33% to \$3.66 per MMBtu. Certain states with large natural gas reserves that had large downward net revisions in reserves in 2012 because of historically low natural gas prices (which dipped below \$2 per MMBtu in April 2012), had a portion of those reserves restored by positive net revisions in 2013:

- Wyoming had the largest positive net revision of natural gas proved reserves. Wyoming added 2.1 Tcf in 2013—compared with a downward net revision of 5.2 Tcf in 2012.
- Colorado added net revisions of 1.9 Tcf after a 2.6 Tcf downward net revision in 2012.
- Texas added 0.8 Tcf in net revisions after a 17.0 Tcf downward revision in 2012. The largest of the Texas net positive revisions were in Railroad Commission District 5, the core area of the Barnett shale play.

The increases in 2013 from net revisions to natural gas proved reserves did not completely offset the large declines of 2012, suggesting that operators are cautious about committing to drill natural gas prospects, or are diverting their attention to oil or liquids-rich prospects.

The largest negative net revision was in Alaska, -2.3 Tcf. This negative revision was due largely to the decline in associated-dissolved natural gas proved reserves, the result of deteriorating well performance in certain crude oil fields.

The net change to natural gas proved reserves from the purchase and sale of properties resulted in an additional gain of 1.3 Tcf in 2013. Adjustments (reserves changes that EIA cannot attribute to any other category) to U.S. total natural gas proved reserves totaled 0.7 Tcf.

**Production.** U.S. production of total natural gas in 2013 (estimated from data filed on Form EIA-23L) was 26.5 Tcf, an increase of 1.4% from 2012<sup>6</sup>. Official EIA marketed natural gas production was 25.6 Tcf in 2013, an increase of 1.2% from 2012. This sets a new record for U.S. annual natural gas production, and is the eighth consecutive year that gas production rose. In Pennsylvania, 1.1 Tcf of additional production boosted that state's output by 47%, the nation's largest increase. The state with the largest estimated decline in natural gas production in 2013 was Louisiana (-0.7 Tcf, a drop of 23%).

### *Shale natural gas*

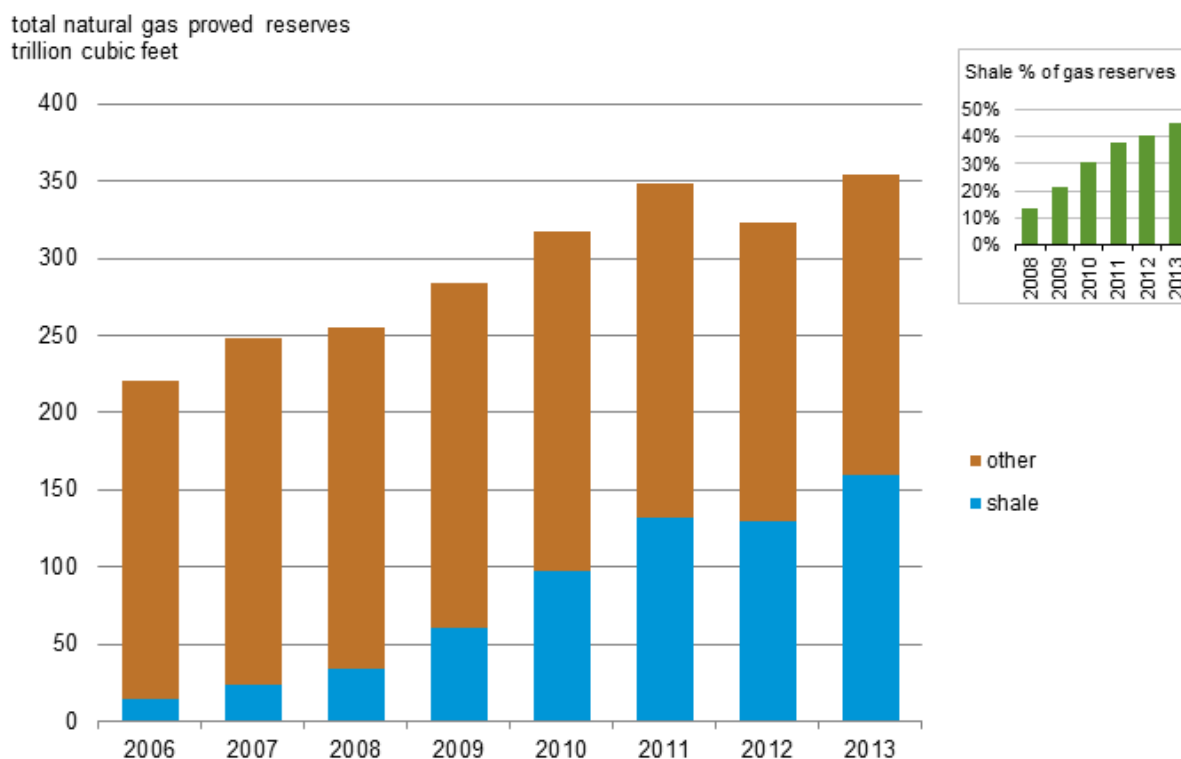
Shale natural gas is a type of unconventional natural gas where a shale formation is both the source rock and the producing reservoir. Proved reserves of U.S. shale natural gas increased by 29.7 Tcf in 2013, a 23% increase over 2012.

The share of shale gas relative to total U.S. natural gas proved reserves increased from 40% in 2012 to 45% in 2013 (Figure 12). Estimated production of shale natural gas increased nearly 10%—from 10.4 Tcf in 2012 to 11.4 Tcf in 2013.

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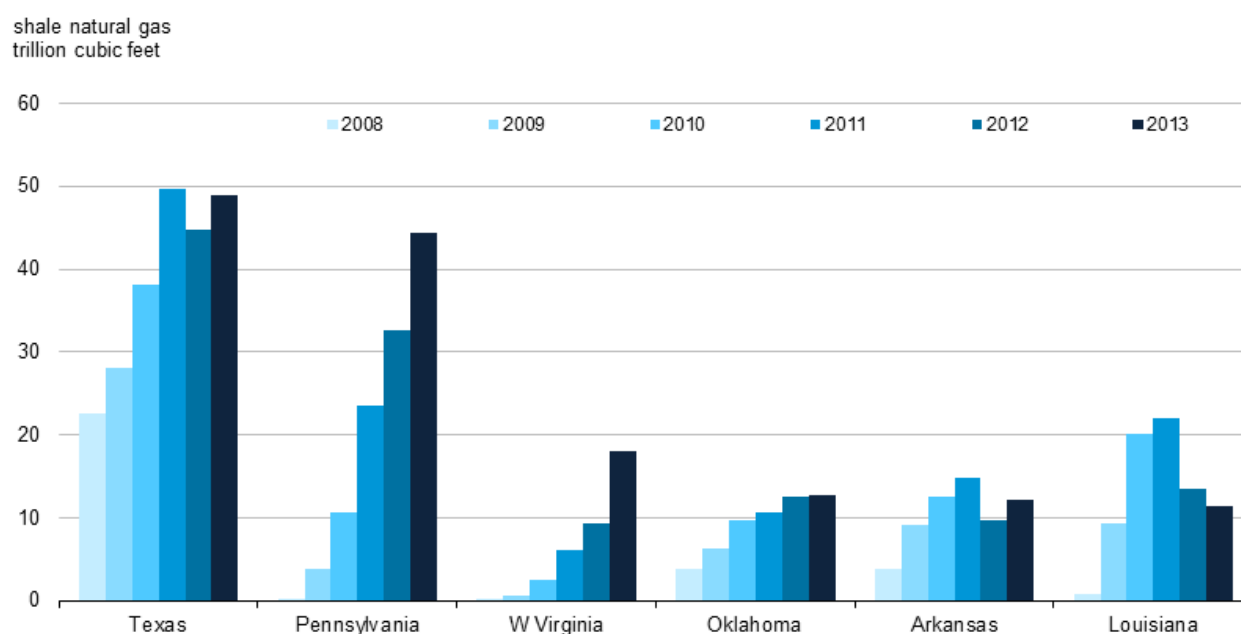
<sup>6</sup> The natural gas production estimates in this report are based on data reported on Form EIA-23L, Annual Survey of Domestic Oil and Gas Reserves. Estimates differ from the official U.S. EIA production data for natural gas published in the *Natural Gas Annual 2013*, DOE/EIA-0131(13).

**Figure 12. U.S. total natural gas proved reserves (shale and other sources), 2006-13**



Texas had the most shale gas proved reserves at year-end 2013, having the Barnett, the Eagle Ford, and a portion of the Haynesville/Bossier shale gas play within its borders. Pennsylvania, which had the second-largest volume of shale gas proved reserves, experienced greater growth of its shale gas proved reserves than Texas (Figure 13). West Virginia surpassed Oklahoma to become the third-largest shale gas reserves state. Oklahoma remained fourth-largest, and Arkansas and Louisiana were the fifth- and sixth-largest, respectively.

**Figure 13. Proved shale gas reserves of the top six U.S. shale gas reserves states, 2008-13**



Six shale plays contained 94% of U.S. shale gas proved reserves at the end of 2013 (Table 4). The Marcellus remained the largest shale gas play, and added the most new shale gas reserves (22.1 Tcf) in 2013 through extensions in Pennsylvania and West Virginia. The second-largest shale gas play was the Barnett shale (the play that started the U.S. shale gas boom), where proved reserves were revised upward in 2013 mostly in response to higher natural gas prices.

**Table 4. U.S. shale gas plays: natural gas production and proved reserves, 2012-13**

trillion cubic feet			2012		2013		Change 2013-2012	
Basin	Shale Play	State(s)	Production	Reserves	Production	Reserves	Production	Reserves
Appalachian	Marcellus	PA,WV,OH,NY	2.4	42.8	3.7	64.9	1.3	22.1
Fort Worth	Barnett	TX	2.1	23.7	2.0	26.0	-0.1	2.3
Western Gulf	Eagle Ford	TX	1.0	16.2	1.4	17.4	0.4	1.2
Texas-Louisiana Salt	Haynesville/Bossier	TX,LA	2.7	17.7	1.9	16.1	-0.8	-1.6
Arkoma, Anadarko	Woodford	TX,OK	0.6	12.6	0.7	12.5	0.1	-0.1
Arkoma	Fayetteville	AR	1.0	9.7	1.0	12.2	0.0	2.5
<b>Sub-total</b>			<b>9.8</b>	<b>122.7</b>	<b>10.7</b>	<b>149.1</b>	<b>0.9</b>	<b>26.4</b>
Other shale gas			0.6	6.7	0.7	10.0	0.1	3.3
<b>All U.S. shale gas</b>			<b>10.4</b>	<b>129.4</b>	<b>11.4</b>	<b>159.1</b>	<b>1.0</b>	<b>29.7</b>

Note: Table values are based on shale gas proved reserves and production volumes reported and imputed from data on Form EIA-23L. For certain reasons (e.g., incorrect or incomplete submissions, misidentification of shale versus nonshale 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-23L 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 slightly from EIA production volumes listed elsewhere on the EIA website. Natural gas is measured at 60 degrees Fahrenheit and an atmospheric pressure base of 14.73 pounds per square inch (psia).

Sources: U.S. Energy Information Administration, Form EIA-23L, Annual Survey of Domestic Oil and Gas Reserves, 2012 and 2013.

Although the Eagle Ford shale is primarily an oil and natural gas liquids play, it has substantial natural gas reserves, and added enough new reserves in 2013 to surpass the Haynesville. EIA has a [series of maps](#) showing the nation's shale gas resources for both shale plays and geologic basins.

