

Summary: U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Proved Reserves

2009

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U.S. Energy Information Administration
Independent Statistics and Analysis

U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Proved Reserves, 2009

Summary

Domestic proved reserves¹ of oil and natural gas increased significantly in 2009. U.S. natural gas proved reserves²—estimated as “wet” gas which includes natural gas plant liquids—increased by 11 percent in 2009 to 284 trillion cubic feet (Tcf). This is their highest level since 1971, despite an approximate one-third decline in the prices used to assess economic viability for 2009 reserves as compared to the prices used in 2008. U.S. crude oil plus lease condensate proved reserves rose 9 percent to 22.3 billion barrels in 2009, regaining 1.8 billion barrels of the 2.3 billion barrel decline in 2008. These increases demonstrate the possibility of an expanding role for domestic natural gas and crude oil in meeting both current and projected U.S. energy demands.

Table 1. Changes to Proved Reserves, 2009

	Crude Oil plus Condensate (billion barrels)	Wet Natural Gas (trillion cubic feet)
Reserves at December 31, 2008	20.6	255.0
Total discoveries	1.5	47.6
Net revisions and other	2.1	3.8
Production	-1.9	-22.5
Net change in reserves	1.8	28.8
Reserves at December 31, 2009	22.3	283.9
Percentage change in reserves	8.6%	11.3%

Notes: Oil includes lease condensate; wet natural gas includes plant liquids. Percent change calculated from unrounded numbers.

Source: U.S. Energy Information Administration

Shale gas development in Louisiana, Arkansas, Texas, Oklahoma, and Pennsylvania drove the increase in proved reserves of natural gas. Louisiana led the nation in wet natural gas proved reserves additions with a 77 percent net increase of 9.2 Tcf owing primarily to development of the Haynesville shale. Both Arkansas (Fayetteville shale) and Pennsylvania (Marcellus shale) nearly doubled their reserves with net increases of 5.2 Tcf and 3.4 Tcf respectively. Shale development in Texas and Oklahoma wasn't far behind, giving these two States proved reserves increases of 3.2 Tcf and 2.1 Tcf. These increases occurred despite a decline in natural gas prices relative to those used in assessing reserves at the end of 2008. This underscores the role of more efficient and effective shale gas exploration and productive technologies such as horizontal drilling and hydraulic fracturing.

Proved reserves of oil increased in each of the five largest crude oil and lease condensate areas (Texas, the Gulf of Mexico Federal Offshore, California, Alaska, and North Dakota) in 2009. Texas had the largest proved reserves increase, 529 million barrels (11 percent), nearly all in the Permian Basin. North Dakota reported the second largest increase, 481 million barrels (83 percent), because of Bakken Formation development. A significant driver for these increases was the higher average level of 2009 crude oil prices relative to those of December 2008.

¹ EIA defines proved reserves as those volumes of oil and natural gas that geologic and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions. Proved reserves are a small subset of recoverable resources with a probability of recovery of at least 90%.

² Natural gas, wet after lease separation, is the volume of natural gas remaining after removal of lease condensate in lease and/or field separation facilities, if any, and after exclusion of nonhydrocarbon gases where they occur in sufficient quantity to render the gas unmarketable. Natural gas plant liquids may be recovered from volumes of natural gas, wet after lease separation, at natural gas processing plants. Lease condensate is included with crude oil.

Background

The U.S. Energy Information Administration (EIA) provides annual estimates of the United States proved reserves of crude oil, natural gas, and natural gas liquids (NGL) based on filed responses to [Form EIA-23, Annual Survey of Domestic Oil and Gas Reserves](#)—an annual survey of about 1,200 domestic operators. EIA defines proved reserves as those volumes of oil and natural gas that geologic and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions. Reserves estimates change from year to year as new discoveries are made, existing reserves are produced, and as prices and technologies change. Discoveries include new fields, identification of new reservoirs in old fields, and extensions. Extensions are reserve additions that result from additional drilling and exploration in previously discovered reservoirs. Extensions typically account for a large percentage of “discoveries” within a given year. While actual discoveries of new fields and reservoirs are important indicators of new resources, they usually account for a small percentage of reserve additions in a given year. Revisions occur primarily when operators change their estimates of what they will be able to produce from the properties they operate using existing technology and prices.

Both EIA and the Securities and Exchange Commission (SEC) require oil and gas companies to provide information on their oil and gas reserves. However, there are differences between these two reporting systems. First, EIA takes a more comprehensive approach and collects information from both publicly traded and privately held companies, while the SEC reporting requirements only apply to companies with more than \$10 million in assets and whose securities are held by more than 500 owners³. Second, the SEC companies report their owned reserves while companies that report to the EIA (both public and private) report operated reserves. (Additional information and comparisons of the SEC and EIA reserves can be found in a supplemental report [Top 100 Operators: Proved Reserves and Production, Operated vs. Owned, 2009](#).)

The proved reserves estimates reported here are based on data provided by operators on Form EIA-23 plus an adjustment to account for operators not required to supply information on proved reserves, who account for roughly five percent of estimated total proved reserves. The breakdown of proved reserves estimates provided for shale gas and coalbed methane, however, represent only information reported by operators on Form EIA-23 and do not include any adjustment to account for reserve holders not included in the survey. Therefore, the actual U.S. proved reserves and production of shale gas and coalbed methane may be slightly different than indicated in this report.

Information on production volumes included in this report may differ from other annual production data issued by EIA, which makes extensive use of State-reported annual data and uses Form EIA-23 to fill in when such data is not available. Since 1990, differences between the production volumes in this report and those that reflect annual State-reported data have generally been well under one percent.

While several factors influence proved reserves estimates, crude oil and natural gas prices are particularly important. Higher prices typically increase estimates (positive revisions) as operators consider a broader portion of the resource base economically producible, or proved. Lower prices generally reduce estimates (negative revisions) as the economically producible base contracts.

For the 2009 reporting year, companies reporting to the SEC followed updated rules for determining the prices underpinning their proved reserves estimates. The new rules, which were designed to make estimates less sensitive to price fluctuations during the year, require companies to use an average of the 12 first-day-of-the-month prices. In prior years, companies' estimates were based on the market price on the last trading day of the year. Oil and gas prices on the last day of 2008 were \$44.60 per barrel and \$5.63 per million Btu (MMbtu). The 12 first-day-of-the-month average oil and gas prices for 2009 were \$61.08 per barrel and \$3.83 per MMbtu. Oil prices increased 37 percent and gas prices declined 32 percent from 2008 to 2009 according to the SEC price rules.

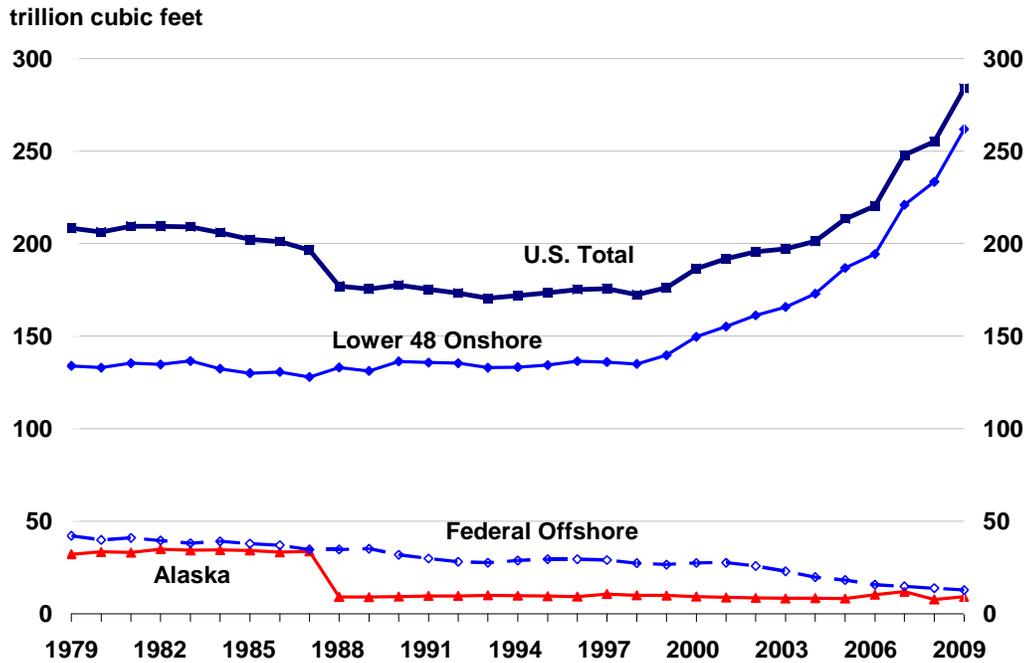
Estimates of oil and wet natural gas proved reserves each rose significantly in 2009; however, the underlying drivers for each were quite different. For oil, higher prices had a major effect and proved reserves increased primarily because of revisions. The situation was quite different for wet natural gas. Lower prices made net revisions negative for 2009, but this loss was more than replaced by total discoveries, primarily extensions of shale gas fields.

³ For 2009, 40 of the Top 100 Operators ranked by proved reserves of oil, and 28 of the Top 100 Operators ranked by wet natural gas proved reserves are privately owned companies and do not report to the SEC.

Wet Natural Gas Proved Reserves (Includes Natural Gas Plant Liquids)

Total U.S. proved reserves of wet natural gas rose by 28.8 Tcf from 2008 to 2009, to 284 Tcf. That increase reflects the strongest net proved reserve additions of wet natural gas in the United States in recent years. Wet natural gas proved reserves are now at the highest level since 1971. U.S. proved reserves of natural gas have increased in every year since 1999, a trend accelerated by shale gas drilling. (Figure 1)

Figure 1. U.S. Wet Natural Gas Proved Reserves, 1979-2009



Source: U.S. Energy Information Administration

The Importance of Unconventional Sources. Application of new technologies can convert categories of previously uneconomic natural gas resources into proved reserves. EIA began reporting reserves data separately for coalbed methane in 1990 and for shale gas in 2008. EIA does not currently report reserves estimates for tight gas, the third category of gas sometimes categorized as unconventional.

Table 2. Changes to Proved Reserves of Wet Natural Gas by Source, 2009 (trillion cubic feet)

Source of Gas	Proved Reserves Year-End 2008	Discoveries 2009	Revisions & Other Changes 2009	Production 2009	Proved Reserves Year-End 2009
Coalbed Methane	20.8	0.8	-1.1	-1.9	18.6
Shale	34.4	24.8	4.5	-3.1	60.6
Other (Conventional & Tight)					
Lower 48 Onshore	178.2	21.0	-1.1	-15.4	182.6
Lower 48 Offshore	13.9	0.9	0.5	-2.4	12.9
Alaska	7.8	0.0	1.1	-0.4	9.2
TOTAL	255.0	47.6	3.8	-22.5	283.9

Source: U.S. Energy Information Administration

Shale Gas

Additions associated with shale gas activity were instrumental in boosting overall wet gas proved reserves. Shale gas accounted for more than 90 percent of total net additions. Key shale States in 2009 include Arkansas (the Fayetteville Shale), Louisiana (the Haynesville), Oklahoma (the Woodford), Pennsylvania (the Marcellus), and Texas (the Barnett and Haynesville/Bossier). The 11 percent increase in U.S. proved natural gas reserves took place during a low-price environment that resulted in negative revisions to existing reserves. This underscores the major improvements in shale gas exploration and production technologies (horizontal drilling coupled with hydraulic fracturing) and efficiencies. Natural gas from shale represented 21 percent of U.S. gas reserves in 2009, with the majority coming from 6 major shale areas (see table below and Figure 2). The largest shale gas area in the U.S. remains the Barnett in Texas (Figure 3). The only shale of the six to decline in reserves in 2009 was the Antrim Shale of northern Michigan—a mature, shallow biogenic shale gas play discovered in 1986 that is no longer being developed at the same pace as the other leading shales. For a state-by-state listing of shale gas reserves and production from 2007 to 2009, [click here](#). For a detailed listing of 2009 shale gas proved reserves, reserves changes, and production, [click here](#). For a series of maps showcasing the Nation's shale gas resources for both shale plays and geologic basins, [click here](#).