### *Nonassociated natural gas*

Nonassociated natural gas, also called gas well gas, is defined as natural gas not in contact with significant quantities of crude oil in a reservoir. EIA considers most shale natural gas and all coalbed natural gas to be nonassociated natural gas proved reserves. Proved reserves of U.S. nonassociated natural gas increased by 26 Tcf in 2013, a 10% increase from 2012 (Table 11). Estimated production of U.S. nonassociated natural gas decreased 1%—from 22.7 Tcf in 2012 to 22.4 Tcf in 2013. The largest decline in nonassociated natural gas production was in Louisiana, where production and reserves from the Haynesville shale have declined.

### *Associated-dissolved natural gas*

Associated-dissolved natural gas, also called casinghead gas, is defined as the combined volume of natural gas that 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 rose by 5.3 Tcf in 2013, a 10% increase from 2012 (Table 12). Estimated production of associated-dissolved natural gas increased 21%—from 3.4 Tcf in 2012 to 4.1 Tcf in 2013. The largest increase in associated-dissolved natural gas production in 2013 was in Texas, specifically in Texas Railroad Commission (RRC) Districts 1 and 8, coinciding with the gains in oil production from the Eagle Ford play and the Permian Basin.

### *Coalbed natural gas*

Coalbed natural gas, also called coalbed methane, is a type of unconventional natural gas contained in and removed from coal seams. Extraction requires drilling wells into the coal seams and removing water contained in the seam to reduce hydrostatic pressure and release adsorbed (and free) gas out of the coal. Proved reserves of U.S. coalbed natural gas decreased by 1.2 Tcf in 2013, a 9% drop from 2012 (Tables 15 and 16). Estimated production of coalbed natural gas decreased 11%—from 1.7 Tcf in 2012 to 1.5 Tcf in 2013. Among individual states, Colorado experienced the largest decline in proved reserves and production of coalbed methane, followed by Alabama. New Mexico had the largest increase in coalbed methane reserves, gaining 84 billion cubic feet (3%) of proved reserves. Wyoming had the second-largest gain, increasing its coalbed methane reserves by 74 billion cubic feet (4%).

### **Dry natural gas**

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

In 2013, the increase in the estimated volume of dry natural gas contained in proved reserves of total natural gas mirrored the 10% increase observed in total natural gas proved reserves. The estimated U.S. total of dry natural gas increased from 308 Tcf in 2012 to 338 Tcf in 2013 (Table 17).

### **Lease condensate and natural gas plant liquids**

Operators of natural gas fields report lease condensate reserves and production estimates to EIA on Form EIA-23L, Annual Survey of Domestic Oil and Gas Reserves. EIA calculates the expected yield of natural gas plant liquids using total 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, was 34.5 in 2012 and 26.6 in 2013. The 2014 forecast for this ratio is 21.0 (based on average price estimates from Figures 6 and 7). Oil appears to be maintaining its price advantage over natural gas, giving crude oil and liquids exploration and development projects an economic advantage over those that would produce only (or mostly) dry natural gas (e.g., coalbed methane projects).

### *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 10% in 2013 to 3,149 million barrels—mostly as a result of extensions. Colorado had the largest increase in lease condensate proved reserves at 133 million barrels, followed by Oklahoma at 104 million barrels. Lease condensate accounted for 8.6% of the U.S. total crude oil

and lease condensate proved reserves in 2013. U.S. lease condensate production increased 13%, from 274 million barrels in 2012 to 311 million barrels in 2013.

### *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. Products obtained include ethane, liquefied petroleum gases (propane, butane, and isobutane), and natural gasoline. Components may be further fractionated or mixed. Lease condensate is excluded.

As with dry natural gas, the potential U.S. supply of natural gas plant liquids is not “proved reserves” because these liquids are extracted downstream of the producing wells at a natural gas processing plant. An estimate of the volume of these liquids that might be extracted from total natural gas reserves is presented in Table 17. The estimated volume of natural gas plant liquids contained in proved reserves of total natural gas rose from 10.8 billion barrels in 2012 to 11.9 billion barrels in 2013 (an 11% increase).

### **Reserves in nonproducing reservoirs**

Not all proved reserves are contained in actively producing reservoirs. Proved nonproducing reserves may be awaiting well workovers, drilling of additional development or replacement wells, installation of production equipment or pipeline facilities, or depletion of other zones or reservoirs that is required prior to initiation of recompletion activities in nonproducing reservoirs.

Table 18 shows the estimated volumes of nonproducing proved reserves of crude oil, lease condensate, nonassociated natural gas, associated-dissolved natural gas, and total natural gas for 2013.

## Maps and additional data tables

### *Maps*

Figure 14. Crude oil and lease condensate proved reserves by state/area, 2013

Figure 15. Changes in crude oil and lease condensate proved reserves by state/area, 2012 to 2013

Figure 16. Natural gas proved reserves by state/area, 2013

Figure 17. Changes in natural gas proved reserves by state/area, 2012 to 2013

### *Oil tables*

Table 5. U.S. proved reserves of crude oil and lease condensate, crude oil, and lease condensate, 2003-13

Table 6. Crude oil and lease condensate proved reserves, reserves changes, and production, 2013

Table 7. Crude oil proved reserves, reserves changes, and production, 2013

Table 8. Lease condensate proved reserves, reserves changes, and production, 2013

### *Natural gas tables*

Table 9. U.S. proved reserves of total natural gas, wet after lease separation, 2001-13

Table 10. Total natural gas proved reserves, reserves changes, and production, wet after lease separation, 2013

Table 11. Nonassociated natural gas proved reserves, reserves changes, and production, wet after lease separation, 2013

Table 12. Associated-dissolved natural gas proved reserves, reserves changes, and production, wet after lease separation, 2013

Table 13. Shale natural gas proved reserves and production, 2010-13

Table 14. Shale natural gas proved reserves, reserves changes, and production, wet after lease separation, 2013

Table 15. Coalbed methane proved reserves and production, 2009-13

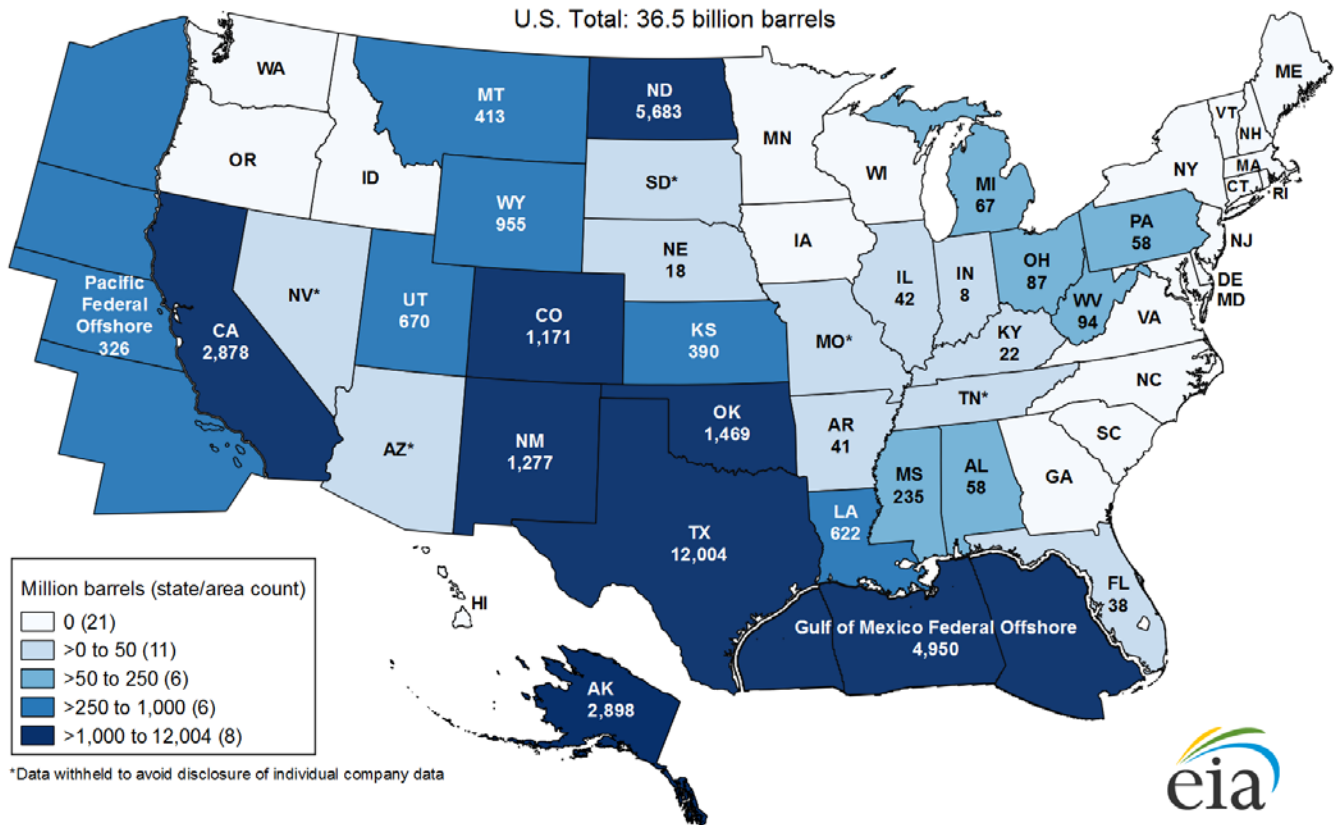
Table 16. Coalbed methane proved reserves, reserves changes, and production, 2013

Table 17. Estimated natural gas plant liquids and dry natural gas content of total natural gas proved reserves, 2013

### *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), 2013

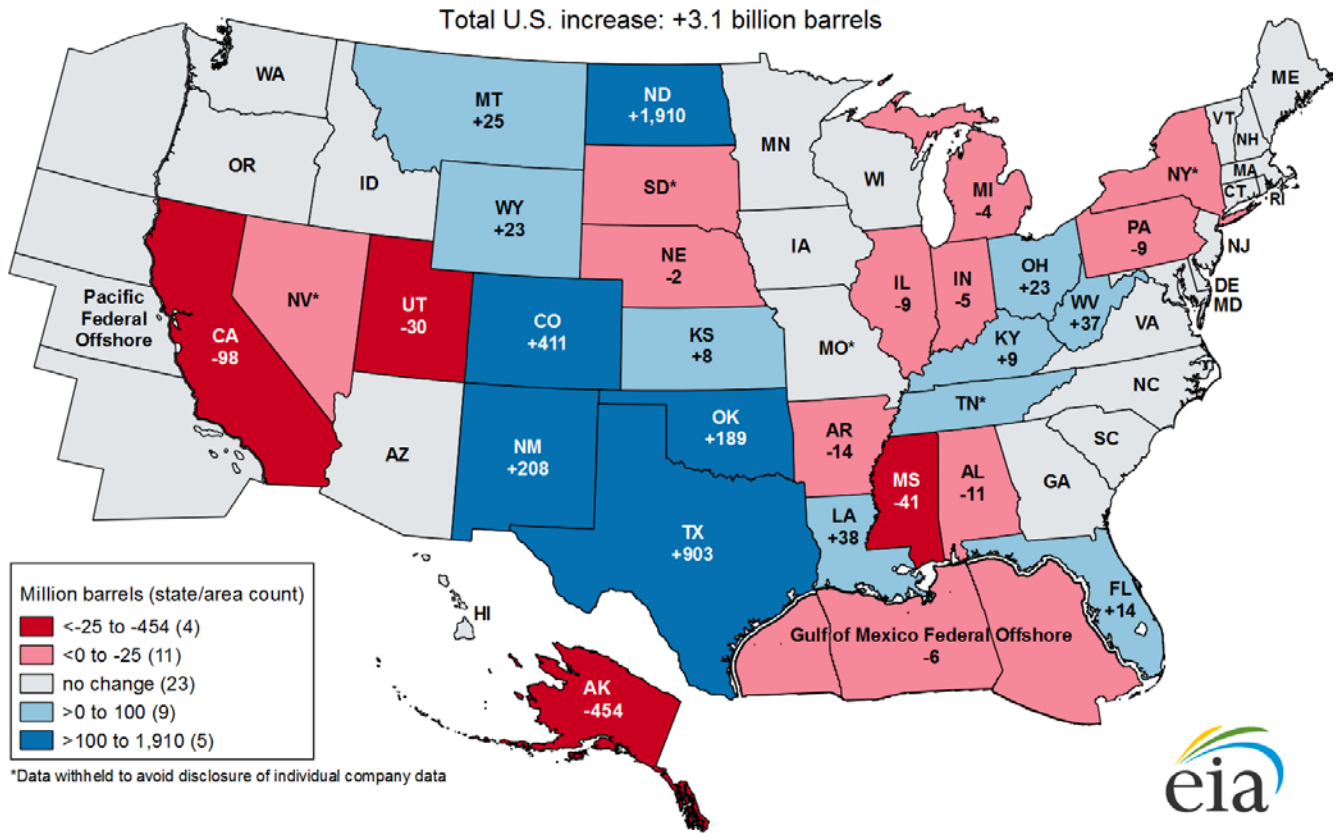
Figure 14. Crude oil and lease condensate proved reserves by state/area, 2013



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

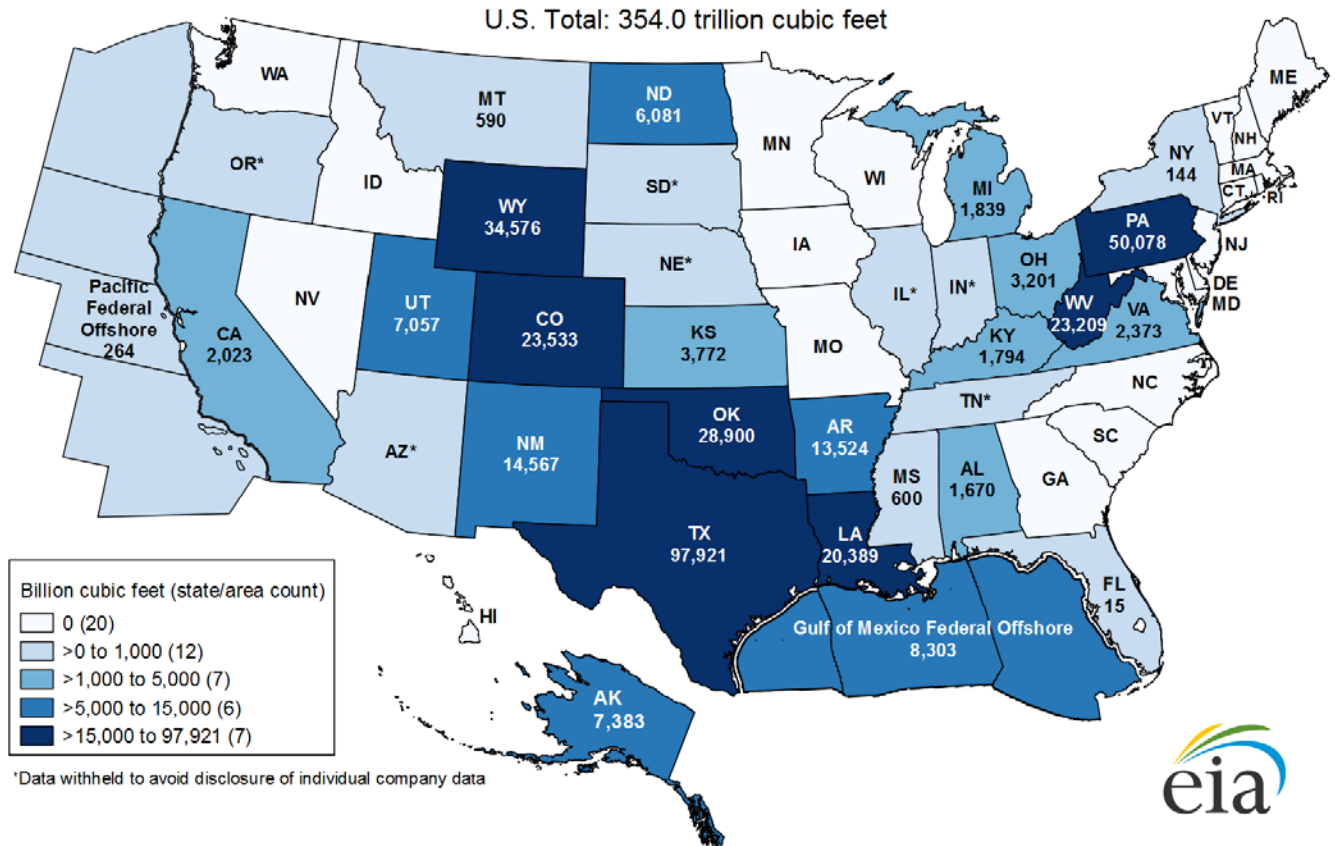


Figure 15. Changes in crude oil and lease condensate proved reserves by state/area, 2012 to 2013



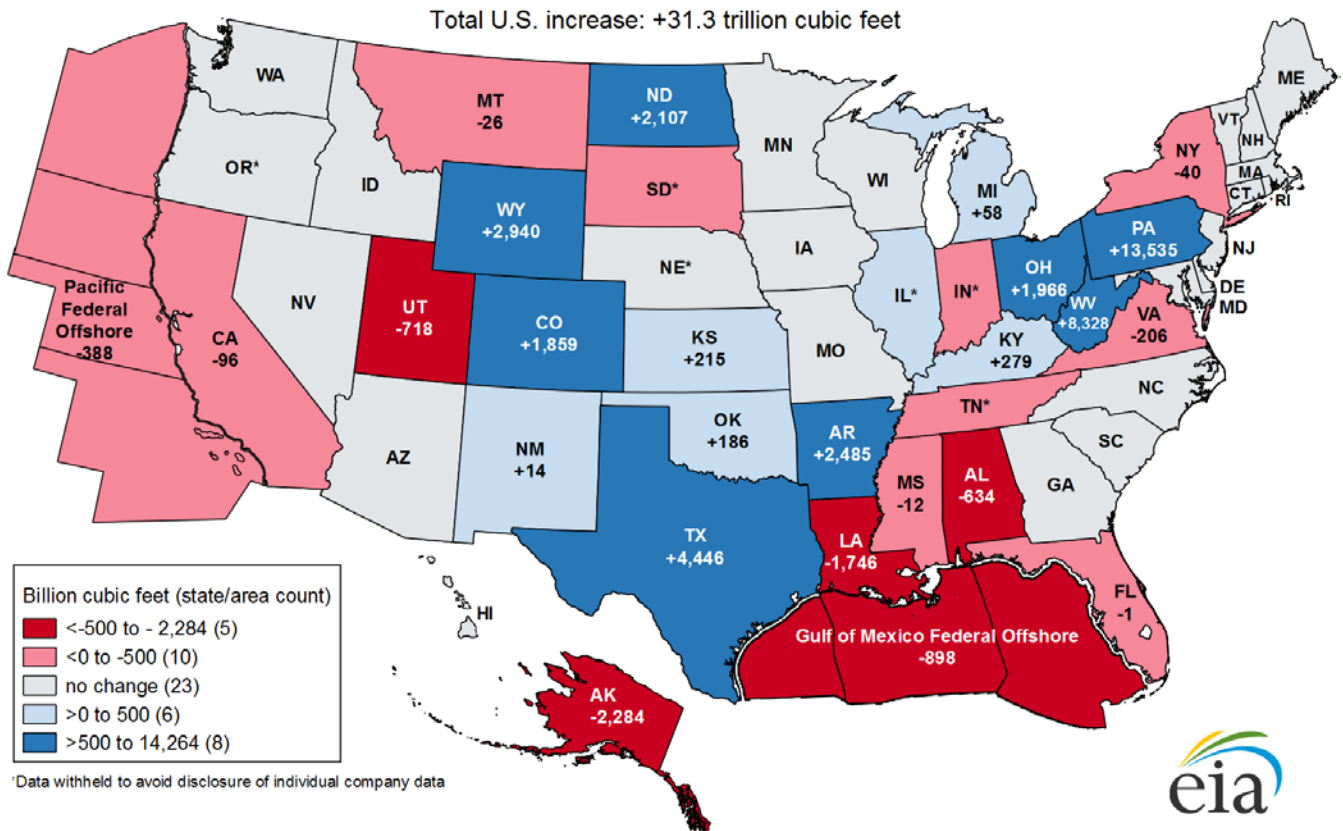
Source: U.S. Energy Information Administration, Form EIA-23L, Annual Survey of Domestic Oil and Gas Reserves.

Figure 16. Natural gas proved reserves by state/area, 2013



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

Figure 17. Changes in natural gas proved reserves by state/area, 2012 to 2013



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

**Table 5. U.S. proved reserves of crude oil and lease condensate, crude oil, and lease condensate, 2003-13**

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>											
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
2013	-595	545	-50	389	4,973	191	343	5,507	2,729	36,520	3,117
<b>Crude Oil (million barrels)</b>											
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
2013	-620	518	-102	460	4,395	188	319	4,902	2,418	33,371	2,842
<b>Lease Condensate (million barrels)</b>											
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
2013	25	27	52	-71	578	3	24	605	311	3,149	275

<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. One barrel = 42 U.S. gallons.

The production estimates in this table are based on data reported on Form EIA-23L, 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 slightly from the official U.S. EIA production data for crude oil and lease condensate for 2013 contained in the Petroleum Supply Annual 2013, DOE/EIA-0340(13) and the Natural Gas Monthly, DOE/EIA-0131.

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

Sources: U.S. Energy Information Administration, Form EIA-23L, Annual Survey of Domestic Oil and Gas Reserves, 2003-2013.