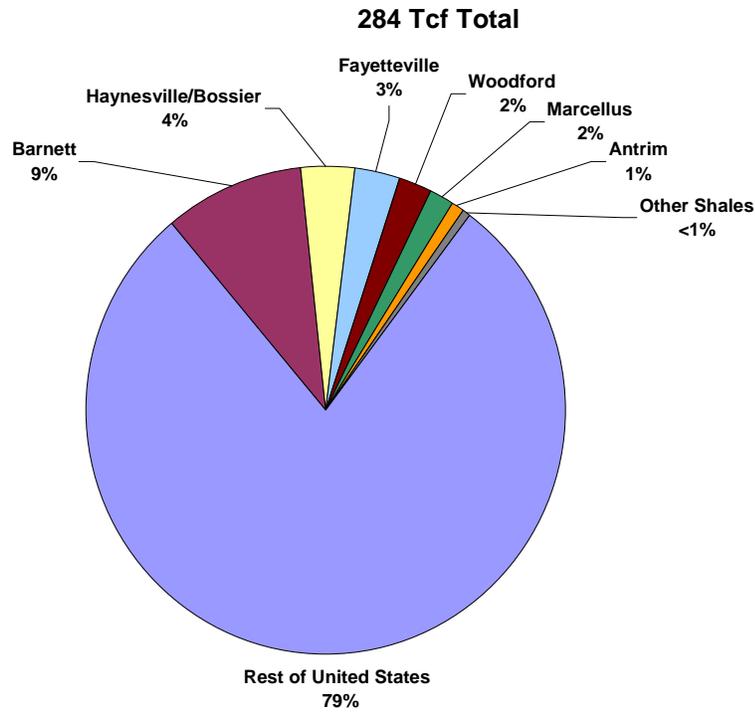
Table 3. Principal Shale Gas Plays: Natural Gas Production and Proved Reserves, 2008-2009
(billion cubic feet)

Shale Play	2008		2009		Change 2009-2008	
	Production	Reserves	Production	Reserves	Production	Reserves
Barnett	1,501	22,492	1,745	26,493	318	4,001
Haynesville/Bossier	25	1,031	321	10,468	296	9,437
Fayetteville	279	3,833	527	9,070	248	5,237
Woodford	168	3,845	249	6,389	81	2,544
Marcellus	2	102	76	4,478	74	4,376
Antrim	122	2,894	132	2,499	14	-395
Sub-total	2,097	34,197	3,050	59,397	953	25,200
Other Shale Plays	19	231	60	1,247	41	1,016
All U.S. Shale Plays	2,116	34,428	3,110	60,644	994	26,216

Note: The above table is based on shale gas proved reserves and production volumes as reported to the EIA on Form EIA-23. It does not include EIA-estimated volumes for non-surveyed operators. For this and other reasons (e.g., incorrect or incomplete respondent submissions, respondent misidentification of shale versus non-shale reservoirs) the actual proved reserves and production of natural gas from shale plays may differ. Official EIA shale gas production volumes are reported in [Natural Gas Navigator](#).

The drop in natural gas prices began to impact development plans as operators started in late 2009 to shift investments toward the development of shale gas plays in areas with a higher yield of NGLs and crude oil (e.g. portions of the Marcellus Shale in southwest Pennsylvania and the Eagle Ford Shale of Texas). The addition of higher priced crude oil, condensate, and NGLs improves project economics.

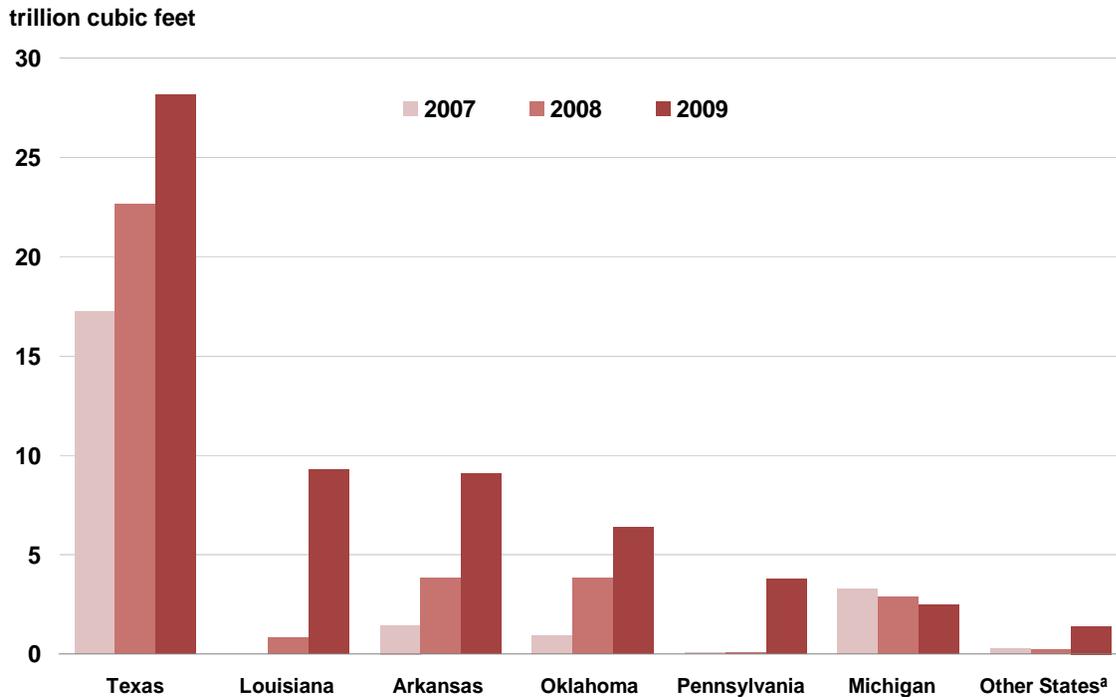
Figure 2. Shares of U.S. Natural Gas Proved Reserves from Shale Plays and Other Sources, 2009



Source: U.S. Energy Information Administration

Note: The volumes of shale gas represent only data reported by operators on Form EIA-23; estimates for all non-surveyed operators are included in "Rest of United States".

Figure 3. Shale Gas Proved Reserves by Year



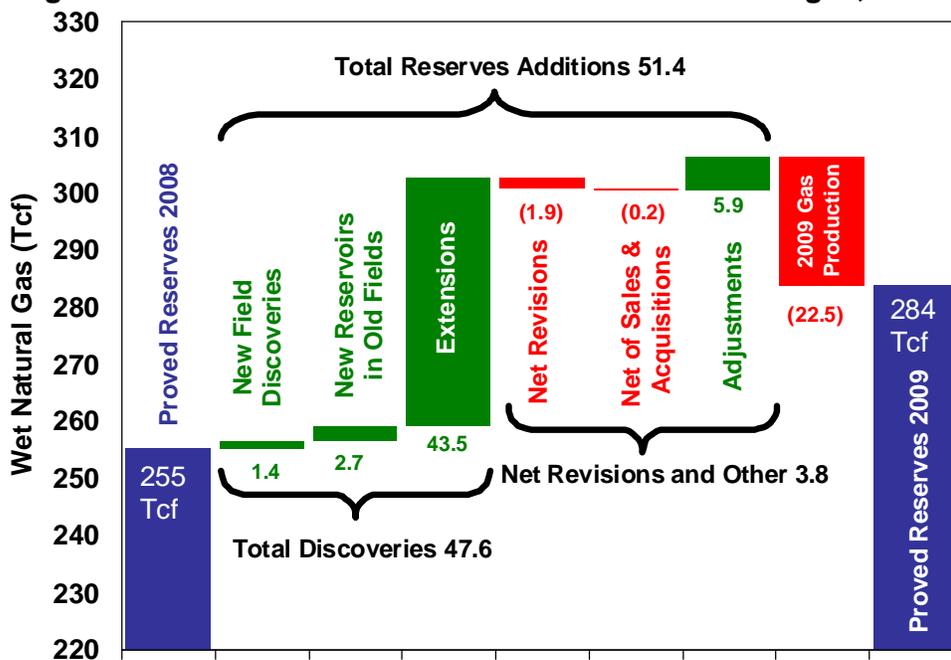
^a Other States include Indiana, Kentucky, Missouri, North Dakota, Tennessee, and West Virginia.

Source: U.S. Energy Information Administration.

Note: The volumes of shale gas represent only data reported by operators on Form EIA-23, as opposed to complete EIA estimates. The actual total volumes, including estimates for non-surveyed operators, may consequently be different.

Natural Gas Proved Reserves Changes in 2009

Figure 4. U.S. Wet Natural Gas Proved Reserves Changes, 2009



Source: U.S. Energy Information Administration

Total Discoveries. Total wet natural gas discoveries of 47.6 Tcf represented the seventh consecutive yearly increase and were by far the highest level of discoveries in the 33 years EIA has published proved reserves estimates. In 2009, 91 percent of total wet natural gas discoveries and 90 percent of shale gas discoveries came from extensions of existing fields. New field discoveries totaled 1.4 Tcf and new reservoir discoveries in previously discovered fields totaled 2.7 Tcf, each representing an increase over 2008, but together accounting for less than 10 percent of total discoveries.

Tight gas from the Pinedale Anticline in Wyoming added 3.6 Tcf of extensions to the U.S. total wet natural gas reserves.

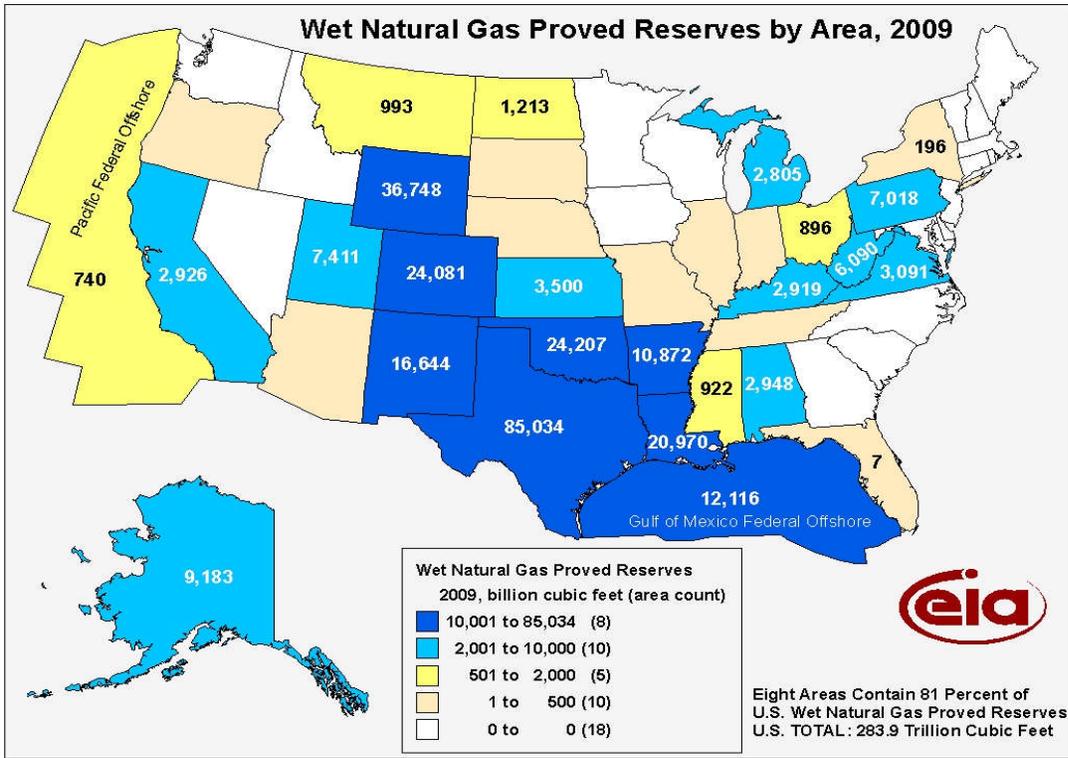
Net Revisions and Other Changes. Proved reserves revisions occur primarily when operators change their estimates of what they will be able to produce from the properties they operate using existing technology and prices. These revisions reflect changing prices, changing cost structures (for example, because of innovation), and other factors. Other small changes occur when operators buy and sell properties (revaluing the proved reserves in the process), and as various adjustments are made to reconcile estimated volumes.

Net revisions of wet natural gas proved reserves for 2009 were a negative 1.9 Tcf. Negative revisions of 34.6 Tcf were the second largest in the past decade, reflecting a significant drop in the wellhead price. The average wellhead price dropped from \$7.96 per thousand cubic feet (Mcf) in 2008 to \$3.71 per Mcf in 2009. The 2009 negative revisions were largely offset by positive revisions of 32.7 Tcf that in part reflect an improving ability to produce unconventional gas economically.

Production. Wet natural gas produced during a year is subtracted from proved reserves. As reported on the survey, production of wet natural gas in 2009 totaled 22.5 Tcf, up 5.2 percent from 2008, marking the fourth consecutive annual increase in U.S. wet natural gas production.

Maps. Figures 5 and 6 display wet natural gas proved reserves by area for 2009 and the annual changes in reserves by area from 2008 to 2009.