Table 6. Crude oil and lease condensate proved reserves, reserves changes, and production, 2013

million barrels

State and Subdivision	Published Proved Reserves 12/31/12	Changes in Reserves During 2013										Proved Reserves 12/31/13
		Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)		
Alaska	3,352	1	87	392	0	2	34	0	0	186	2,898	
<b>Lower 48 States</b>	<b>30,051</b>	<b>-596</b>	<b>4,699</b>	<b>3,849</b>	<b>1,536</b>	<b>1,923</b>	<b>4,939</b>	<b>191</b>	<b>343</b>	<b>2,543</b>	<b>33,622</b>	
Alabama	69	-12	13	2	0	0	0	0	0	10	58	
Arkansas	55	-22	15	3	0	0	0	0	0	4	41	
<b>California</b>	<b>2,976</b>	<b>-52</b>	<b>239</b>	<b>116</b>	<b>322</b>	<b>320</b>	<b>17</b>	<b>0</b>	<b>15</b>	<b>199</b>	<b>2,878</b>	
Coastal Region												
Onshore	620	-6	26	19	39	39	1	0	0	23	599	
Los Angeles Basin												
Onshore	265	-7	15	9	75	75	1	0	5	15	255	
San Joaquin Basin												
Onshore	1,893	-39	172	79	208	206	15	0	0	147	1,813	
State Offshore	198	0	26	9	0	0	0	0	10	14	211	
Colorado	760	-44	389	112	48	48	239	0	9	70	1,171	
Florida	24	-1	13	1	0	0	5	0	0	2	38	
Illinois	51	-6	11	11	0	0	0	0	0	3	42	
Indiana	13	-4	1	2	0	0	1	0	0	1	8	
Kansas	382	-35	57	49	1	2	79	1	0	46	390	
Kentucky	13	8	2	1	0	0	1	0	0	1	22	
<b>Louisiana</b>	<b>584</b>	<b>6</b>	<b>91</b>	<b>65</b>	<b>9</b>	<b>30</b>	<b>51</b>	<b>1</b>	<b>4</b>	<b>71</b>	<b>622</b>	
North	138	14	22	7	2	6	1	0	0	13	159	
South Onshore	370	-1	56	52	7	24	49	0	4	47	396	
State Offshore	76	-7	13	6	0	0	1	1	0	11	67	
Michigan	71	-1	4	2	0	0	0	0	2	7	67	
Mississippi	276	-20	8	15	0	0	10	0	0	24	235	
Montana	388	-10	75	59	14	15	48	0	0	30	413	
Nebraska	20	-1	4	0	2	0	0	0	0	3	18	
<b>New Mexico</b>	<b>1,069</b>	<b>-12</b>	<b>211</b>	<b>188</b>	<b>12</b>	<b>49</b>	<b>227</b>	<b>0</b>	<b>35</b>	<b>102</b>	<b>1,277</b>	
East	1,029	-9	182	179	10	48	217	0	35	98	1,215	
West	40	-3	29	9	2	1	10	0	0	4	62	
North Dakota	3,773	-44	994	655	44	353	1,603	4	13	314	5,683	
Ohio	64	-14	9	9	0	0	41	0	3	7	87	
Oklahoma	1,280	-11	203	240	81	85	316	1	29	113	1,469	
Pennsylvania	67	-13	12	11	0	0	9	0	0	6	58	
<b>Texas</b>	<b>11,101</b>	<b>-51</b>	<b>1,537</b>	<b>1,748</b>	<b>640</b>	<b>722</b>	<b>1,939</b>	<b>3</b>	<b>72</b>	<b>931</b>	<b>12,004</b>	
RRC District 1	2,031	-60	288	237	90	123	484	2	11	192	2,360	
RRC District 2												
Onshore	1,508	-48	327	417	50	105	590	0	12	170	1,857	
RRC District 3												
Onshore	428	-16	80	38	22	39	73	1	3	48	500	
RRC District 4												
Onshore	203	83	32	78	10	6	43	0	0	23	256	
RRC District 5	65	5	1	22	0	0	4	0	0	6	47	
RRC District 6	252	-37	35	26	13	26	49	0	0	19	267	
RRC District 7B	134	-37	24	8	0	10	1	0	0	11	113	
RRC District 7C	891	-23	162	271	9	21	227	0	29	63	964	
RRC District 8	3,304	33	383	471	321	270	375	0	11	228	3,356	
RRC District 8A	1,758	27	97	54	57	51	21	0	0	107	1,736	
RRC District 9	177	37	15	45	9	15	25	0	1	21	195	
RRC District 10	347	-14	93	81	59	56	47	0	5	43	351	
State Offshore	3	-1	0	0	0	0	0	0	0	0	2	

**Table 6. Crude oil and lease condensate proved reserves, reserves changes, and production, 2013 (cont.)**

million barrels

State and Subdivision	Changes in Reserves During 2013								New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	Proved Reserves 12/31/13
	Published Proved Reserves 12/31/12	Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)			
Utah	700	-17	54	91	28	42	46	0	0	36	670
West Virginia	57	13	17	18	0	0	32	0	0	7	94
Wyoming	932	-10	71	77	30	17	107	0	9	64	955
<b>Federal Offshore<sup>a</sup></b>	<b>5,282</b>	<b>-246</b>	<b>666</b>	<b>369</b>	<b>305</b>	<b>240</b>	<b>164</b>	<b>181</b>	<b>152</b>	<b>489</b>	<b>5,276</b>
Pacific (California)	326	13	35	28	11	11	0	0	0	20	326
Gulf of Mexico (Louisiana) <sup>b</sup>	4,602	-265	567	322	283	216	143	181	150	398	4,591
Gulf of Mexico (Texas)	354	6	64	19	11	13	21	0	2	71	359
Miscellaneous <sup>b</sup>	44	3	3	5	0	0	4	0	0	3	46
<b>U.S. Total</b>	<b>33,403</b>	<b>-595</b>	<b>4,786</b>	<b>4,241</b>	<b>1,536</b>	<b>1,925</b>	<b>4,973</b>	<b>191</b>	<b>343</b>	<b>2,729</b>	<b>36,520</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-23L, 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 slightly from the official U.S. EIA production data for crude oil and lease condensate for 2013 contained in the Petroleum Supply Annual 2013, DOE/EIA-0340(13) and the Natural Gas Annual 2013, DOE/EIA-0131(13). 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-23L, Annual Survey of Domestic Oil and Gas Reserves.

Table 7. Crude oil proved reserves, reserves changes, and production, 2013

million barrels

State and Subdivision	Changes in Reserves During 2013										Proved Reserves 12/31/13
	Published Proved Reserves 12/31/12	Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	
Alaska	3,336	1	87	392	0	2	34	0	0	170	2,898
<b>Lower 48 States</b>	<b>27,193</b>	<b>-621</b>	<b>3,943</b>	<b>3,120</b>	<b>1,327</b>	<b>1,785</b>	<b>4,361</b>	<b>188</b>	<b>319</b>	<b>2,248</b>	<b>30,473</b>
Alabama	51	-10	12	1	0	0	0	0	0	8	44
Arkansas	53	-21	15	3	0	0	0	0	0	4	40
<b>California</b>	<b>2,974</b>	<b>-51</b>	<b>238</b>	<b>116</b>	<b>322</b>	<b>320</b>	<b>17</b>	<b>0</b>	<b>15</b>	<b>199</b>	<b>2,876</b>
Coastal Region Onshore	620	-6	26	19	39	39	1	0	0	23	599
Los Angeles Basin Onshore	265	-7	15	9	75	75	1	0	5	15	255
San Joaquin Basin Onshore	1,892	-39	172	79	208	206	15	0	0	147	1,812
State Offshore	197	1	25	9	0	0	0	0	10	14	210
Colorado	618	-42	197	55	2	18	216	0	0	54	896
Florida	24	-1	13	1	0	0	5	0	0	2	38
Illinois	51	-6	11	11	0	0	0	0	0	3	42
Indiana	13	-4	1	2	0	0	1	0	0	1	8
Kansas	375	-34	53	48	1	2	68	1	0	44	372
Kentucky	9	8	1	1	0	0	1	0	0	1	17
<b>Louisiana</b>	<b>463</b>	<b>7</b>	<b>74</b>	<b>49</b>	<b>5</b>	<b>21</b>	<b>47</b>	<b>0</b>	<b>3</b>	<b>58</b>	<b>503</b>
North	100	13	17	3	0	3	0	0	0	10	120
South Onshore	300	1	46	42	5	18	46	0	3	39	328
State Offshore	63	-7	11	4	0	0	1	0	0	9	55
Michigan	56	10	4	1	0	0	0	0	2	7	64
Mississippi	266	-23	8	15	0	0	10	0	0	23	223
Montana	386	-9	75	58	14	15	48	0	0	30	413
Nebraska	13	-3	4	0	2	0	0	0	0	2	10
<b>New Mexico</b>	<b>965</b>	<b>-16</b>	<b>183</b>	<b>148</b>	<b>6</b>	<b>48</b>	<b>201</b>	<b>0</b>	<b>35</b>	<b>91</b>	<b>1,171</b>
East	954	-11	163	147	5	48	191	0	35	89	1,139
West	11	-5	20	1	1	0	10	0	0	2	32
North Dakota	3,761	-49	991	642	44	353	1,603	4	13	313	5,677
Ohio	39	-11	4	2	0	0	15	0	0	3	42
Oklahoma	934	0	109	171	76	76	203	1	26	83	1,019
Pennsylvania	27	-4	5	11	0	0	0	0	0	2	15
<b>Texas</b>	<b>9,614</b>	<b>-120</b>	<b>1,220</b>	<b>1,290</b>	<b>520</b>	<b>646</b>	<b>1,620</b>	<b>3</b>	<b>67</b>	<b>772</b>	<b>10,468</b>
RRC District 1	1,711	-49	191	130	88	116	446	2	11	154	2,056
RRC District 2 Onshore	1,002	-55	229	255	40	81	411	0	11	121	1,263
RRC District 3 Onshore	347	-8	68	21	20	35	70	1	2	37	437
RRC District 4 Onshore	22	0	9	4	2	1	5	0	0	3	28
RRC District 5	58	4	1	21	0	0	4	0	0	5	41
RRC District 6	157	-26	17	8	9	22	44	0	0	13	184
RRC District 7B	130	-36	23	8	0	10	1	0	0	10	110
RRC District 7C	863	-25	150	252	7	21	227	0	29	61	945
RRC District 8	3,216	34	378	442	283	257	342	0	11	221	3,292
RRC District 8A	1,744	26	96	53	51	51	20	0	0	106	1,727
RRC District 9	158	35	8	41	9	15	23	0	0	18	171
RRC District 10	204	-19	50	55	11	37	27	0	3	23	213
State Offshore	2	-1	0	0	0	0	0	0	0	0	1

Table 7. Crude oil proved reserves, reserves changes, and production, 2013 (cont.)

million barrels

State and Subdivision	Changes in Reserves During 2013								New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	Proved Reserves 12/31/13
	Published Proved Reserves 12/31/12	Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)			
Utah	613	2	51	80	27	41	46	0	0	33	613
West Virginia	7	10	4	2	0	0	0	0	0	2	17
Wyoming	706	-10	38	59	22	12	100	0	9	51	723
<b>Federal Offshore<sup>a</sup></b>	<b>5,131</b>	<b>-246</b>	<b>629</b>	<b>349</b>	<b>286</b>	<b>233</b>	<b>156</b>	<b>179</b>	<b>149</b>	<b>459</b>	<b>5,137</b>
Pacific (California)	324	13	35	26	11	11	0	0	0	20	326
Gulf of Mexico (Louisiana) <sup>a</sup>	4,504	-264	544	308	265	210	138	179	149	384	4,503
Gulf of Mexico (Texas)	303	5	50	15	10	12	18	0	0	55	308
Miscellaneous <sup>b</sup>	44	2	3	5	0	0	4	0	0	3	45
<b>U.S. Total</b>	<b>30,529</b>	<b>-620</b>	<b>4,030</b>	<b>3,512</b>	<b>1,327</b>	<b>1,787</b>	<b>4,395</b>	<b>188</b>	<b>319</b>	<b>2,418</b>	<b>33,371</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-23L, Annual Survey of Domestic Oil and Gas Reserves. They may differ slightly from the official U.S. EIA production data for crude oil for 2013 contained in the Petroleum Supply Annual 2013, DOE/EIA-0340(13). 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-23L, Annual Survey of Domestic Oil and Gas Reserves.



Table 8. Lease condensate proved reserves, reserves changes, and production, 2013

million barrels

State and Subdivision	Published Proved Reserves 12/31/12	Changes in Reserves During 2013							New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	Proved Reserves 12/31/13
		Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)			
Alaska	16	0	0	0	0	0	0	0	0	16	0
<b>Lower 48 States</b>	<b>2,858</b>	<b>25</b>	<b>756</b>	<b>729</b>	<b>209</b>	<b>138</b>	<b>578</b>	<b>3</b>	<b>24</b>	<b>295</b>	<b>3,149</b>
Alabama	18	-2	1	1	0	0	0	0	0	2	14
Arkansas	2	-1	0	0	0	0	0	0	0	0	1
<b>California</b>	<b>2</b>	<b>-1</b>	<b>1</b>	<b>0</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	0	0	0	0	0	0	0	0	0	1
State Offshore	1	-1	1	0	0	0	0	0	0	0	1
Colorado	142	-2	192	57	46	30	23	0	9	16	275
Florida	0	0	0	0	0	0	0	0	0	0	0
Kansas	7	-1	4	1	0	0	11	0	0	2	18
Kentucky	4	0	1	0	0	0	0	0	0	0	5
<b>Louisiana</b>	<b>121</b>	<b>-1</b>	<b>17</b>	<b>16</b>	<b>4</b>	<b>9</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>13</b>	<b>119</b>
North	38	1	5	4	2	3	1	0	0	3	39
South Onshore	70	-2	10	10	2	6	3	0	1	8	68
State Offshore	13	0	2	2	0	0	0	1	0	2	12
Michigan	15	-11	0	1	0	0	0	0	0	0	3
Mississippi	10	3	0	0	0	0	0	0	0	1	12
Montana	2	-1	0	1	0	0	0	0	0	0	0
Nebraska	7	2	0	0	0	0	0	0	0	1	8
<b>New Mexico</b>	<b>104</b>	<b>4</b>	<b>28</b>	<b>40</b>	<b>6</b>	<b>1</b>	<b>26</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>106</b>
East	75	2	19	32	5	0	26	0	0	9	76
West	29	2	9	8	1	1	0	0	0	2	30
North Dakota	12	5	3	13	0	0	0	0	0	1	6
Oklahoma	346	-11	94	69	5	9	113	0	3	30	450
<b>Texas</b>	<b>1,487</b>	<b>69</b>	<b>317</b>	<b>458</b>	<b>120</b>	<b>76</b>	<b>319</b>	<b>0</b>	<b>5</b>	<b>159</b>	<b>1,536</b>
RRC District 1	320	-11	97	107	2	7	38	0	0	38	304
RRC District 2 Onshore	506	7	98	162	10	24	179	0	1	49	594
RRC District 3 Onshore	81	-8	12	17	2	4	3	0	1	11	63
RRC District 4 Onshore	181	83	23	74	8	5	38	0	0	20	228
RRC District 5	7	1	0	1	0	0	0	0	0	1	6
RRC District 6	95	-11	18	18	4	4	5	0	0	6	83
RRC District 7B	4	-1	1	0	0	0	0	0	0	1	3
RRC District 7C	28	2	12	19	2	0	0	0	0	2	19
RRC District 8	88	-1	5	29	38	13	33	0	0	7	64
RRC District 8A	14	1	1	1	6	0	1	0	0	1	9
RRC District 9	19	2	7	4	0	0	2	0	1	3	24
RRC District 10	143	5	43	26	48	19	20	0	2	20	138
State Offshore	1	0	0	0	0	0	0	0	0	0	1

Table 8. Lease condensate proved reserves, reserves changes, and production, 2013 (cont.)

million barrels

State and Subdivision	Published Proved Reserves 12/31/12	Adjustments (+,-)	Changes in Reserves During 2013						New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	Proved Reserves 12/31/13
			Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)					
Utah	87	-19	3	11	1	1	0	0	0	3	57	
West Virginia	50	3	13	16	0	0	32	0	0	5	77	
Wyoming	226	0	33	18	8	5	7	0	0	13	232	
<b>Federal Offshore<sup>a</sup></b>	<b>151</b>	<b>0</b>	<b>37</b>	<b>20</b>	<b>19</b>	<b>7</b>	<b>8</b>	<b>2</b>	<b>3</b>	<b>30</b>	<b>139</b>	
Pacific (California)	2	0	0	2	0	0	0	0	0	0	0	
Gulf of Mexico (Louisiana) <sup>a</sup>	98	-1	23	14	18	6	5	2	1	14	88	
Gulf of Mexico (Texas)	51	1	14	4	1	1	3	0	2	16	51	
Miscellaneous <sup>b</sup>	65	-11	12	7	0	0	35	0	3	8	89	
<b>U.S. Total</b>	<b>2,874</b>	<b>25</b>	<b>756</b>	<b>729</b>	<b>209</b>	<b>138</b>	<b>578</b>	<b>3</b>	<b>24</b>	<b>311</b>	<b>3,149</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-23L, 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 slightly from the official U.S. EIA production data for lease condensate for 2013 contained in the Petroleum Supply Annual 2013, DOE/EIA-0340(13) and the Natural Gas Annual 2013, DOE/EIA-0131(13). 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-23L, Annual Survey of Domestic Oil and Gas Reserves, and Form EIA-64A, Annual Report of the Origin of Natural Gas Liquids Production.

**Table 9. U.S. proved reserves of total natural gas, wet after lease separation, 2001-13**

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>Total 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
2013	693	2,794	3,487	1,287	51,074	263	1,680	53,017	26,467	353,994	31,324

<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-23L, 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 slightly from the official U.S. EIA production data for wet and dry natural gas for 2013 contained in the Natural Gas Annual 2013, DOE/EIA-0131(13). 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 and Natural Gas Proved Reserves, 2001 through 2013 annual reports.

Table 10. Total natural gas proved reserves, reserves changes, and production, wet after lease separation, 2013

billion cubic feet

State and subdivision	Changes in reserves during 2013										Proved Reserves 12/31/13
	Published Proved Reserves 12/31/12	Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extension (+)	New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	
Alaska	9,667	2	152	2,421	92	272	91	0	1	289	7,383
<b>Lower 48 States</b>	<b>313,003</b>	<b>691</b>	<b>49,363</b>	<b>44,300</b>	<b>10,094</b>	<b>11,201</b>	<b>50,983</b>	<b>263</b>	<b>1,679</b>	<b>26,178</b>	<b>346,611</b>
Alabama	2,304	-260	70	79	373	191	0	0	0	183	1,670
Arkansas	11,039	-76	560	284	4	9	3,420	0	1	1,141	13,524
<b>California</b>	<b>2,119</b>	<b>-53</b>	<b>276</b>	<b>112</b>	<b>76</b>	<b>65</b>	<b>5</b>	<b>0</b>	<b>2</b>	<b>203</b>	<b>2,023</b>
Coastal Region											
Onshore	305	-8	14	15	1	1	1	0	0	13	284
Los Angeles Basin											
Onshore	98	-9	9	3	37	37	2	0	0	7	90
San Joaquin Basin											
Onshore	1,650	-39	241	91	38	27	2	0	0	178	1,574
State Offshore	66	3	12	3	0	0	0	0	2	5	75
Colorado	21,674	-230	4,322	2,449	614	1,002	1,422	0	12	1,606	23,533
Florida	16	1	0	2	0	0	0	0	0	0	15
Kansas	3,557	-104	770	547	32	32	394	0	0	298	3,772
Kentucky	1,515	116	171	62	1	1	142	0	0	88	1,794
<b>Louisiana</b>	<b>22,135</b>	<b>10</b>	<b>2,978</b>	<b>3,828</b>	<b>1,057</b>	<b>1,444</b>	<b>1,040</b>	<b>18</b>	<b>22</b>	<b>2,373</b>	<b>20,389</b>
North	18,467	226	2,614	3,251	964	1,158	767	1	0	1,906	17,112
South Onshore	3,149	-134	289	528	89	286	260	0	22	398	2,857
State Offshore	519	-82	75	49	4	0	13	17	0	69	420
Michigan	1,781	-64	395	141	11	11	0	0	3	135	1,839
Mississippi	612	30	39	76	39	91	5	0	0	62	600
Montana	616	6	116	51	74	4	37	0	0	64	590
<b>New Mexico</b>	<b>14,553</b>	<b>-206</b>	<b>3,649</b>	<b>2,985</b>	<b>768</b>	<b>641</b>	<b>827</b>	<b>0</b>	<b>98</b>	<b>1,242</b>	<b>14,567</b>
East	4,833	-209	1,118	789	533	314	769	0	98	493	5,108
West	9,720	3	2,531	2,196	235	327	58	0	0	749	9,459
New York	184	-32	35	12	8	0	0	0	0	23	144
North Dakota	3,974	-201	1,230	718	15	430	1,708	1	11	339	6,081
Ohio	1,235	-319	537	160	12	0	1,802	17	269	168	3,201
Oklahoma	28,714	-779	4,429	5,410	788	794	3,549	2	421	2,032	28,900
Pennsylvania	36,543	769	7,224	7,186	104	354	15,671	36	80	3,309	50,078
<b>Texas</b>	<b>93,475</b>	<b>1,655</b>	<b>14,453</b>	<b>13,650</b>	<b>3,781</b>	<b>4,309</b>	<b>9,024</b>	<b>5</b>	<b>672</b>	<b>8,241</b>	<b>97,921</b>
RRC District 1	9,141	276	1,190	2,955	95	132	1,123	2	11	707	8,118
RRC District 2											
Onshore	5,985	-95	1,107	1,642	416	479	1,792	0	30	600	6,640
RRC District 3											
Onshore	2,429	46	615	319	116	146	133	3	11	356	2,592
RRC District 4											
Onshore	9,566	761	1,042	1,717	488	602	2,277	0	1	943	11,101
RRC District 5	17,640	191	3,381	779	94	581	190	0	24	1,603	19,531
RRC District 6	11,726	269	2,185	1,468	449	598	428	0	8	1,105	12,192
RRC District 7B	3,363	-103	474	261	21	17	3	0	62	267	3,267
RRC District 7C	5,599	-183	806	1,034	151	147	660	0	121	381	5,584
RRC District 8	8,963	21	1,300	1,193	684	648	1,377	0	29	746	9,715
RRC District 8A	1,280	17	177	62	38	44	24	0	0	104	1,338
RRC District 9	9,682	443	1,186	694	636	20	432	0	266	659	10,040
RRC District 10	8,007	25	981	1,507	587	895	585	0	101	756	7,744
State Offshore	94	-13	9	19	6	0	0	0	8	14	59

**Table 10. Total natural gas proved reserves, reserves changes, and production, wet after lease separation, 2013 (cont.)**

billion cubic feet

State and subdivision	Changes in reserves during 2013										Proved Reserves 12/31/13
	Published Proved Reserves 12/31/12	Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisition (+)	Extension (+)	New Field Discoveries (+)	New Reservoir Discoveries in Oil Fields (+)	Estimated Production (-)	
Utah	7,775	-576	500	458	494	661	121	0	0	472	7,057
Virginia	2,579	-9	137	271	1	0	80	0	0	142	2,373
West Virginia	14,881	-561	2,161	2,597	48	0	10,019	96	0	742	23,209
Wyoming	31,636	1,433	3,909	1,787	715	698	1,440	0	11	2,049	34,576
<b>Federal Offshore<sup>a</sup></b>	<b>9,853</b>	<b>148</b>	<b>1,375</b>	<b>1,377</b>	<b>1,079</b>	<b>464</b>	<b>271</b>	<b>88</b>	<b>77</b>	<b>1,253</b>	<b>8,567</b>
Pacific (California)	652	14	6	387	11	11	0	0	0	21	264
Gulf of Mexico (Louisiana) <sup>b</sup>	7,704	17	1,066	827	891	381	184	88	59	986	6,795
Gulf of Mexico (Texas)	1,497	117	303	163	177	72	87	0	18	246	1,508
Miscellaneous <sup>b</sup>	233	-7	27	58	0	0	6	0	0	13	188
<b>U.S. Total</b>	<b>322,670</b>	<b>693</b>	<b>49,515</b>	<b>46,721</b>	<b>10,186</b>	<b>11,473</b>	<b>51,074</b>	<b>263</b>	<b>1,680</b>	<b>26,467</b>	<b>353,994</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-23L, Annual Survey of Domestic Oil and Gas Reserves. They may differ slightly from the official U.S. Energy Information Administration production data for natural gas for 2013 contained in the Natural Gas Annual 2013, DOE/EIA-0131(13).