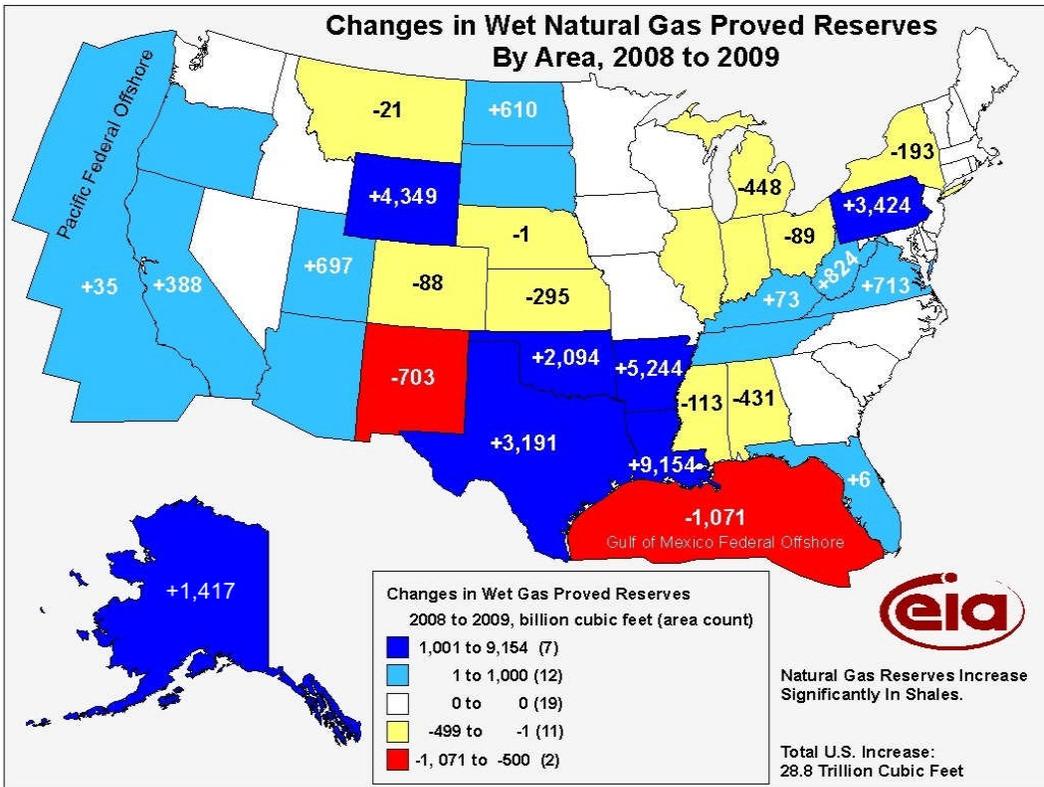
Figure 5: Wet Natural Gas Proved Reserves by Area, 2009



States with a color but no value displayed above are intentionally unlabelled for confidentiality reasons.

Source: U.S. Energy Information Administration

Figure 6: Changes in Wet Natural Gas Proved Reserves by Area, 2008 to 2009



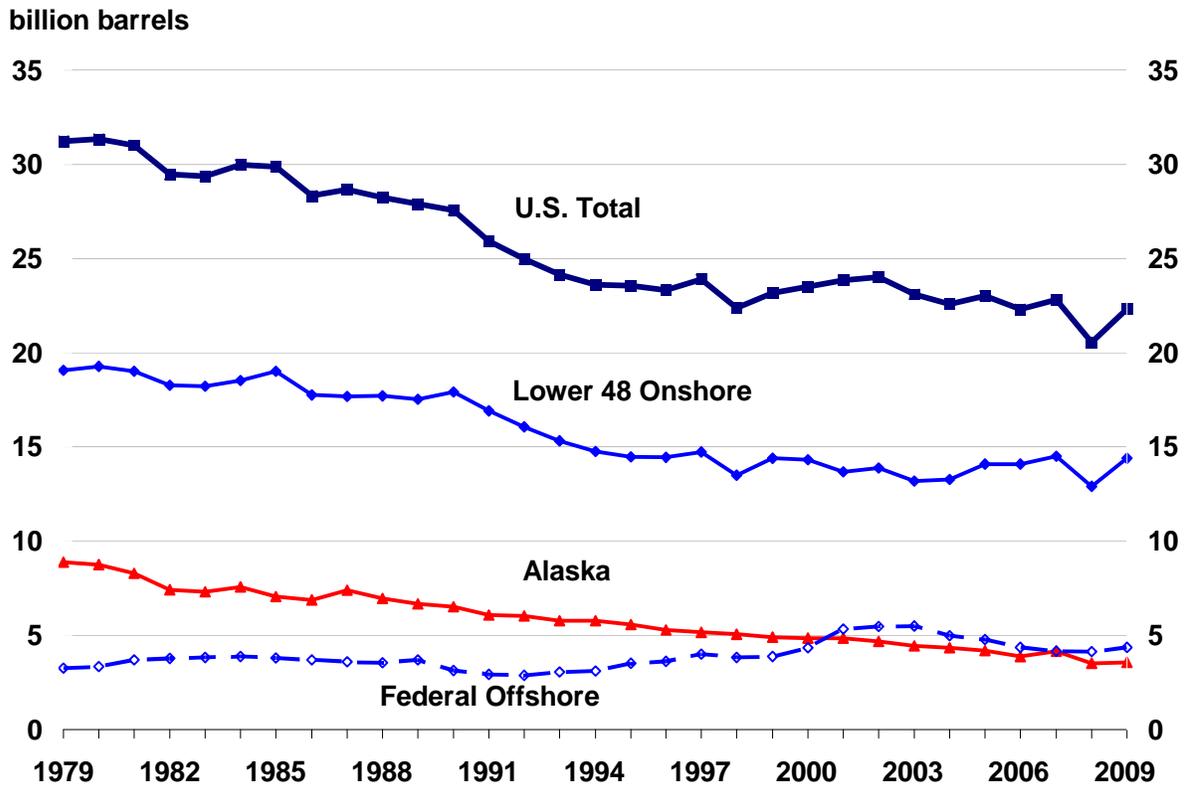
States with a color but no value displayed above are intentionally unlabelled for confidentiality reasons.

Source: U.S. Energy Information Administration

Oil Proved Reserves (Crude Oil plus Condensate)

Reported oil proved reserves rose by nearly 9 percent to 22.3 billion barrels, driven by net revisions and a fourth consecutive increase in discoveries (Figure 7). The overall increase in reported oil proved reserves was the largest in the 33 years that EIA has published estimates.

Figure 7. U.S. Crude Oil plus Condensate Proved Reserves, 1979-2009

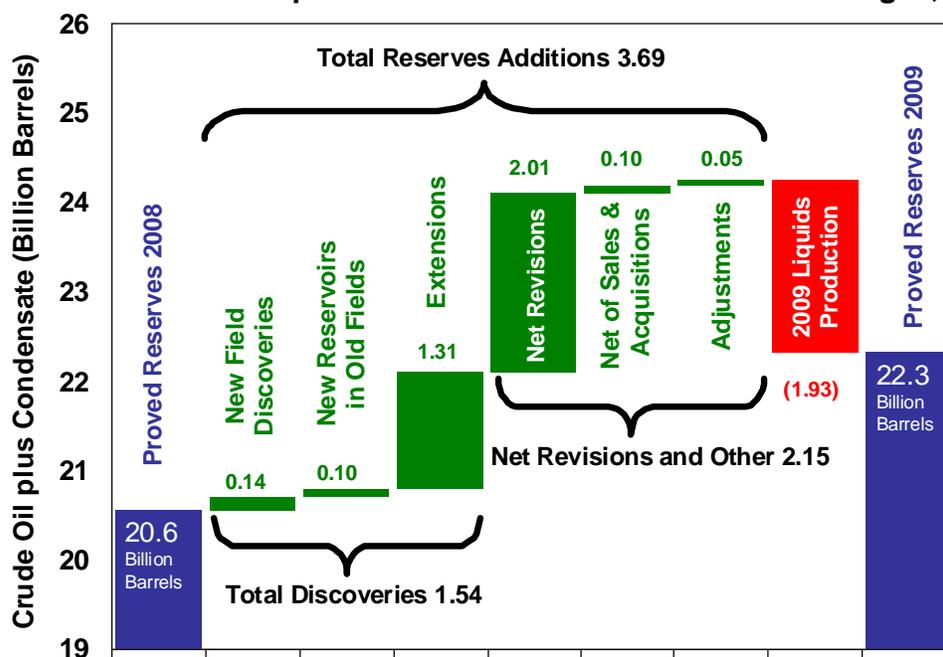


Source: U.S. Energy Information Administration

The onshore Lower 48 States drove the overall increase in proved reserves. Technologies used to increase shale gas production have also boosted oil reserves, especially from the Bakken Formation in North Dakota and Montana. North Dakota recorded especially significant gains, up 83 percent over 2008, and now ranks behind only Texas, Alaska, California, and the Gulf of Mexico in proved reserves. Higher prices and drilling activity in the deepwater areas of the Gulf of Mexico Federal Offshore drove that region's second consecutive increase in oil reserves after 4 consecutive years of decline, and contributed about 13 percent of the overall national increase in 2009.

Oil Proved Reserves Changes in 2009

Figure 8. U.S. Crude Oil plus Condensate Proved Reserves Changes, 2009



Columns may not add due to independent rounding.
Source: U.S. Energy Information Administration

Total Discoveries. While net revisions were the primary driver of the overall increase in oil proved reserves in 2009, total discoveries also made a major contribution, adding 1.5 billion barrels, mostly from extensions of existing fields.

Geographically, the largest volume of total oil discoveries in 2009 came mostly from the established areas of Texas, with discoveries of 433 million barrels, and the Gulf of Mexico Federal Offshore, with 328 million barrels of total discoveries. Relative newcomer North Dakota was again a notable source of total discoveries, adding 413 million barrels. These discoveries (mostly extensions) are associated with rapid growth in reserves of the Bakken Formation and the underlying Three Forks Formation.

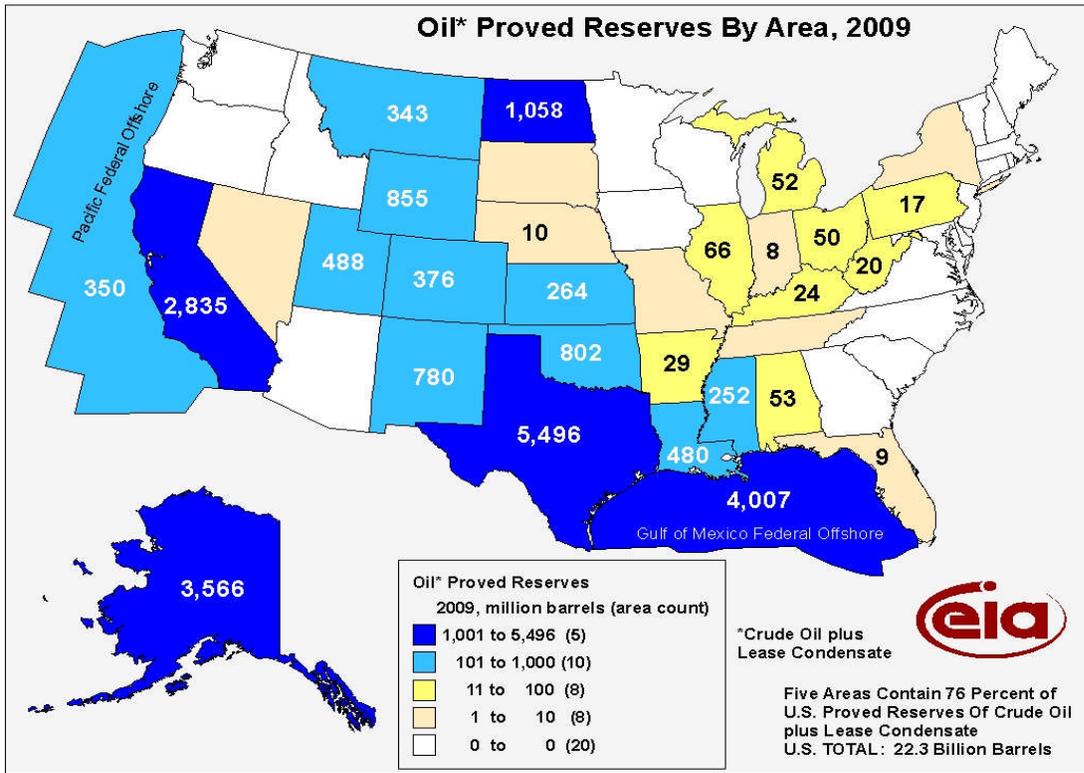
Net Revisions and Other Changes. Net revisions added 2.0 billion barrels to oil proved reserves in 2009, reflecting the major increase in oil prices. Under the new SEC rules, the average spot price for West Texas Intermediate (WTI) crude oil in 2009 was \$61.08 per barrel, an increase of 37 percent over the year-end price in 2008 (\$44.60). The low 2008 price was a major driver of near-record negative revisions and the resulting overall decline in oil proved reserves in 2008. For 2009, the impact of negative revisions on oil proved reserves was comparatively modest (less than one-third of the 2008 total).

Changes to proved oil reserves associated with buying and selling properties and adjustments were comparatively minor.

Production. In 2009, operators reported oil production of about 1.9 billion barrels, a rise of 4.6 percent from 2008. The increase was driven by production from the Gulf of Mexico Federal Offshore, particularly from deepwater fields. Deepwater production has offset steady shallow water declines, and presently accounts for 80 percent of the total Gulf of Mexico Federal Offshore oil production (up from 57 percent 5 years ago). Other key producing areas include Alaska, California, and Texas.

Maps. Figures 9 and 10 display oil proved reserves by area for 2009, and the annual changes in proved reserves by area from 2008 to 2009.

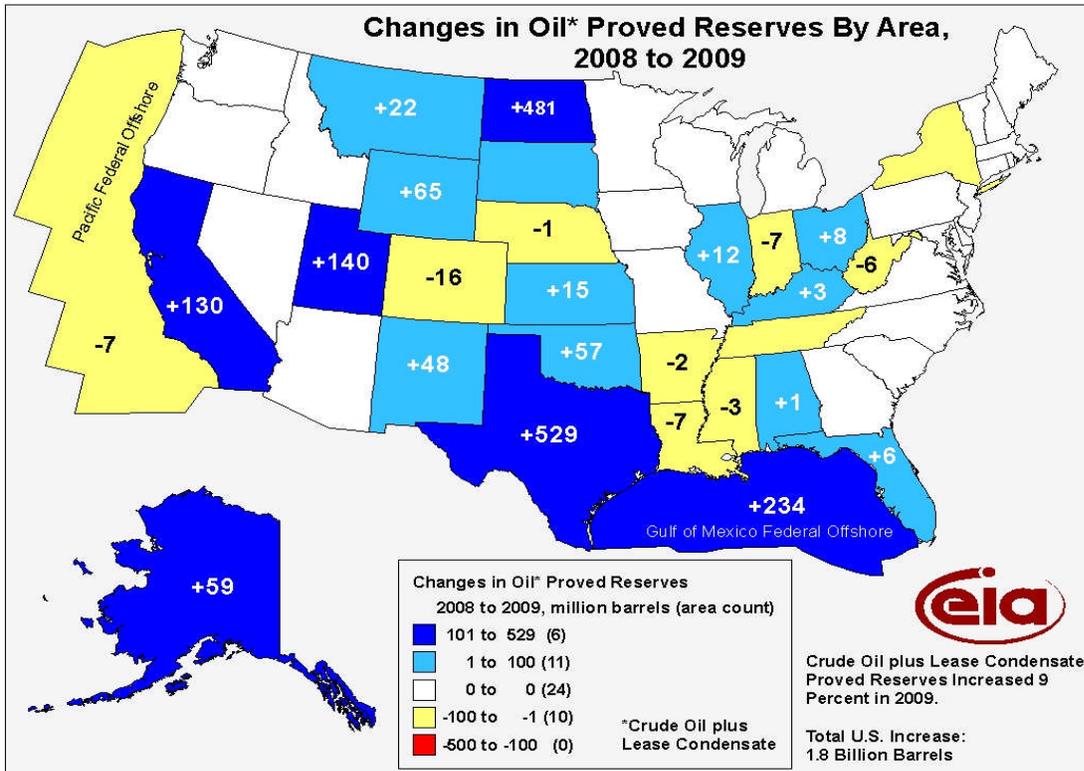
Figure 9: Oil Proved Reserves by Area, 2009



States with a color but no value displayed above are intentionally unlabelled for confidentiality reasons.

Source: U.S. Energy Information Administration

Figure 10: Changes in Oil Proved Reserves by Area, 2008 to 2009



States with a color but no value displayed above are intentionally unlabelled for confidentiality reasons.

Source: U.S. Energy Information Administration

Natural Gas Liquids (NGL) Proved Reserves

In previous annual summaries, the NGL data included both lease condensate and natural gas plant liquids. Other EIA publications, however, apportion NGL reserves between crude oil and natural gas. Therefore, to improve comparability across all EIA reserves data offerings, this summary included lease condensate with crude oil (as liquids) and plant liquids were included in wet natural gas. EIA nevertheless continues to track both lease condensate and natural gas plant liquids volumes separately, and the 2009 proved reserves changes and production are summarized in this section.

Lease Condensate

U.S. lease condensate proved reserves increased from 1,433 million barrels in 2008 to 1,633 million barrels in 2009, a 14 percent increase primarily from extensions. Texas had the largest increase in lease condensate proved reserves in 2009, followed by Wyoming and Oklahoma.

U.S. lease condensate production increased 3 percent from 173 million barrels in 2008 to 178 million barrels in 2009.

Natural Gas Plant Liquids

U.S. natural gas plant liquids reserves increased from 7,842 million barrels in 2008 to 8,557 million barrels in 2009, a 9 percent increase. Texas had the largest volume and largest increase in natural gas plant liquids proved reserves in 2009, followed by Wyoming and Oklahoma.

U.S. natural gas plant liquids production increased 7 percent from 667 million barrels in 2008 to 714 million barrels in 2009.

Table 4. Total U.S. Proved Reserves of Wet Natural Gas, and Crude Oil plus Lease Condensate, 2001-2009

Year	Adjustments (1)	Net Revisions (2)	Revisions ^a and Adjustments (3)	Net of Sales ^b and Acquisitions (4)	Extensions (5)	New Field Discoveries (6)	New Reservoir Discoveries in Old Fields (7)	Total ^c Discoveries (8)	Estimated Production (9)	Proved ^d Reserves 12/31 (10)	Change from Prior Year (11)
Wet Natural Gas (Billion Cubic Feet, 14.73 psia, 60° Fahrenheit)											
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
Crude Oil plus Lease Condensate (Million Barrels of 42 U.S. Gallons)											
2001	-61	-346	-407	-53	1,002	1,480	358	2,840	2,133	23,843	+326
2002	423	682	1,105	51	600	318	187	1,105	2,082	24,023	+180
2003	192	-9	183	-416	530	717	137	1,384	2,068	23,106	-917
2004	80	444	524	37	731	36	159	926	2,001	22,592	-514
2005	237	558	795	327	946	209	57	1,212	1,907	23,019	+427
2006	109	43	152	189	685	38	62	785	1,834	22,311	-708
2007	21	1,275	1,296	44	865	81	87	1,033	1,872	22,812	+501
2008	318	-2,189	-1,871	187	968	166	137	1,271	1,845	20,554	-2,258
2009	46	2,008	2,054	95	1,305	141	95	1,541	1,929	22,315	+1,761

^aRevisions and adjustments = Col. 1 + Col. 2.

^bNet of sales and acquisitions = acquisitions - sales.

^cTotal discoveries = Col. 5 + Col. 6 + Col. 7.

^dProved reserves = Col. 10 from prior year + Col. 3 + Col. 4 + Col. 8 - Col. 9.

Notes: Old means discovered in a prior year. New means discovered during the report year. The production estimates in this table are based on data reported on Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves" and Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production." They may differ from EIA production data for crude oil, lease condensate, and wet natural gas for 2009 contained in the *Petroleum Supply Annual 2009* and the *Natural Gas Annual 2009*.

Sources: *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, 2001 through 2009 annual reports.

Table 5. Natural Gas Proved Reserves, Reserves Changes, and Production, Wet After Lease Separation, 2009 (Billion Cubic Feet at 14.73 psia and 60° Fahrenheit)

State and Subdivision	Published Proved Reserves 12/31/08	Changes in Reserves During 2009									Proved Reserves 12/31/09
		Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	
Alaska	7,766	2	1,887	108	5	0	2	0	0	361	9,183
Lower 48 States	247,269	5,921	30,777	34,455	4,372	4,155	43,498	1,423	2,656	22,176	274,696
Alabama	3,379	47	101	337	2	0	21	0	0	261	2,948
Arkansas	5,628	4	1,912	621	54	36	4,629	0	36	698	10,872
California	2,538	8	274	199	4	83	476	1	0	251	2,926
Coastal Region Onshore	151	3	42	15	0	0	0	0	0	12	169
Los Angeles Basin Onshore	81	4	38	25	0	0	0	0	0	7	91
San Joaquin Basin Onshore	2,249	-1	191	156	4	83	472	1	0	226	2,609
State Offshore	57	2	3	3	0	0	4	0	0	6	57
Colorado	24,169	488	1,672	4,224	391	456	3,495	8	0	1,592	24,081
Florida	1	6	0	0	0	0	0	0	0	0	7
Kansas	3,795	241	226	430	3	1	26	0	0	356	3,500
Kentucky	2,846	103	132	797	0	0	748	0	0	113	2,919
Louisiana	11,816	303	1,901	3,157	130	105	9,893	259	1,555	1,575	20,970
North Onshore	7,966	139	1,174	2,305	84	51	9,580	255	1,496	999	17,273
South Onshore	2,916	173	644	637	46	50	298	4	57	490	2,969
State Offshore	934	-9	83	215	0	4	15	0	2	86	728
Michigan	3,253	-314	373	412	0	17	16	19	9	156	2,805
Mississippi	1,035	28	92	252	17	2	133	2	0	101	922
Montana	1,014	140	134	213	3	3	33	0	0	115	993
New Mexico	17,347	582	1,498	1,830	309	318	479	1	3	1,445	16,644
East	4,406	307	596	691	164	252	349	0	3	500	4,558
West	12,941	275	902	1,139	145	66	130	1	0	945	12,086
New York	389	-84	39	59	54	0	0	0	0	35	196
North Dakota	603	58	273	91	2	1	450	7	6	92	1,213
Ohio	985	70	70	43	196	79	10	0	0	79	896
Oklahoma	22,113	1,094	3,077	3,819	637	411	3,682	0	189	1,903	24,207
Pennsylvania	3,594	64	671	504	52	603	2,788	128	0	274	7,018
Texas	81,843	1,090	8,382	10,274	2,026	1,661	10,812	518	446	7,418	85,034
RRC District 1	1,047	3	114	113	38	55	155	390	0	90	1,523
RRC District 2 Onshore	2,364	-86	202	394	23	5	91	12	13	275	1,909
RRC District 3 Onshore	2,932	-119	525	395	186	204	308	66	12	545	2,802
RRC District 4 Onshore	7,930	-89	812	1,488	273	324	531	48	324	1,062	7,057
RRC District 5	20,460	173	1,928	1,477	32	281	3,029	0	0	1,739	22,623
RRC District 6	12,619	442	1,886	2,305	370	252	1,731	0	43	1,041	13,257
RRC District 7B	2,750	103	168	225	577	32	372	0	0	199	2,424
RRC District 7C	5,529	69	399	503	101	109	296	0	2	370	5,430
RRC District 8	7,586	284	924	1,534	290	216	832	2	28	608	7,440
RRC District 8A	1,257	75	170	117	8	18	8	0	0	114	1,289
RRC District 9	9,548	22	644	532	75	90	2,536	0	14	725	11,522
RRC District 10	7,601	243	581	1,169	50	75	923	0	0	610	7,594
State Offshore	220	-30	29	22	3	0	0	0	10	40	164
Utah	6,714	71	1,371	501	94	135	167	0	4	456	7,411
Virginia	2,378	339	256	87	0	0	383	0	0	178	3,091
West Virginia	5,266	257	392	886	55	2	1,219	170	9	284	6,090
Wyoming	32,399	1,244	5,501	3,682	181	56	3,646	0	91	2,326	36,748
Federal Offshore ^a	13,892	14	2,365	1,917	162	186	298	310	308	2,438	12,856
Pacific (California)	705	0	79	7	0	0	0	0	0	37	740
Gulf of Mexico (Louisiana) ^a	10,785	4	1,690	1,463	128	164	279	50	231	1,947	9,665
Gulf of Mexico (Texas)	2,402	10	596	447	34	22	19	260	77	454	2,451
Miscellaneous ^b	272	68	65	120	0	0	94	0	0	30	349
U.S. Total	255,035	5,923	32,664	34,563	4,377	4,155	43,500	1,423	2,656	22,537	283,879

^aIncludes Federal offshore Alabama.

^bIncludes Arizona, Illinois, Indiana, Maryland, Missouri, Nebraska, Nevada, Oregon, South Dakota, and Tennessee.

Note: The production estimates in this table are based on data reported on Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves." They may differ from EIA production data for natural gas for 2009 contained in the *Natural Gas Annual 2009*.

Source: U.S. Energy Information Administration.