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-23L, Annual Survey of Domestic Oil and Gas Reserves.

**Table 11. Nonassociated natural gas proved reserves, reserves changes, and production, wet after lease separation, 2013**

billion cubic feet

State and Subdivision	Changes in Reserves During 2013										Proved Reserves 12/31/13
	Published Proved Reserves 12/31/12	Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	
Alaska	995	1	114	301	92	271	74	0	1	108	955
<b>Lower 48 States</b>	<b>268,519</b>	<b>1,341</b>	<b>40,867</b>	<b>36,599</b>	<b>8,361</b>	<b>8,359</b>	<b>41,370</b>	<b>200</b>	<b>1,098</b>	<b>22,245</b>	<b>294,549</b>
Alabama	2,204	-195	50	79	373	191	0	0	0	174	1,624
Arkansas	10,957	-53	472	280	4	9	3,419	0	1	1,132	13,389
<b>California</b>	<b>272</b>	<b>-20</b>	<b>115</b>	<b>74</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>46</b>	<b>247</b>
Coastal Region Onshore	2	0	0	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	269	-20	115	73	0	0	0	0	0	46	245
State Offshore	1	0	0	1	0	0	0	0	0	0	0
Colorado	18,226	-265	3,990	2,158	609	818	611	0	12	1,372	19,253
Florida	16	0	0	2	0	0	0	0	0	0	14
Kansas	3,231	2	735	479	30	9	137	0	0	266	3,339
Kentucky	1,422	115	170	12	1	1	142	0	0	87	1,750
<b>Louisiana</b>	<b>21,362</b>	<b>49</b>	<b>2,795</b>	<b>3,659</b>	<b>1,053</b>	<b>1,382</b>	<b>885</b>	<b>18</b>	<b>8</b>	<b>2,268</b>	<b>19,519</b>
North	18,385	224	2,527	3,243	964	1,127	766	1	0	1,890	16,933
South Onshore	2,586	-118	209	397	85	255	119	0	8	323	2,254
State Offshore	391	-57	59	19	4	0	0	17	0	55	332
Michigan	1,687	-103	387	137	11	11	0	0	0	120	1,714
Mississippi	550	44	33	68	39	91	2	0	0	56	557
Montana	327	11	65	8	70	0	0	0	0	39	286
<b>New Mexico</b>	<b>11,734</b>	<b>-55</b>	<b>2,860</b>	<b>2,482</b>	<b>734</b>	<b>612</b>	<b>177</b>	<b>0</b>	<b>0</b>	<b>958</b>	<b>11,154</b>
East	2,156	-97	343	296	510	286	170	0	0	220	1,832
West	9,578	42	2,517	2,186	224	326	7	0	0	738	9,322
New York	178	-32	32	10	8	0	0	0	0	22	138
North Dakota	105	0	1	8	0	0	0	0	0	7	91
Ohio	1,012	-190	429	155	12	0	1,668	16	263	144	2,887
Oklahoma	25,018	-751	3,782	4,420	635	608	2,275	0	201	1,708	24,370
Pennsylvania	36,418	849	7,002	7,168	104	354	15,627	36	80	3,285	49,809
<b>Texas</b>	<b>74,442</b>	<b>1,463</b>	<b>10,846</b>	<b>10,127</b>	<b>2,891</b>	<b>2,986</b>	<b>5,152</b>	<b>0</b>	<b>468</b>	<b>6,585</b>	<b>75,754</b>
RRC District 1	6,516	120	702	2,783	13	6	352	0	0	458	4,442
RRC District 2 Onshore	3,986	-39	719	990	335	361	1,023	0	7	384	4,348
RRC District 3 Onshore	1,965	-99	335	215	87	86	86	0	8	284	1,795
RRC District 4 Onshore	9,467	803	1,007	1,693	477	600	2,264	0	1	934	11,038
RRC District 5	17,587	207	3,185	739	94	581	188	0	24	1,585	19,354
RRC District 6	11,204	322	2,107	1,387	440	551	255	0	8	1,067	11,553
RRC District 7B	3,183	-44	313	227	21	16	3	0	60	243	3,040
RRC District 7C	2,523	-105	347	374	56	14	0	0	0	166	2,183
RRC District 8	2,309	-127	247	193	158	103	358	0	3	227	2,315
RRC District 8A	20	5	3	4	0	1	1	0	0	3	23
RRC District 9	8,521	407	1,110	380	630	20	196	0	266	563	8,947
RRC District 10	7,073	23	762	1,123	574	647	426	0	83	657	6,660
State Offshore	88	-10	9	19	6	0	0	0	8	14	56

**Table 11. Nonassociated natural gas proved reserves, reserves changes, and production, wet after lease separation, 2013 (cont.)**

billion cubic feet

State and Subdivision	Changes in Reserves During 2013										Proved Reserves 12/31/13
	Published Proved Reserves 12/31/12	Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	
Utah	6,774	-564	447	245	321	459	26	0	0	414	6,162
Virginia	2,579	-9	137	271	1	0	80	0	0	142	2,373
West Virginia	14,860	-675	2,159	2,538	48	0	10,019	96	0	734	23,139
Wyoming	30,930	1,501	3,806	1,614	660	679	1,116	0	0	1,984	33,774
<b>Federal Offshore<sup>a</sup></b>	<b>3,989</b>	<b>221</b>	<b>546</b>	<b>547</b>	<b>757</b>	<b>149</b>	<b>28</b>	<b>34</b>	<b>65</b>	<b>691</b>	<b>3,037</b>
Pacific (California)	0	0	0	0	0	0	0	0	0	0	0
Gulf of Mexico (Louisiana) <sup>a</sup>	3,346	111	443	467	597	118	18	34	47	551	2,502
Gulf of Mexico (Texas)	643	110	103	80	160	31	10	0	18	140	535
Miscellaneous <sup>b</sup>	219	5	8	58	0	0	6	0	0	11	169
<b>U.S. Total</b>	<b>269,514</b>	<b>1,342</b>	<b>40,981</b>	<b>36,900</b>	<b>8,453</b>	<b>8,630</b>	<b>41,444</b>	<b>200</b>	<b>1,099</b>	<b>22,353</b>	<b>295,504</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-23L, Annual Survey of Domestic Oil and Gas Reserves. They may differ slightly from the official U.S. Energy Information Administration production data for nonassociated natural gas for 2013 contained in the Natural Gas Annual 2013, DOE/EIA-0131(13).

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-23L, Annual Survey of Domestic Oil and Gas Reserves.

**Table 12. Associated-dissolved natural gas proved reserves, reserves changes, and production, wet after lease separation, 2013**

billion cubic feet

State and Subdivision	Changes in Reserves During 2013										Proved Reserves 12/31/13
	Published Proved Reserves 12/31/12	Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	
Alaska	8,672	1	38	2,120	0	1	17	0	0	181	6,428
<b>Lower 48 States</b>	<b>44,484</b>	<b>-650</b>	<b>8,496</b>	<b>7,701</b>	<b>1,733</b>	<b>2,842</b>	<b>9,613</b>	<b>63</b>	<b>581</b>	<b>3,933</b>	<b>52,062</b>
Alabama	100	-65	20	0	0	0	0	0	0	9	46
Arkansas	82	-23	88	4	0	0	1	0	0	9	135
<b>California</b>	<b>1,847</b>	<b>-33</b>	<b>161</b>	<b>38</b>	<b>76</b>	<b>65</b>	<b>5</b>	<b>0</b>	<b>2</b>	<b>157</b>	<b>1,776</b>
Coastal Region Onshore	303	-8	14	15	1	1	1	0	0	13	282
Los Angeles Basin Onshore	98	-9	9	3	37	37	2	0	0	7	90
San Joaquin Basin Onshore	1,381	-19	126	18	38	27	2	0	0	132	1,329
State Offshore	65	3	12	2	0	0	0	0	2	5	75
Colorado	3,448	35	332	291	5	184	811	0	0	234	4,280
Florida	0	1	0	0	0	0	0	0	0	0	1
Kansas	326	-106	35	68	2	23	257	0	0	32	433
Kentucky	93	1	1	50	0	0	0	0	0	1	44
<b>Louisiana</b>	<b>773</b>	<b>-39</b>	<b>183</b>	<b>169</b>	<b>4</b>	<b>62</b>	<b>155</b>	<b>0</b>	<b>14</b>	<b>105</b>	<b>870</b>
North	82	2	87	8	0	31	1	0	0	16	179
South Onshore	563	-16	80	131	4	31	141	0	14	75	603
State Offshore	128	-25	16	30	0	0	13	0	0	14	88
Michigan	94	39	8	4	0	0	0	0	3	15	125
Mississippi	62	-14	6	8	0	0	3	0	0	6	43
Montana	289	-5	51	43	4	4	37	0	0	25	304
<b>New Mexico</b>	<b>2,819</b>	<b>-151</b>	<b>789</b>	<b>503</b>	<b>34</b>	<b>29</b>	<b>650</b>	<b>0</b>	<b>98</b>	<b>284</b>	<b>3,413</b>
East	2,677	-112	775	493	23	28	599	0	98	273	3,276
West	142	-39	14	10	11	1	51	0	0	11	137
New York	6	0	3	2	0	0	0	0	0	1	6
North Dakota	3,869	-201	1,229	710	15	430	1,708	1	11	332	5,990
Ohio	223	-129	108	5	0	0	134	1	6	24	314
Oklahoma	3,696	-28	647	990	153	186	1,274	2	220	324	4,530
Pennsylvania	125	-80	222	18	0	0	44	0	0	24	269
<b>Texas</b>	<b>19,033</b>	<b>192</b>	<b>3,607</b>	<b>3,523</b>	<b>890</b>	<b>1,323</b>	<b>3,872</b>	<b>5</b>	<b>204</b>	<b>1,656</b>	<b>22,167</b>
RRC District 1	2,625	156	488	172	82	126	771	2	11	249	3,676
RRC District 2 Onshore	1,999	-56	388	652	81	118	769	0	23	216	2,292
RRC District 3 Onshore	464	145	280	104	29	60	47	3	3	72	797
RRC District 4 Onshore	99	-42	35	24	11	2	13	0	0	9	63
RRC District 5	53	-16	196	40	0	0	2	0	0	18	177
RRC District 6	522	-53	78	81	9	47	173	0	0	38	639
RRC District 7B	180	-59	161	34	0	1	0	0	2	24	227
RRC District 7C	3,076	-78	459	660	95	133	660	0	121	215	3,401
RRC District 8	6,654	148	1,053	1,000	526	545	1,019	0	26	519	7,400
RRC District 8A	1,260	12	174	58	38	43	23	0	0	101	1,315
RRC District 9	1,161	36	76	314	6	0	236	0	0	96	1,093
RRC District 10	934	2	219	384	13	248	159	0	18	99	1,084
State Offshore	6	-3	0	0	0	0	0	0	0	0	3