Table 6. Crude Oil plus Lease Condensate Proved Reserves, Reserves Changes, and Production, 2009
(Million Barrels of 42 U.S. Gallons)

State and Subdivision	Published Proved Reserves 12/31/08	Changes in Reserves During 2009							New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	Proved Reserves 12/31/09
		Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)			
Alaska	3,507	0	394	152	7	0	25	9	0	210	3,566
Lower 48 States	17,047	46	2,876	1,110	242	344	1,280	132	95	1,719	18,749
Alabama	52	1	9	2	0	0	0	0	0	7	53
Arkansas	31	2	5	0	3	0	0	0	0	6	29
California	2,705	-17	427	119	3	20	30	0	0	208	2,835
Coastal Region Onshore	255	1	105	4	0	2	0	0	0	18	341
Los Angeles Basin Onshore	188	10	98	47	0	0	1	0	0	15	235
San Joaquin Basin Onshore	2,125	-30	192	68	3	18	22	0	0	161	2,095
State Offshore	137	2	32	0	0	0	7	0	0	14	164
Colorado	392	-9	28	27	17	2	37	0	0	30	376
Florida	3	-1	8	0	0	0	0	0	0	1	9
Illinois	54	3	12	1	0	0	3	0	0	5	66
Indiana	15	-7	1	0	0	0	0	0	0	1	8
Kansas	249	20	49	21	2	2	2	2	3	40	264
Kentucky	21	4	4	3	0	0	0	0	0	2	24
Louisiana	487	-1	100	69	9	11	26	0	3	68	480
North Onshore	87	-4	15	6	2	1	1	0	0	11	81
South Onshore	341	4	76	57	7	7	24	0	3	48	343
State Offshore	59	-1	9	6	0	3	1	0	0	9	56
Michigan	52	-13	21	17	0	0	0	10	5	6	52
Mississippi	255	-1	30	8	4	0	3	1	0	24	252
Montana	321	21	72	47	3	3	5	0	0	29	343
Nebraska	11	0	1	0	0	0	0	0	0	2	10
New Mexico	732	3	102	77	16	20	76	0	0	60	780
East	701	4	95	74	15	19	76	0	0	58	748
West	31	-1	7	3	1	1	0	0	0	2	32
North Dakota	577	12	211	69	4	2	396	12	5	84	1,058
Ohio	42	8	6	0	5	3	0	0	0	4	50
Oklahoma	745	-18	169	93	31	29	64	0	0	63	802
Pennsylvania	17	-1	4	4	0	0	3	0	0	2	17
Texas	4,967	21	653	276	111	210	416	11	6	401	5,496
RRC District 1	97	-3	19	19	0	0	8	4	0	10	96
RRC District 2 Onshore	67	-7	8	6	0	0	13	0	1	10	66
RRC District 3 Onshore	235	-7	46	29	12	42	19	3	0	40	257
RRC District 4 Onshore	101	-5	20	19	5	3	7	3	1	14	92
RRC District 5	26	-4	5	1	0	0	1	0	0	3	24
RRC District 6	221	3	38	29	3	4	8	0	0	18	224
RRC District 7B	101	9	7	7	0	1	1	0	0	10	102
RRC District 7C	389	35	55	25	7	25	69	0	0	32	509
RRC District 8	1,764	10	201	99	63	87	202	0	4	121	1,985
RRC District 8A	1,704	19	172	15	8	24	4	1	0	111	1,790
RRC District 9	113	-24	29	9	12	22	45	0	0	15	149
RRC District 10	143	-3	52	18	1	2	39	0	0	16	198
State Offshore	6	-2	1	0	0	0	0	0	0	1	4
Utah	348	2	126	8	8	26	25	0	0	23	488
West Virginia	26	-1	0	4	0	0	0	0	0	1	20
Wyoming	790	19	123	55	6	0	35	0	0	51	855
Federal Offshore ^a	4,130	0	710	208	20	16	159	96	73	599	4,357
Pacific (California)	357	-1	33	17	0	0	0	0	0	22	350
Gulf of Mexico (Louisiana) ^a	3,539	2	616	174	20	14	158	34	57	522	3,704
Gulf of Mexico (Texas)	234	-1	61	17	0	2	1	62	16	55	303
Miscellaneous ^b	25	-1	5	2	0	0	0	0	0	2	25
U.S. Total	20,554	46	3,270	1,262	249	344	1,305	141	95	1,929	22,315

^aIncludes Federal Offshore Alabama.

^bIncludes Arizona, Missouri, Nevada, New York, South Dakota, Tennessee, and Virginia.

Note: The production estimates in this table are based on data reported on Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves." They may differ from EIA production data for crude oil for 2009 contained in the *Petroleum Supply Annual 2009*.

Source: U.S. Energy Information Administration.

Table 7. Total U.S. Proved Reserves of Crude Oil, Dry Natural Gas, and Lease Condensate, 2001-2009

Year	Adjustments (1)	Net Revisions (2)	Revisions ^a and Adjustments (3)	Net of Sales ^b and Acquisitions (4)	Extensions (5)	New Field Discoveries (6)	New Reservoir Discoveries in Old Fields (7)	Total ^c Discoveries (8)	Estimated Production (9)	Proved ^d Reserves 12/31 (10)	Change from Prior Year (11)
Crude Oil (Million Barrels of 42 U.S. Gallons)											
2001	-4	-158	-162	-87	866	1,407	292	2,565	1,915	22,446	+401
2002	416	720	1,136	24	492	300	154	946	1,875	22,677	+231
2003	163	94	257	-398	426	705	101	1,232	1,877	21,891	-786
2004	74	420	494	23	617	33	132	782	1,819	21,371	-520
2005	221	569	790	278	805	205	41	1,051	1,733	21,757	+386
2006	94	2	96	194	504	30	43	577	1,652	20,972	-785
2007	65	1,200	1,265	-19	651	66	73	790	1,691	21,317	+345
2008	278	-2,039	-1,761	166	805	142	124	1,071	1,672	19,121	-2,196
2009	-4	1,863	1,859	95	1,155	122	81	1,358	1,751	20,682	+1,561
Dry Natural Gas (Billion Cubic Feet, 14.73 psia, 60° Fahrenheit)											
2001	2,742	-2,318	424	2,630	16,380	3,578	2,800	22,758	19,779	183,460	+6,033
2002	3,727	937	4,664	380	14,769	1,332	1,694	17,795	19,353	186,946	+3,486
2003	2,841	-1,638	1,203	1,034	16,454	1,222	1,610	19,286	19,425	189,044	+2,098
2004	-114	744	630	1,844	18,198	759	1,206	20,163	19,168	192,513	+3,469
2005	1,887	2,699	4,586	2,544	21,050	942	1,208	23,200	18,458	204,385	+11,872
2006	743	-1,836	-1,093	2,996	21,778	409	1,155	23,342	18,545	211,085	+6,700
2007	1,147	15,461	16,608	408	27,107	796	1,188	29,091	19,466	237,726	+26,641
2008	207	-3,128	-2,921	895	26,687	1,170	1,622	29,479	20,523	244,656	+6,930
2009	5,098	-1,619	3,479	-141	42,139	1,372	2,598	46,109	21,594	272,509	+27,853
Lease Condensate (Million Barrels of 42 U.S. Gallons)											
2001	-57	-188	-245	34	136	73	66	275	218	1,397	-75
2002	7	-38	-31	27	108	18	33	159	207	1,346	-51
2003	29	-103	-74	-18	104	12	36	152	191	1,215	-131
2004	6	24	30	14	114	3	27	144	182	1,221	+6
2005	16	-11	5	49	141	4	16	161	174	1,262	+41
2006	15	41	56	-5	181	8	19	208	182	1,339	+77
2007	-44	75	31	63	214	15	14	243	181	1,495	+156
2008	40	-150	-110	21	163	24	13	200	173	1,433	-62
2009	50	145	195	0	150	19	14	183	178	1,633	+200

^aRevisions and adjustments = Col. 1 + Col. 2.

^bNet of sales and acquisitions = acquisitions - sales.

^cTotal discoveries = Col. 5 + Col. 6 + Col. 7.

^dProved reserves = Col. 10 from prior year + Col. 3 + Col. 4 + Col. 8 - Col. 9.

Notes: Old means discovered in a prior year. New means discovered during the report year. The production estimates in this table are based on data reported on Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves" and Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production." They may differ from EIA production data for crude oil, natural gas, and natural gas liquids for 2009 contained in the *Petroleum Supply Annual 2009* and the *Natural Gas Annual 2009*.

Sources: *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, 2001 through 2009 annual reports.

Table 8. Crude Oil Proved Reserves, Reserves Changes, and Production, 2009
(Million Barrels of 42 U.S. Gallons)

State and Subdivision	Published Proved Reserves 12/31/08	Changes in Reserves During 2009							New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	Proved Reserves 12/31/09
		Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)			
Alaska	3,507	0	394	152	7	0	25	9	0	210	3,566
Lower 48 States	15,614	-4	2,483	862	205	307	1,130	113	81	1,541	17,116
Alabama	38	0	6	2	0	0	0	0	0	5	37
Arkansas	30	2	5	0	3	0	0	0	0	6	28
California	2,705	-17	427	119	3	20	30	0	0	208	2,835
Coastal Region Onshore	255	1	105	4	0	2	0	0	0	18	341
Los Angeles Basin Onshore	188	10	98	47	0	0	1	0	0	15	235
San Joaquin Basin Onshore	2,125	-30	192	68	3	18	22	0	0	161	2,095
State Offshore	137	2	32	0	0	0	7	0	0	14	164
Colorado	288	-9	13	16	5	1	30	0	0	23	279
Florida	3	-1	8	0	0	0	0	0	0	1	9
Illinois	54	3	12	1	0	0	3	0	0	5	66
Indiana	15	-7	1	0	0	0	0	0	0	1	8
Kansas	243	20	47	19	2	2	2	2	3	39	259
Kentucky	17	5	1	1	0	0	0	0	0	2	20
Louisiana	388	-13	67	45	7	9	20	0	1	50	370
North Onshore	60	-9	12	1	1	0	1	0	0	7	55
South Onshore	277	-3	50	39	6	6	19	0	1	36	269
State Offshore	51	-1	5	5	0	3	0	0	0	7	46
Michigan	48	-12	4	17	0	0	0	10	5	5	33
Mississippi	249	-3	30	6	4	0	0	1	0	23	244
Montana	321	21	72	47	3	3	5	0	0	29	343
Nebraska	8	2	1	0	0	0	0	0	0	2	9
New Mexico	654	1	90	66	14	16	72	0	0	53	700
East	644	0	88	66	14	16	72	0	0	52	688
West	10	1	2	0	0	0	0	0	0	1	12
North Dakota	573	12	202	68	4	2	396	12	5	84	1,046
Ohio	38	3	5	0	5	0	0	0	0	3	38
Oklahoma	581	-18	146	57	26	24	18	0	0	46	622
Pennsylvania	14	-3	2	2	0	0	0	0	0	1	10
Texas	4,555	-11	544	196	102	189	365	1	4	343	5,006
RRC District 1	92	-8	18	18	0	0	7	0	0	9	82
RRC District 2 Onshore	50	-10	6	0	0	0	12	0	0	7	51
RRC District 3 Onshore	170	-10	26	19	11	41	9	0	0	23	183
RRC District 4 Onshore	22	-3	5	3	0	0	0	0	0	3	18
RRC District 5	20	-6	4	1	0	0	1	0	0	2	16
RRC District 6	143	-2	14	16	1	0	2	0	0	11	129
RRC District 7B	96	8	6	6	0	1	1	0	0	9	97
RRC District 7C	359	30	51	17	7	24	64	0	0	29	475
RRC District 8	1,745	5	197	93	63	80	199	0	4	118	1,956
RRC District 8A	1,699	18	172	14	8	19	4	1	0	111	1,780
RRC District 9	95	-25	18	4	12	22	43	0	0	13	124
RRC District 10	62	-7	27	5	0	2	23	0	0	8	94
State Offshore	2	-1	0	0	0	0	0	0	0	0	1
Utah	286	0	90	1	7	26	24	0	0	20	398
West Virginia	23	1	0	4	0	0	0	0	0	1	19
Wyoming	556	12	67	21	5	0	12	0	0	38	583
Federal Offshore ^a	3,903	8	638	172	15	15	153	87	63	551	4,129
Pacific (California)	357	0	28	15	0	0	0	0	0	22	348
Gulf of Mexico (Louisiana) ^a	3,388	6	576	143	15	13	153	34	52	494	3,570
Gulf of Mexico (Texas)	158	2	34	14	0	2	0	53	11	35	211
Miscellaneous ^b	24	0	5	2	0	0	0	0	0	2	25
U.S. Total	19,121	-4	2,877	1,014	212	307	1,155	122	81	1,751	20,682

^aIndicates the estimate is associated with a sampling error (95 percent confidence interval) that exceeds 20 percent of the estimated value.

^bIncludes Arizona, Missouri, Nevada, New York, South Dakota, Tennessee, and Virginia.

Note: The production estimates in this table are based on data reported on Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves." They may differ from EIA production data for crude oil for 2009 contained in the *Petroleum Supply Annual 2009*.

Source: U.S. Energy Information Administration.

Table 9. Dry Natural Gas Proved Reserves, Reserves Changes, and Production, 2009
(Billion Cubic Feet at 14.73 psia and 60° Fahrenheit)

State and Subdivision	Published Proved Reserves 12/31/08	Changes in Reserves During 2009									Proved Reserves 12/31/09
		Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	
Alaska	7,699	3	1,868	108	5	0	2	0	0	358	9,101
Lower 48 States	236,957	5,095	29,548	32,927	4,104	3,968	42,137	1,372	2,598	21,236	263,408
Alabama	3,290	46	99	328	2	0	20	0	0	254	2,871
Arkansas	5,626	5	1,912	621	54	36	4,627	0	36	698	10,869
California	2,406	11	259	189	4	78	450	1	0	239	2,773
Coastal Region Onshore	146	2	41	14	0	0	0	0	0	12	163
Los Angeles Basin Onshore	75	5	35	24	0	0	0	0	0	7	84
San Joaquin Basin Onshore	2,128	2	180	148	4	78	446	1	0	214	2,469
State Offshore	57	2	3	3	0	0	4	0	0	6	57
Colorado	23,302	306	1,601	4,044	374	437	3,346	8	0	1,524	23,058
Florida	1	6	0	0	0	0	0	0	0	0	7
Kansas	3,557	224	212	403	2	1	24	0	0	334	3,279
Kentucky	2,714	97	126	760	0	0	713	0	0	108	2,782
Louisiana	11,573	319	1,863	3,105	127	103	9,807	257	1,542	1,544	20,688
North Onshore	7,876	167	1,166	2,288	83	51	9,508	253	1,485	992	17,143
South Onshore	2,799	159	617	610	44	48	285	4	55	469	2,844
State Offshore	898	-7	80	207	0	4	14	0	2	83	701
Michigan	3,174	-279	367	406	0	16	16	19	9	153	2,763
Mississippi	1,030	26	92	250	17	2	132	2	0	100	917
Montana	1,000	135	132	210	3	3	32	0	0	113	976
New Mexico	16,285	525	1,396	1,708	287	292	441	1	3	1,350	15,598
East	4,031	251	541	628	149	229	317	0	3	454	4,141
West	12,254	274	855	1,080	138	63	124	1	0	896	11,457
New York	389	-84	39	59	54	0	0	0	0	35	196
North Dakota	541	47	243	81	2	1	401	6	5	82	1,079
Ohio	985	70	70	43	196	79	10	0	0	79	896
Oklahoma	20,845	984	2,894	3,592	600	387	3,463	0	178	1,790	22,769
Pennsylvania	3,577	65	668	502	52	600	2,774	128	0	273	6,985
Texas	77,546	745	7,936	9,658	1,852	1,563	10,260	476	425	7,017	80,424
RRC District 1	985	-22	105	104	35	50	143	358	0	82	1,398
RRC District 2 Onshore	2,238	-90	190	372	22	5	86	11	13	259	1,800
RRC District 3 Onshore	2,752	-124	490	369	174	190	288	61	11	509	2,616
RRC District 4 Onshore	7,604	-127	774	1,419	260	309	506	45	309	1,013	6,728
RRC District 5	20,281	96	1,904	1,458	31	277	2,992	0	0	1,718	22,343
RRC District 6	12,184	423	1,820	2,225	358	243	1,671	0	41	1,004	12,795
RRC District 7B	2,382	63	144	193	494	27	319	0	0	171	2,077
RRC District 7C	4,946	29	355	447	90	97	263	0	2	328	4,827
RRC District 8	6,824	233	828	1,375	260	194	747	1	25	545	6,672
RRC District 8A	1,172	87	161	111	8	17	8	0	0	108	1,218
RRC District 9	9,037	18	610	503	71	86	2,400	0	14	687	10,904
RRC District 10	6,922	188	526	1,060	46	68	837	0	0	553	6,882
State Offshore	219	-29	29	22	3	0	0	0	10	40	164
Utah	6,643	1	1,342	491	92	133	164	0	4	447	7,257
Virginia	2,378	339	256	87	0	0	383	0	0	178	3,091
West Virginia	5,136	258	383	865	54	2	1,190	166	8	278	5,946
Wyoming	31,143	1,158	5,281	3,535	174	54	3,501	0	88	2,233	35,283
Federal Offshore ^a	13,546	22	2,312	1,871	158	181	289	308	300	2,377	12,552
Pacific (California)	704	0	79	7	0	0	0	0	0	37	739
Gulf of Mexico (Louisiana) ^a	10,450	2	1,637	1,417	124	159	270	48	223	1,886	9,362
Gulf of Mexico (Texas)	2,392	20	596	447	34	22	19	260	77	454	2,451
Miscellaneous ^b	270	69	65	119	0	0	94	0	0	30	349
U.S. Total	244,656	5,098	31,416	33,035	4,109	3,968	42,139	1,372	2,598	21,594	272,509

^aIncludes Federal offshore Alabama.

^bIncludes Arizona, Illinois, Indiana, Maryland, Missouri, Nebraska, Nevada, Oregon, South Dakota, and Tennessee.

Note: The production estimates in this table are based on data reported on Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves," and Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production." They may differ from EIA production data for natural gas for 2009 contained in the *Natural Gas Annual 2009*.

Source: U.S. Energy Information Administration.

Table 10. Lease Condensate Proved Reserves, Reserves Changes, and Production, 2009
(Million Barrels of 42 U.S. Gallons)

State and Subdivision	Published Proved Reserves 12/31/08	Changes in Reserves During 2009									Proved Reserves 12/31/09	
		Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)		
Alaska	0	0	0	0	0	0	0	0	0	0	0	0
Lower 48 States	1,433	50	393	248	37	37	150	19	14	178	1,633	
Alabama	14	1	3	0	0	0	0	0	0	2	16	
Arkansas	1	0	0	0	0	0	0	0	0	0	1	
California	0	0	0	0	0	0	0	0	0	0	0	
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	0	0	0	0	0	0	0	0	0	0	0	
State Offshore	0	0	0	0	0	0	0	0	0	0	0	
Colorado	104	0	15	11	12	1	7	0	0	7	97	
Florida	0	0	0	0	0	0	0	0	0	0	0	
Kansas	6	0	2	2	0	0	0	0	0	1	5	
Kentucky	4	-1	3	2	0	0	0	0	0	0	4	
Louisiana	99	12	33	24	2	2	6	0	2	18	110	
North Onshore	27	5	3	5	1	1	0	0	0	4	26	
South Onshore	64	7	26	18	1	1	5	0	2	12	74	
State Offshore	8	0	4	1	0	0	1	0	0	2	10	
Michigan	4	-1	17	0	0	0	0	0	0	1	19	
Mississippi	6	2	0	2	0	0	3	0	0	1	8	
Montana	0	0	0	0	0	0	0	0	0	0	0	
New Mexico	78	2	12	11	2	4	4	0	0	7	80	
East	57	4	7	8	1	3	4	0	0	6	60	
West	21	-2	5	3	1	1	0	0	0	1	20	
North Dakota	4	0	9	1	0	0	0	0	0	0	12	
Oklahoma	164	0	23	36	5	5	46	0	0	17	180	
Texas	412	32	109	80	9	21	51	10	2	58	490	
RRC District 1	5	5	1	1	0	0	1	4	0	1	14	
RRC District 2 Onshore	17	3	2	6	0	0	1	0	1	3	15	
RRC District 3 Onshore	65	3	20	10	1	1	10	3	0	17	74	
RRC District 4 Onshore	79	-2	15	16	5	3	7	3	1	11	74	
RRC District 5	6	2	1	0	0	0	0	0	0	1	8	
RRC District 6	78	5	24	13	2	4	6	0	0	7	95	
RRC District 7B	5	1	1	1	0	0	0	0	0	1	5	
RRC District 7C	30	5	4	8	0	1	5	0	0	3	34	
RRC District 8	19	5	4	6	0	7	3	0	0	3	29	
RRC District 8A	5	1	0	1	0	5	0	0	0	0	10	
RRC District 9	18	1	11	5	0	0	2	0	0	2	25	
RRC District 10	81	4	25	13	1	0	16	0	0	8	104	
State Offshore	4	-1	1	0	0	0	0	0	0	1	3	
Utah	62	2	36	7	1	0	1	0	0	3	90	
West Virginia	3	-2	0	0	0	0	0	0	0	0	1	
Wyoming	234	7	56	34	1	0	23	0	0	13	272	
Federal Offshore ^a	227	-8	72	36	5	1	6	9	10	48	228	
Pacific (California)	0	-1	5	2	0	0	0	0	0	0	2	
Gulf of Mexico (Louisiana) ^a	151	-4	40	31	5	1	5	0	5	28	134	
Gulf of Mexico (Texas)	76	-3	27	3	0	0	1	9	5	20	92	
Miscellaneous ^b	11	4	3	2	0	3	3	0	0	2	20	
U.S. Total	1,433	50	393	248	37	37	150	19	14	178	1,633	

^aIncludes Federal Offshore Alabama.

^bIncludes Arizona, Nebraska, Nevada, New York, Ohio, Pennsylvania, South Dakota, Tennessee, and Virginia.

Note: The production estimates in this table are based on data reported on Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves." They may differ from EIA production data for lease condensate for 2009 contained in the *Petroleum Supply Annual 2009*.

Source: U.S. Energy Information Administration.

Table 11. Nonassociated Natural Gas Proved Reserves, Reserves Changes, and Production, Wet After Lease Separation, 2009 (Billion Cubic Feet at 14.73 psia and 60° Fahrenheit)

State and Subdivision	Published Proved Reserves 12/31/08	Changes in Reserves During 2009									Proved Reserves 12/31/09
		Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	
Alaska	1,139	1	191	103	4	0	2	0	0	136	1,090
Lower 48 States	224,873	5,045	26,951	31,762	3,809	3,477	40,829	1,160	2,487	19,845	249,406
Alabama	3,360	42	90	336	2	0	21	0	0	256	2,919
Arkansas	5,616	-8	1,907	621	49	36	4,629	0	36	694	10,852
California	621	2	97	60	0	25	6	1	0	80	612
Coastal Region Onshore	1	1	0	1	0	0	0	0	0	0	1
Los Angeles Basin Onshore	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Basin Onshore	617	1	96	59	0	25	4	1	0	78	607
State Offshore	3	0	1	0	0	0	2	0	0	2	4
Colorado	22,159	474	1,661	4,039	382	446	3,330	8	0	1,458	22,199
Kansas	3,710	246	205	421	3	1	25	0	0	346	3,417
Kentucky	2,812	103	130	793	0	0	748	0	0	113	2,887
Louisiana	10,581	244	1,785	2,858	114	87	9,826	259	1,550	1,462	19,898
North Onshore	7,888	154	1,168	2,296	82	51	9,580	255	1,494	992	17,220
South Onshore	2,445	98	572	522	32	36	231	4	56	425	2,463
State Offshore	248	-8	45	40	0	0	15	0	0	45	215
Michigan	3,105	-286	334	307	0	17	16	0	0	151	2,728
Mississippi	990	6	85	232	7	2	133	0	0	93	884
Montana	817	56	8	148	0	0	28	0	0	80	681
New Mexico	15,592	412	1,196	1,531	245	252	246	1	3	1,264	14,662
East	2,737	149	298	406	100	186	116	0	3	325	2,658
West	12,855	263	898	1,125	145	66	130	1	0	939	12,004
New York	360	-55	39	59	54	0	0	0	0	35	196
North Dakota	119	11	28	8	0	0	6	0	0	13	143
Ohio	886	68	57	35	196	78	10	0	0	69	799
Oklahoma	21,155	922	2,716	3,661	396	344	3,630	0	189	1,784	23,115
Pennsylvania	3,467	52	668	493	52	591	2,788	128	0	264	6,885
Texas	74,284	864	7,249	9,534	1,850	1,325	9,734	497	419	6,716	76,272
RRC District 1	987	5	110	110	38	55	141	390	0	84	1,456
RRC District 2 Onshore	2,292	-101	194	364	23	5	80	0	13	259	1,837
RRC District 3 Onshore	2,453	-105	456	338	152	147	270	58	12	475	2,326
RRC District 4 Onshore	7,803	-94	798	1,456	273	324	530	48	324	1,043	6,961
RRC District 5	20,420	130	1,921	1,412	32	281	3,029	0	0	1,735	22,602
RRC District 6	12,207	426	1,801	2,271	370	252	1,708	0	43	990	12,806
RRC District 7B	2,682	106	152	221	577	32	335	0	0	187	2,322
RRC District 7C	4,147	56	175	444	83	53	93	0	0	273	3,724
RRC District 8	4,506	150	491	1,242	188	97	491	1	3	359	3,950
RRC District 8A	63	-1	2	21	0	1	6	0	0	7	43
RRC District 9	9,390	98	628	514	69	21	2,234	0	14	702	11,100
RRC District 10	7,119	223	492	1,120	42	57	817	0	0	562	6,984
State Offshore	215	-29	29	21	3	0	0	0	10	40	161
Utah	6,393	67	1,181	499	90	69	108	0	4	423	6,810
Virginia	2,378	339	256	87	0	0	383	0	0	178	3,091
West Virginia	5,243	249	392	881	55	2	1,219	170	9	282	6,066
Wyoming	32,176	1,209	5,344	3,652	172	37	3,641	0	91	2,288	36,386
Federal Offshore ^a	8,786	2	1,511	1,400	142	165	208	96	186	1,779	7,633
Pacific (California)	3	-1	8	0	0	0	0	0	0	1	9
Gulf of Mexico (Louisiana) ^a	6,846	-3	997	1,021	108	152	189	25	150	1,425	5,802
Gulf of Mexico (Texas)	1,937	6	506	379	34	13	19	71	36	353	1,822
Miscellaneous ^b	263	26	12	107	0	0	94	0	0	17	271
U.S. Total	226,012	5,046	27,142	31,865	3,813	3,477	40,831	1,160	2,487	19,981	250,496

^aIncludes Federal offshore Alabama.