**Table 12. Associated-dissolved natural gas proved reserves, reserves changes, and production, wet after lease separation, 2013 (cont.)**

billion cubic feet

State and Subdivision	Published Proved Reserves 12/31/12	Changes in Reserves During 2013							New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	Proved Reserves 12/31/13
		Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)			
Utah	1,001	-12	53	213	173	202	95	0	0	58	895
West Virginia	21	114	2	59	0	0	0	0	0	8	70
Wyoming	706	-68	103	173	55	19	324	0	11	65	802
<b>Federal Offshore<sup>a</sup></b>	<b>5,864</b>	<b>-73</b>	<b>829</b>	<b>830</b>	<b>322</b>	<b>315</b>	<b>243</b>	<b>54</b>	<b>12</b>	<b>562</b>	<b>5,530</b>
Pacific (California)	652	14	6	387	11	11	0	0	0	21	264
Gulf of Mexico (Louisiana) <sup>a</sup>	4,358	-94	623	360	294	263	166	54	12	435	4,293
Gulf of Mexico (Texas)	854	7	200	83	17	41	77	0	0	106	973
Miscellaneous <sup>b</sup>	7	-5	19	0	0	0	0	0	0	2	19
<b>U.S. Total</b>	<b>53,156</b>	<b>-649</b>	<b>8,534</b>	<b>9,821</b>	<b>1,733</b>	<b>2,843</b>	<b>9,630</b>	<b>63</b>	<b>581</b>	<b>4,114</b>	<b>58,490</b>

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

Notes: The production estimates in this table are based on data reported on Form EIA-23L, Annual Survey of Domestic Oil and Gas Reserves. They may differ slightly from the official U.S. Energy Information Administration production data for associated-dissolved natural gas for 2013 contained in the Natural Gas Annual 2013, DOE/EIA-0131(13).

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-23L, Annual Survey of Domestic Oil and Gas Reserves.

**Table 13. Shale natural gas proved reserves and production, 2010-13**

billion cubic feet

State and Subdivision	Reserves				Production			
	2010	2011	2012	2013	2010	2011	2012	2013
Alaska	0	0	0	0	0	0	0	0
<b>Lower 48 States</b>	<b>97,449</b>	<b>131,616</b>	<b>129,369</b>	<b>159,115</b>	<b>5,336</b>	<b>7,994</b>	<b>10,359</b>	<b>11,415</b>
Arkansas	12,526	14,808	9,779	12,231	794	940	1,027	1,026
<b>California</b>	<b>0</b>	<b>855</b>	<b>777</b>	<b>756</b>	<b>0</b>	<b>101</b>	<b>90</b>	<b>89</b>
San Joaquin Basin Onshore	0	855	777	756	0	101	90	89
Colorado	4	10	53	136	1	3	9	18
Florida	0	0	0	0	0	0	0	0
Kansas	0	0	2	3	0	0	1	3
Kentucky	10	41	34	46	4	4	4	4
<b>Louisiana</b>	<b>20,070</b>	<b>21,950</b>	<b>13,523</b>	<b>11,483</b>	<b>1,232</b>	<b>2,084</b>	<b>2,204</b>	<b>1,510</b>
North	20,070	21,950	13,523	11,473	1,232	2,084	2,204	1,509
South	0	0	0	10	0	0	0	1
State Offshore	0	0	0	0	0	0	0	0
Michigan	2,306	1,947	1,345	1,418	120	106	108	101
Mississippi	0	0	19	37	0	0	2	5
Montana	186	192	216	229	13	13	16	19
<b>New Mexico</b>	<b>123</b>	<b>144</b>	<b>176</b>	<b>258</b>	<b>6</b>	<b>9</b>	<b>13</b>	<b>16</b>
East	35	23	93	178	3	5	10	13
West	88	121	83	80	3	4	3	3
New York	0	0	0	0	0	0	0	0
North Dakota	1,185	1,649	3,147	5,059	64	95	203	268
Ohio	0	0	0	0	0	0	0	0
Oklahoma	9,670	10,733	12,572	12,675	403	476	637	698
Pennsylvania	10,708	23,581	32,681	44,325	396	1,068	2,036	3,076
<b>Texas</b>	<b>38,048</b>	<b>49,588</b>	<b>44,778</b>	<b>49,055</b>	<b>2,218</b>	<b>2,900</b>	<b>3,649</b>	<b>3,876</b>
RRC District 1	1,564	5,123	8,340	7,357	41	156	362	630
RRC District 2 Onshore	395	1,692	4,743	5,595	7	141	327	474
RRC District 3 Onshore	0	1	6	24	0	0	0	2
RRC District 4 Onshore	565	2,611	3,091	4,377	26	154	305	316
RRC District 5	16,032	19,747	11,513	13,592	1,053	1,266	1,256	1,128
RRC District 6	4,381	6,584	4,172	4,633	219	382	486	409
RRC District 7B	2,435	3,466	2,952	2,802	140	184	258	218
RRC District 7C	13	27	81	409	0	0	2	13
RRC District 8	90	61	583	649	7	5	22	62
RRC District 8A	0	0	0	0	0	0	0	0
RRC District 9	12,573	10,276	9,260	9,580	725	612	626	619
RRC District 10	0	0	37	37	0	0	5	5
State Offshore	0	0	0	0	0	0	0	0
Utah	0	0	0	0	0	0	0	0
Virginia	0	0	135	126	0	0	3	3
West Virginia	2,491	6,043	9,408	18,078	80	192	345	498
Wyoming	1	0	216	856	0	0	7	102
Federal Offshore	0	0	0	0	0	0	0	0
Miscellaneous <sup>a</sup>	121	75	535	2,344	9	3	17	103
<b>U.S. Total</b>	<b>97,449</b>	<b>131,616</b>	<b>129,396</b>	<b>159,115</b>	<b>5,336</b>	<b>7,994</b>	<b>10,371</b>	<b>11,415</b>

<sup>a</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-23L, 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 slightly 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-23L, Annual Survey of Domestic Oil and Gas Reserves, 2010-2013.

**Table 14. Shale natural gas proved reserves, reserves changes, and production, wet after lease separation, 2013**

billion cubic feet

## Changes in Reserves During 2013

State and Subdivision	Published Proved Reserves 12/31/12	Adjustments (+,-)	Revision		Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	Proved Reserves 12/31/13
			Increases (+)	Decreases (-)							
Alaska	0	0	0	0	0	0	0	0	0	0	0
<b>Lower 48 States</b>	<b>129,396</b>	<b>4,855</b>	<b>20,339</b>	<b>21,486</b>	<b>1,523</b>	<b>1,761</b>	<b>36,059</b>	<b>16</b>	<b>1,113</b>	<b>11,415</b>	<b>159,115</b>
Arkansas	9,779	7	329	239	0	0	3,381	0	0	1,026	12,231
California	777	-1	68	0	0	0	1	0	0	89	756
San Joaquin Basin Onshore	777	-1	68	0	0	0	1	0	0	89	756
Colorado	53	49	56	4	0	0	0	0	0	18	136
Kansas	2	0	0	0	0	0	4	0	0	3	3
Kentucky	34	0	16	0	0	0	0	0	0	4	46
<b>Louisiana</b>	<b>13,523</b>	<b>72</b>	<b>1,606</b>	<b>2,731</b>	<b>400</b>	<b>258</b>	<b>665</b>	<b>0</b>	<b>0</b>	<b>1,510</b>	<b>11,483</b>
North Onshore	13,523	70	1,606	2,731	400	258	656	0	0	1,509	11,473
South Onshore	0	2	0	0	0	0	9	0	0	1	10
Michigan	1,345	-74	351	103	11	11	0	0	0	101	1,418
Mississippi	19	23	0	0	0	0	0	0	0	5	37
Montana	216	-4	31	28	0	0	33	0	0	19	229
<b>New Mexico</b>	<b>176</b>	<b>18</b>	<b>58</b>	<b>45</b>	<b>0</b>	<b>0</b>	<b>67</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>258</b>
East	93	7	30	6	0	0	67	0	0	13	178
West	83	11	28	39	0	0	0	0	0	3	80
North Dakota	3,147	-72	1,056	554	1	273	1,475	0	3	268	5,059
Oklahoma	12,572	-253	1,392	2,019	0	3	1,254	0	424	698	12,675
Pennsylvania	32,681	953	6,218	6,152	88	170	13,541	0	78	3,076	44,325
<b>Texas</b>	<b>44,778</b>	<b>1,694</b>	<b>7,294</b>	<b>6,669</b>	<b>1,020</b>	<b>1,044</b>	<b>5,439</b>	<b>0</b>	<b>371</b>	<b>3,876</b>	<b>49,055</b>
RRC District 1	8,340	315	1,083	2,818	84	105	1,046	0	0	630	7,357
RRC District 2											
Onshore	4,743	40	839	1,433	198	357	1,692	0	29	474	5,595
RRC District 3											
Onshore	6	-3	2	0	4	0	25	0	0	2	24
RRC District 4											
Onshore	3,091	592	174	819	0	0	1,655	0	0	316	4,377
RRC District 5	11,513	-70	2,922	334	32	520	182	0	19	1,128	13,592
RRC District 6	4,172	564	513	283	4	0	80	0	0	409	4,633
RRC District 7B	2,952	-106	331	212	18	16	1	0	56	218	2,802
RRC District 7C	81	-1	217	42	0	0	166	0	1	13	409
RRC District 8	583	-21	121	112	50	26	161	0	3	62	649
RRC District 8A	0	0	0	0	0	0	0	0	0	0	0
RRC District 9	9,260	378	1,092	616	629	20	431	0	263	619	9,580
RRC District 10	37	6	0	0	1	0	0	0	0	5	37
Virginia	135	3	3	12	0	0	0	0	0	3	126
West Virginia	9,408	1,257	1,586	2,267	3	0	8,595	0	0	498	18,078
Wyoming	216	1,167	0	536	0	2	106	0	3	102	856
Miscellaneous <sup>a</sup>	535	16	275	127	0	0	1,498	16	234	103	2,344
<b>U.S. Total</b>	<b>129,396</b>	<b>4,855</b>	<b>20,339</b>	<b>21,486</b>	<b>1,523</b>	<b>1,761</b>	<b>36,059</b>	<b>16</b>	<b>1,113</b>	<b>11,415</b>	<b>159,115</b>

<sup>a</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-23L, 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 slightly 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-23L, Annual Survey of Domestic Oil and Gas Reserves.