^bIncludes Arizona, Illinois, Indiana, Maryland, Missouri, Nebraska, Nevada, Oregon, South Dakota, and Tennessee.

Note: The production estimates in this table are based on data reported on Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves." They may differ from EIA production data for natural gas for 2009 contained in the *Natural Gas Annual 2009*.

Source: U.S. Energy Information Administration.

Table 12. Associated-Dissolved Natural Gas Proved Reserves, Reserves Changes, and Production Wet After Lease Separation, 2009 (Billion Cubic Feet at 14.73 psia and 60° Fahrenheit)

State and Subdivision	Published Proved Reserves 12/31/08	Changes in Reserves During 2009									Proved Reserves 12/31/09
		Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	
Alaska	6,627	1	1,696	5	1	0	0	0	0	225	8,093
Lower 48 States	22,396	876	3,826	2,693	563	678	2,669	263	169	2,331	25,290
Alabama	19	5	11	1	0	0	0	0	0	5	29
Arkansas	12	12	5	0	5	0	0	0	0	4	20
California	1,917	6	177	139	4	58	470	0	0	171	2,314
Coastal Region Onshore	150	2	42	14	0	0	0	0	0	12	168
Los Angeles Basin Onshore	81	4	38	25	0	0	0	0	0	7	91
San Joaquin Basin Onshore	1,632	-2	95	97	4	58	468	0	0	148	2,002
State Offshore	54	2	2	3	0	0	2	0	0	4	53
Colorado	2,010	14	11	185	9	10	165	0	0	134	1,882
Florida	1	6	0	0	0	0	0	0	0	0	7
Kansas	85	-5	21	9	0	0	1	0	0	10	83
Kentucky	34	0	2	4	0	0	0	0	0	0	32
Louisiana	1,235	59	116	299	16	18	67	0	5	113	1,072
North Onshore	78	-15	6	9	2	0	0	0	2	7	53
South Onshore	471	75	72	115	14	14	67	0	1	65	506
State Offshore	686	-1	38	175	0	4	0	0	2	41	513
Michigan	148	-28	39	105	0	0	0	19	9	5	77
Mississippi	45	22	7	20	10	0	0	2	0	8	38
Montana	197	84	126	65	3	3	5	0	0	35	312
New Mexico	1,755	170	302	299	64	66	233	0	0	181	1,982
East	1,669	158	298	285	64	66	233	0	0	175	1,900
West	86	12	4	14	0	0	0	0	0	6	82
New York	29	-29	0	0	0	0	0	0	0	0	0
North Dakota	484	47	245	83	2	1	444	7	6	79	1,070
Ohio	99	2	13	8	0	1	0	0	0	10	97
Oklahoma	958	172	361	158	241	67	52	0	0	119	1,092
Pennsylvania	127	12	3	11	0	12	0	0	0	10	133
Texas	7,559	226	1,133	740	176	336	1,078	21	27	702	8,762
RRC District 1	60	-2	4	3	0	0	14	0	0	6	67
RRC District 2 Onshore	72	15	8	30	0	0	11	12	0	16	72
RRC District 3 Onshore	479	-14	69	57	34	57	38	8	0	70	476
RRC District 4 Onshore	127	5	14	32	0	0	1	0	0	19	96
RRC District 5	40	43	7	65	0	0	0	0	0	4	21
RRC District 6	412	16	85	34	0	0	23	0	0	51	451
RRC District 7B	68	-3	16	4	0	0	37	0	0	12	102
RRC District 7C	1,382	13	224	59	18	56	203	0	2	97	1,706
RRC District 8	3,080	134	433	292	102	119	341	1	25	249	3,490
RRC District 8A	1,194	76	168	96	8	17	2	0	0	107	1,246
RRC District 9	158	-76	16	18	6	69	302	0	0	23	422
RRC District 10	482	20	89	49	8	18	106	0	0	48	610
State Offshore	5	-1	0	1	0	0	0	0	0	0	3
Utah	321	4	190	2	4	66	59	0	0	33	601
West Virginia	23	8	0	5	0	0	0	0	0	2	24
Wyoming	223	35	157	30	9	19	5	0	0	38	362
Federal Offshore ^a	5,106	12	854	517	20	21	90	214	122	659	5,223
Pacific (California)	702	1	71	7	0	0	0	0	0	36	731
Gulf of Mexico (Louisiana) ^a	3,939	7	693	442	20	12	90	25	81	522	3,863
Gulf of Mexico (Texas)	465	4	90	68	0	9	0	189	41	101	629
Miscellaneous ^b	9	42	53	13	0	0	0	0	0	13	78
U.S. Total	29,023	877	5,522	2,698	564	678	2,669	263	169	2,556	33,383

^aIncludes Federal offshore Alabama.

^bIncludes Arizona, Illinois, Indiana, Maryland, Missouri, Nebraska, Nevada, Oregon, South Dakota, and Tennessee.

Note: The production estimates in this table are based on data reported on Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves." They may differ from EIA production data for natural gas for 2009 contained in the *Natural Gas Annual 2009*.

Source: U.S. Energy Information Administration.

Table 13. Shale Gas Proved Reserves and Production, 2007 - 2009
(Billion Cubic Feet at 14.73 psia and 60° Fahrenheit)

State and Subdivision	Reserves			Production		
	2007	2008	2009	2007	2008	2009
Alaska	0	0	0	0	0	0
Lower 48 States	23,304	34,428	60,644	1,293	2,116	3,110
Alabama	1	2	0	0	0	0
Arkansas	1,460	3,833	9,070	94	279	527
California	0	0	0	0	0	0
Colorado	0	0	4	0	0	1
Florida	0	0	0	0	0	0
Kansas	0	0	0	0	0	0
Kentucky	21	20	55	2	2	5
Louisiana	6	858	9,307	1	23	293
North	6	858	9,307	1	23	293
South	0	0	0	0	0	0
State Offshore	0	0	0	0	0	0
Michigan	3,281	2,894	2,499	148	122	132
Mississippi	0	0	0	0	0	0
Montana	140	125	137	12	13	7
New Mexico	12	0	36	2	0	2
East	12	0	7	2	0	1
West	0	0	29	0	0	1
New York	0	0	0	0	0	0
North Dakota	21	24	368	3	3	25
Ohio	0	0	0	0	0	0
Oklahoma	944	3,845	6,389	40	168	249
Pennsylvania	96	88	3,790	1	1	65
Texas	17,256	22,667	28,167	988	1,503	1,789
RRC District 1	0	2	435	0	0	11
RRC District 2 Onshore	0	0	0	0	0	0
RRC District 3 Onshore	0	0	0	0	0	0
RRC District 4 Onshore	0	0	78	0	0	5
RRC District 5	8,099	11,408	13,691	437	769	954
RRC District 6	0	173	1,161	0	3	28
RRC District 7B	2,018	2,336	2,022	90	141	145
RRC District 7C	0	0	0	0	0	0
RRC District 8	5	48	24	1	4	3
RRC District 8A	0	0	0	0	0	0
RRC District 9	7,134	8,700	10,756	460	586	643
RRC District 10	0	0	0	0	0	0
State Offshore	0	0	0	0	0	0
Utah	0	0	0	0	0	0
Virginia	0	0	0	0	0	0
West Virginia	0	14	688	0	0	11
Wyoming	0	0	0	0	0	0
Federal Offshore	0	0	0	0	0	0
Miscellaneous ^a	66	58	134	2	2	4
U.S. Total	23,304	34,428	60,644	1,293	2,116	3,110

^aIncludes Indiana, Missouri, and Tennessee.

Note: The above table is based on shale gas proved reserves and production volumes as reported to the EIA on Form EIA-23 "Annual Survey of Domestic Oil and Gas Reserves." It does not include EIA-estimated volumes for the non-surveyed operators. For this and other reasons (e.g. incorrect or incomplete respondent submissions, respondent mis-identification of shale vs non-shale reservoirs) the actual proved reserves and production of shale plays may be higher or lower. The production estimates are offered only as an observed indicator of production trends and may differ from production volumes listed elsewhere on the EIA web page.

Sources: U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 2007 through 2009 annual reports, DOE/EIA-0216.

Table 14. Shale Gas Proved Reserves, Reserves Changes, and Production, Wet After Lease Separation, 2009 (Billion Cubic Feet at 14.73 psia and 60° Fahrenheit)

State and Subdivision	Published Proved Reserves 12/31/08	Changes in Reserves During 2009							New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)	Proved Reserves 12/31/09
		Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)			
Alaska	0	0	0	0	0	0	0	0	0	0	0
Lower 48 States	34,428	1,690	6,363	3,642	563	665	22,332	868	1,613	3,110	60,644
Alabama	2	0	0	2	0	0	0	0	0	0	0
Arkansas	3,833	2	1,585	261	3	0	4,441	0	0	527	9,070
California	0	0	0	0	0	0	0	0	0	0	0
Colorado	0	1	0	0	0	0	0	4	0	1	4
Florida	0	0	0	0	0	0	0	0	0	0	0
Kansas	0	0	0	0	0	0	0	0	0	0	0
Kentucky	20	-1	44	3	0	0	0	0	0	5	55
Louisiana	858	131	636	826	3	0	7,183	244	1,377	293	9,307
North Onshore	858	131	636	826	3	0	7,183	244	1,377	293	9,307
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	2,894	-167	149	276	0	16	15	0	0	132	2,499
Mississippi	0	0	0	0	0	0	0	0	0	0	0
Montana	125	8	42	34	2	2	3	0	0	7	137
New Mexico	0	10	2	2	0	0	28	0	0	2	36
East	0	10	0	2	0	0	0	0	0	1	7
West	0	0	2	0	0	0	28	0	0	1	29
New York	0	0	0	0	0	0	0	0	0	0	0
North Dakota	24	101	119	17	1	1	159	6	1	25	368
Ohio	0	0	0	0	0	0	0	0	0	0	0
Oklahoma	3,845	1	1,373	865	0	0	2,122	0	162	249	6,389
Pennsylvania	88	450	299	53	0	542	2,409	120	0	65	3,790
Texas	22,667	990	2,052	1,267	554	104	5,546	353	65	1,789	28,167
RRC District 1	2	5	1	0	0	0	85	353	0	11	435
RRC District 2 Onshore	0	0	0	0	0	0	0	0	0	0	0
RRC District 3 Onshore	0	0	0	0	0	0	0	0	0	0	0
RRC District 4 Onshore	0	53	0	0	0	0	0	0	30	5	78
RRC District 5	11,408	657	928	587	5	21	2,223	0	0	954	13,691
RRC District 6	173	40	422	8	0	0	541	0	21	28	1,161
RRC District 7B	2,337	56	119	181	496	24	308	0	0	145	2,022
RRC District 7C	0	0	0	0	0	0	0	0	0	0	0
RRC District 8	48	-1	2	22	0	0	0	0	0	3	24
RRC District 8A	0	0	0	0	0	0	0	0	0	0	0
RRC District 9	8,700	179	580	469	53	59	2,389	0	14	643	10,756
RRC District 10	0	0	0	0	0	0	0	0	0	0	0
State Offshore	0	0	0	0	0	0	0	0	0	0	0
Utah	0	0	0	0	0	0	0	0	0	0	0
Virginia	0	0	0	0	0	0	0	0	0	0	0
West Virginia	14	140	58	13	0	0	351	141	8	11	688
Wyoming	0	1	0	1	0	0	0	0	0	0	0
Federal Offshore	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous ^a	58	23	4	22	0	0	75	0	0	4	134
U.S. Total	34,428	1,690	6,363	3,642	563	665	22,332	868	1,613	3,110	60,644

^aIncludes Indiana, Missouri, and Tennessee.