Table 15. Coalbed methane proved reserves and production, 2009-13

billion cubic feet

State and Subdivision	Reserves					Production				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Alaska	0	0	0	0	0	0	0	0	0	0
<b>Lower 48 States</b>	<b>18,578</b>	<b>17,508</b>	<b>16,817</b>	<b>13,591</b>	<b>12,392</b>	<b>1,914</b>	<b>1,886</b>	<b>1,763</b>	<b>1,655</b>	<b>1,466</b>
Alabama	1,342	1,298	1,210	1,006	413	105	102	98	91	62
Arkansas	22	28	21	10	13	3	3	4	2	2
California	0	0	0	0	0	0	0	0	0	0
Colorado	7,348	6,485	6,580	5,074	4,391	498	533	516	486	444
Florida	0	0	0	0	0	0	0	0	0	0
Kansas	163	258	228	183	189	43	41	37	34	30
Kentucky	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>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
North	0	0	0	0	0	1	0	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	37	64	25	11	16	12	10	6	3	1
<b>New Mexico</b>	<b>3,646</b>	<b>3,532</b>	<b>3,358</b>	<b>2,772</b>	<b>2,856</b>	<b>432</b>	<b>402</b>	<b>374</b>	<b>355</b>	<b>356</b>
East	474	523	507	362	5	26	27	27	28	26
West	3,172	3,009	2,851	2,410	2,851	406	375	347	327	330
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	0	0	0	0	0	0	0	0	0	0
Oklahoma	338	325	274	439	440	55	45	39	68	65
Pennsylvania	131	129	124	106	161	16	3	4	15	13
<b>Texas</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>81</b>	<b>57</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>8</b>
RRC District 1	0	0	0	0	0	0	0	0	0	0
RRC District 2										
Onshore	0	0	0	1	2	0	0	0	0	0
RRC District 3										
Onshore	0	0	0	71	47	0	0	0	10	7
RRC District 4										
Onshore	0	0	0	1	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	8	7	0	0	0	1	1
State Offshore	0	0	0	0	0	0	0	0	0	0
Utah	725	718	679	518	523	71	66	60	55	50
Virginia	2,261	1,752	1,623	1,535	1,387	111	97	100	99	93
West Virginia	220	220	139	107	113	31	17	18	9	8
Wyoming	2,328	2,683	2,539	1,736	1,810	535	566	506	426	331
Federal Offshore	0	0	0	0	0	0	0	0	0	0
Miscellaneous <sup>a</sup>	17	16	17	13	23	1	1	1	1	3
<b>U.S. Total</b>	<b>18,578</b>	<b>17,508</b>	<b>16,817</b>	<b>13,591</b>	<b>12,392</b>	<b>1,914</b>	<b>1,886</b>	<b>1,763</b>	<b>1,655</b>	<b>1,466</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-23L, Annual Survey of Domestic Oil and Gas Reserves, 2009-2013.

Table 16. Coalbed methane proved reserves, reserves changes, and production, 2013

billion cubic feet

State and Subdivision	Published Proved Reserves 12/31/12	Changes in Reserves During 2013						New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	Proved Reserves 12/31/13
		Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)				
Alaska	0	0	0	0	0	0	0	0	0	0	
<b>Lower 48 States</b>	<b>13,591</b>	<b>-309</b>	<b>3,123</b>	<b>1,998</b>	<b>869</b>	<b>42</b>	<b>278</b>	<b>0</b>	<b>0</b>	<b>1,466</b>	<b>12,392</b>
Alabama	1,006	-166	33	54	344	0	0	0	0	62	413
Arkansas	10	0	5	0	0	0	0	0	0	2	13
California	0	0	0	0	0	0	0	0	0	0	0
Colorado	5,074	75	789	1,023	82	0	2	0	0	444	4,391
Florida	0	0	0	0	0	0	0	0	0	0	0
Kansas	183	-35	71	0	0	0	0	0	0	30	189
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	11	10	0	4	0	0	0	0	0	1	16
<b>New Mexico</b>	<b>2,772</b>	<b>41</b>	<b>1,362</b>	<b>587</b>	<b>440</b>	<b>42</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>356</b>	<b>2,856</b>
East	362	-10	71	0	409	0	17	0	0	26	5
West	2,410	51	1,291	587	31	42	5	0	0	330	2,851
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	439	-200	280	12	3	0	1	0	0	65	440
Pennsylvania	106	68	0	0	0	0	0	0	0	13	161
<b>Texas</b>	<b>81</b>	<b>-16</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>57</b>
RRC District 1	0	0	0	0	0	0	0	0	0	0	0
RRC District 2											
Onshore	1	1	0	0	0	0	0	0	0	0	2
RRC District 3											
Onshore	71	-17	0	0	0	0	0	0	0	7	47
RRC District 4											
Onshore	1	0	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	8	0	0	0	0	0	0	0	0	1	7
State Offshore	0	0	0	0	0	0	0	0	0	0	0
Utah	518	-3	69	11	0	0	0	0	0	50	523
Virginia	1,535	-12	87	201	0	0	71	0	0	93	1,387
West Virginia	107	0	15	1	0	0	0	0	0	8	113
Wyoming	1,736	-84	412	105	0	0	182	0	0	331	1,810
Federal Offshore	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous <sup>a</sup>	13	13	0	0	0	0	0	0	0	3	23
<b>U.S. Total</b>	<b>13,591</b>	<b>-309</b>	<b>3,123</b>	<b>1,998</b>	<b>869</b>	<b>42</b>	<b>278</b>	<b>0</b>	<b>0</b>	<b>1,466</b>	<b>12,392</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-23L, Annual Survey of Domestic Oil and Gas Reserves.

**Table 17. Estimated natural gas plant liquids and dry natural gas content of total natural gas proved reserves, 2013**

million barrels and billion cubic feet

State and Subdivision	Total Natural Gas Proved Reserves	Estimated content of proved reserves	
	2013 billion cubic feet	Natural Gas Plant Liquids million barrels	Dry Natural Gas billion cubic feet
Alaska	7,383	288	7,316
<b>Lower 48 States</b>	<b>346,611</b>	<b>11,655</b>	<b>330,948</b>
Alabama	1,670	51	1,597
Arkansas	13,524	4	13,518
<b>California</b>	<b>2,023</b>	<b>102</b>	<b>1,887</b>
Coastal Region Onshore	284	13	266
Los Angeles Basin Onshore	90	4	86
San Joaquin Basin Onshore	1,574	85	1,460
State Offshore	75	0	75
Colorado	23,533	762	22,381
Florida	15	0	15
Kansas	3,772	138	3,592
Kentucky	1,794	95	1,663
<b>Louisiana</b>	<b>20,389</b>	<b>212</b>	<b>20,164</b>
North	17,112	52	17,044
South Onshore	2,857	144	2,718
State Offshore	420	16	402
Michigan	1,839	27	1,807
Mississippi	600	3	595
Montana	590	11	575
<b>New Mexico</b>	<b>14,567</b>	<b>679</b>	<b>13,576</b>
East	5,108	329	4,633
West	9,459	350	8,943
North Dakota	6,081	466	5,420
Oklahoma	28,900	1,408	26,873
Pennsylvania	50,078	294	49,674
<b>Texas</b>	<b>97,921</b>	<b>5,653</b>	<b>90,349</b>
RRC District 1	8,118	233	7,784
RRC District 2 Onshore	6,640	698	5,910
RRC District 3 Onshore	2,592	196	2,307
RRC District 4 Onshore	11,101	1069	9,640
RRC District 5	19,531	183	19,280
RRC District 6	12,192	376	11,655
RRC District 7B	3,267	332	2,787
RRC District 7C	5,584	438	4,800
RRC District 8	9,715	830	8,629
RRC District 8A	1,338	239	1,269
RRC District 9	10,040	578	9,195
RRC District 10	7,744	481	7,034
State Offshore	59	0	59
Utah	7,057	169	6,829
West Virginia	23,209	320	22,765
Wyoming	34,576	894	33,618
<b>Federal Offshore<sup>a</sup></b>	<b>8,567</b>	<b>335</b>	<b>8,193</b>
Pacific (California)	264	2	261
Gulf of Mexico (Louisiana) <sup>a</sup>	6,795	292	6,482
Gulf of Mexico (Texas)	1,508	41	1,450
Miscellaneous <sup>b</sup>	5,906	32	5,857
<b>U.S. Total</b>	<b>353,994</b>	<b>11,943</b>	<b>338,264</b>

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

Sources: U.S. Energy Information Administration, Form EIA-23L, Annual Survey of Domestic Oil and Gas Reserves, and Form EIA-64A, Annual Report of the Origin of Natural Gas Liquids Production.

**Table 18. Reported proved nonproducing reserves of crude oil, lease condensate, nonassociated gas, associated-dissolved gas, and total gas (wet after lease separation), 2013**

State and Subdivision	Crude Oil (million barrels)	Lease Condensate (million barrels)	Nonassociated Gas (billion cubic feet)	Associated Dissolved Gas (billion cubic feet)	Total Gas (billion cubic feet)
Alaska	639	63	353	740	1,093
<b>Lower 48 States</b>	<b>12,561</b>	<b>1,317</b>	<b>93,344</b>	<b>21,478</b>	<b>114,822</b>
Alabama	2	1	71	2	73
Arkansas	10	0	4,774	70	4,844
<b>California</b>	<b>606</b>	<b>0</b>	<b>61</b>	<b>187</b>	<b>248</b>
Coastal Region Onshore	280	0	0	123	123
Los Angeles Basin Onshore	60	0	0	16	16
San Joaquin Basin Onshore	214	0	61	35	96
State Offshore	52	0	0	13	13
Colorado	607	148	5,804	2,928	8,732
Florida	9	0	14	0	14
Kansas	11	4	314	172	486
Kentucky	1	0	3	0	3
<b>Louisiana</b>	<b>180</b>	<b>41</b>	<b>8,560</b>	<b>353</b>	<b>8,913</b>
North	12	16	7,366	39	7,405
South Onshore	155	24	1,120	297	1,417
State Offshore	13	1	74	17	91
Michigan	4	0	48	15	63
Mississippi	73	0	143	0	143
Montana	104	0	30	50	80
<b>New Mexico</b>	<b>314</b>	<b>28</b>	<b>1,369</b>	<b>1,029</b>	<b>2,398</b>
East	304	25	434	1,013	1,447
West	10	3	935	16	951
New York	0	0	1	0	1
North Dakota	3,278	0	2	3,617	3,619
Ohio	7	11	1,015	57	1,072
Oklahoma	292	188	7,878	1,810	9,688
Pennsylvania	0	22	21,500	0	21,500
<b>Texas</b>	<b>4,065</b>	<b>683</b>	<b>21,944</b>	<b>8,199</b>	<b>30,143</b>
RRC District 1	1,324	158	2,079	2,238	4,317
RRC District 2 Onshore	615	268	1,567	910	2,477
RRC District 3 Onshore	163	13	502	233	735
RRC District 4 Onshore	7	132	5,831	19	5,850
RRC District 5	12	0	2,724	5	2,729
RRC District 6	18	27	4,087	186	4,273
RRC District 7B	12	0	617	12	629
RRC District 7C	400	3	157	1,383	1,540
RRC District 8	1,057	30	402	2,350	2,752
RRC District 8A	367	0	1	308	309
RRC District 9	20	10	2,236	219	2,455
RRC District 10	70	41	1,728	334	2,062
State Offshore	0	1	13	2	15
Utah	312	33	2,621	479	3,100
Virginia	0	0	471	0	471
West Virginia	2	27	6,546	3	6,549
Wyoming	219	73	8,658	280	8,938
<b>Federal Offshore<sup>a</sup></b>	<b>2,456</b>	<b>58</b>	<b>1,469</b>	<b>2,227</b>	<b>3,696</b>
Pacific (California)	17	0	0	16	16
Gulf of Mexico (Louisiana) <sup>a</sup>	2,406	47	1,238	2,122	3,360
Gulf of Mexico (Texas)	33	11	231	89	320
Miscellaneous <sup>b</sup>	9	0	48	0	48
<b>U.S. Total</b>	<b>13,200</b>	<b>1,380</b>	<b>93,697</b>	<b>22,218</b>	<b>115,915</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: 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-23L, Annual Survey of Domestic Oil and Gas Reserves.