Note: The above table is based on shale gas proved reserves and production volumes as reported to the EIA on Form EIA-23 "Annual Survey of Domestic Oil and Gas Reserves." It does not include EIA-estimated volumes for the non-surveyed operators. For this and other reasons (e.g. incorrect or incomplete respondent submissions, respondent mis-identification of shale vs non-shale reservoirs) the actual proved reserves and production of shale plays may be higher or lower. The production estimates are offered only as an observed indicator of production trends and may differ from production volumes listed elsewhere on the EIA web page.

Source: U.S. Energy Information Administration.

Table 15. Coalbed Methane Proved Reserves and Production, 2005 - 2009
(Billion Cubic Feet at 14.73 psia and 60° Fahrenheit)

State and Subdivision	Reserves					Production				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
Alaska	0	0	0	0	0	0	0	0	0	0
Lower 48 States	19,892	19,620	21,874	20,798	18,578	1,732	1,758	1,753	1,966	1,914
Alabama	1,773	2,068	2,126	1,727	1,342	113	114	114	107	105
Arkansas	30	34	31	31	22	2	3	3	3	3
California	0	0	0	0	0	0	0	0	0	0
Colorado	6,772	6,344	7,869	8,238	7,348	515	477	519	497	498
Florida	0	0	0	0	0	0	0	0	0	0
Kansas	257	234	340	301	163	17	25	38	47	43
Kentucky	0	0	0	0	0	0	0	0	0	0
Louisiana	0	1	7	9	0	0	0	0	1	1
North	0	1	7	9	0	0	0	0	1	1
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	73	77	66	75	37	12	12	13	14	12
New Mexico	5,249	4,894	4,169	3,991	3,646	514	510	394	443	432
East	335	322	389	530	474	25	26	23	23	26
West	4,914	4,572	3,780	3,461	3,172	489	484	371	420	406
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	1	1	1	0	0	0	0	0	0
Oklahoma	568	684	1,265	511	338	58	68	82	69	55
Pennsylvania	45	50	108	102	131	3	5	5	11	16
Texas	0	0	0	0	0	0	0	0	0	0
RRC District 1	0	0	0	0	0	0	0	0	0	0
RRC District 2 Onshore	0	0	0	0	0	0	0	0	0	0
RRC District 3 Onshore	0	0	0	0	0	0	0	0	0	0
RRC District 4 Onshore	0	0	0	0	0	0	0	0	0	0
RRC District 5	0	0	0	0	0	0	0	0	0	0
RRC District 6	0	0	0	0	0	0	0	0	0	0
RRC District 7B	0	0	0	0	0	0	0	0	0	0
RRC District 7C	0	0	0	0	0	0	0	0	0	0
RRC District 8	0	0	0	0	0	0	0	0	0	0
RRC District 8A	0	0	0	0	0	0	0	0	0	0
RRC District 9	0	0	0	0	0	0	0	0	0	0
RRC District 10	0	0	0	0	0	0	0	0	0	0
State Offshore	0	0	0	0	0	0	0	0	0	0
Utah	902	750	922	893	725	75	66	73	71	71
Virginia	1,572	1,813	1,948	1,851	2,261	56	81	85	101	111
West Virginia	186	194	255	246	220	30	18	25	28	31
Wyoming	2,446	2,448	2,738	2,781	2,328	336	378	401	573	535
Federal Offshore	0	0	0	0	0	0	0	0	0	0
Miscellaneous ^a	19	28	29	41	17	1	1	1	1	1
U.S. Total	19,892	19,620	21,874	20,798	18,578	1,732	1,758	1,753	1,966	1,914

^aIncludes Illinois and Indiana.

Note: The above table is based on coalbed methane proved reserves and production volumes as reported to the EIA on Form EIA-23 "Annual Survey of Domestic Oil and Gas Reserves." It does not include EIA-estimated volumes for the non-surveyed operators. For this and other reasons (e.g. incorrect or incomplete respondent submissions) the actual proved reserves and production of coalbed methane plays may be higher or lower. The production estimates are offered only as an observed indicator of production trends and may differ from production volumes listed elsewhere on the EIA web page.

Sources: *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, 2005 through 2009 annual reports, DOE/EIA-0216.

Table 16. Coalbed Methane Proved Reserves, Reserves Changes, and Production, 2009
(Billion Cubic Feet at 14.73 psia and 60° Fahrenheit)

State and Subdivision	Published Proved Reserves 12/31/08	Changes in Reserves During 2009									Proved Reserves 12/31/09	
		Adjustments (+,-)	Revision Increases (+)	Revision Decreases (-)	Sales (-)	Acquisitions (+)	Extensions (+)	New Field Discoveries (+)	New Reservoir Discoveries in Old Fields (+)	Estimated Production (-)		
Alaska	0	0	0	0	0	0	0	0	0	0	0	0
Lower 48 States	20,798	-14	1,563	2,486	208	24	724	0	91	1,914	18,578	
Alabama	1,727	0	17	316	2	0	21	0	0	105	1,342	
Arkansas	31	0	3	0	31	22	0	0	0	3	22	
California	0	0	0	0	0	0	0	0	0	0	0	
Colorado	8,238	0	126	566	0	0	48	0	0	498	7,348	
Florida	0	0	0	0	0	0	0	0	0	0	0	
Kansas	301	-3	8	107	0	0	7	0	0	43	163	
Kentucky	0	0	0	0	0	0	0	0	0	0	0	
Louisiana	9	0	0	0	8	0	0	0	0	1	0	
North Onshore	9	0	0	0	8	0	0	0	0	1	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	75	0	0	29	0	0	3	0	0	12	37	
New Mexico	3,991	-9	443	353	33	2	37	0	0	432	3,646	
East	530	0	0	30	0	0	0	0	0	26	474	
West	3,461	-9	443	323	33	2	37	0	0	406	3,172	
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	1	0	0	1	0	0	0	0	0	0	0	
Oklahoma	511	1	81	216	6	0	22	0	0	55	338	
Pennsylvania	102	0	29	1	17	0	34	0	0	16	131	
Texas	0	0	0	0	0	0	0	0	0	0	0	
RRC District 1	0	0	0	0	0	0	0	0	0	0	0	
RRC District 2 Onshore	0	0	0	0	0	0	0	0	0	0	0	
RRC District 3 Onshore	0	0	0	0	0	0	0	0	0	0	0	
RRC District 4 Onshore	0	0	0	0	0	0	0	0	0	0	0	
RRC District 5	0	0	0	0	0	0	0	0	0	0	0	
RRC District 6	0	0	0	0	0	0	0	0	0	0	0	
RRC District 7B	0	0	0	0	0	0	0	0	0	0	0	
RRC District 7C	0	0	0	0	0	0	0	0	0	0	0	
RRC District 8	0	0	0	0	0	0	0	0	0	0	0	
RRC District 8A	0	0	0	0	0	0	0	0	0	0	0	
RRC District 9	0	0	0	0	0	0	0	0	0	0	0	
RRC District 10	0	0	0	0	0	0	0	0	0	0	0	
State Offshore	0	0	0	0	0	0	0	0	0	0	0	
Utah	893	0	9	110	0	0	0	0	4	71	725	
Virginia	1,851	0	219	0	0	0	302	0	0	111	2,261	
West Virginia	246	0	19	38	0	0	24	0	0	31	220	
Wyoming	2,781	-4	609	725	111	0	226	0	87	535	2,328	
Federal Offshore	0	0	0	0	0	0	0	0	0	0	0	
Miscellaneous ^a	41	1	0	24	0	0	0	0	0	1	17	
U.S. Total	20,798	-14	1,563	2,486	208	24	724	0	91	1,914	18,578	

^aIncludes Illinois and Indiana.

Note: The above table is based on coalbed methane proved reserves and production volumes as reported to the EIA on Form EIA-23 "Annual Survey of Domestic Oil and Gas Reserves." It does not include EIA-estimated volumes for the non-surveyed operators. For this and other reasons (e.g. incorrect or incomplete respondent submissions) the actual proved reserves and production of coalbed methane plays may be higher or lower. The production estimates are offered only as an observed indicator of production trends and may differ from production volumes listed elsewhere on the EIA web page.

Source: U.S. Energy Information Administration.

Table 17. Natural Gas Plant Liquids Proved Reserves and Production, 2009 (excludes Lease Condensate)
(Million Barrels of 42 U.S. Gallons)

State and Subdivision	2009 Reserves	2009 Production	State and Subdivision	2009 Reserves	2009 Production
Alaska	299	13	Oklahoma	985	77
Lower 48 States.	8,258	701	Pennsylvania.	25	1
Alabama	55	5	Texas	3,432	300
Arkansas.	2	0	RRC District 1	87	5
California.	129	11	RRC District 2 Onshore	77	11
Coastal Region Onshore.	10	1	RRC District 3 Onshore	127	25
Los Angeles Basin Onshore	6	0	RRC District 4 Onshore	231	35
San Joaquin Basin Onshore	113	10	RRC District 5	192	15
State Offshore.	0	0	RRC District 6	330	26
Colorado	722	48	RRC District 7B.	326	27
Florida.	0	0	RRC District 7C	412	28
Kansas	162	16	RRC District 8	536	44
Kentucky.	101	4	RRC District 8A.	201	18
Louisiana	231	26	RRC District 9	419	26
North.	98	6	RRC District 10.	494	40
South Onshore	90	15	State Offshore.	0	0
State Offshore.	43	5	Utah	116	7
Michigan	43	2	West Virginia.	108	5
Mississippi	4	0	Wyoming.	1,010	64
Montana	12	1	Federal Offshore ^a	302	61
New Mexico	715	65	Pacific (California).	1	0
East.	289	32	Gulf of Mexico (Louisiana) ^a	301	61
West	426	33	Gulf of Mexico (Texas)	0	0
North Dakota.	104	8	Miscellaneous ^b	0	0
			U.S. Total	8,557	714

^aIncludes Federal Offshore Alabama.

^bIncludes Arizona, Illinois, Indiana, Maryland, Missouri, Nebraska, Nevada, New York, Ohio, Oregon, South Dakota, Tennessee, and Virginia.

Note: The production estimates in this table are based on data reported on Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves," and Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production." They may differ from EIA production data for natural gas plant liquids for 2009 contained in the *Petroleum Supply Annual 2009* and the *Natural Gas Annual 2009*.

Source: U.S. Energy Information Administration.

Table 18. Reported Proved Nonproducing Reserves of Crude Oil, Lease Condensate, and Wet Natural Gas, Wet After Lease Separation 2009^a

State and Subdivision	Crude Oil (Million bbls)	Lease Condensate (Million bbls)	Nonassociated Gas (Bcf)	Associated Dissolved Gas (Bcf)	Total Gas (Bcf)
Alaska	633	0	173	20	193
Lower 48 States	5,382	511	90,304	7,595	97,899
Alabama	0	0	126	0	126
Arkansas	0	0	5,872	0	5,872
California	272	0	314	146	460
Coastal Region Onshore	51	0	0	22	22
Los Angeles Basin Onshore	29	0	0	12	12
San Joaquin Basin Onshore	146	0	311	90	401
State Offshore	46	0	3	22	25
Colorado	42	34	7,732	456	8,188
Florida	2	0	0	0	0
Kansas	3	0	128	4	132
Kentucky	3	0	149	0	149
Louisiana	149	25	12,718	407	13,125
North	8	6	11,599	17	11,616
South Onshore	129	13	976	249	1,225
State Offshore	12	6	143	141	284
Michigan	6	8	535	21	556
Mississippi	117	1	255	2	257
Montana	42	0	104	23	127
New Mexico	149	13	3,376	408	3,784
East	149	12	649	403	1,052
West	0	1	2,727	5	2,732
New York	0	0	19	0	19
North Dakota	463	8	23	487	510
Ohio	5	0	67	1	68
Oklahoma	138	56	7,990	171	8,161
Pennsylvania	0	3	2,282	0	2,282
Texas	1,455	124	28,549	2,787	31,336
RRC District 1	26	6	719	24	743
RRC District 2 Onshore	14	1	617	31	648
RRC District 3 Onshore	26	14	685	113	798
RRC District 4 Onshore	1	23	2,644	19	2,663
RRC District 5	1	0	9,039	0	9,039
RRC District 6	12	21	5,671	19	5,690
RRC District 7B	8	0	714	23	737
RRC District 7C	221	10	875	744	1,619
RRC District 8	679	6	1,427	1,042	2,469
RRC District 8A	413	6	2	374	376
RRC District 9	25	8	3,935	233	4,168
RRC District 10	29	27	2,162	163	2,325
State Offshore	0	2	59	2	61
Utah	235	11	1,739	371	2,110
Virginia	0	0	839	0	839
West Virginia	0	0	815	3	818
Wyoming	144	125	12,812	27	12,839
Federal Offshore ^b	2,150	103	3,758	2,281	6039
Pacific (California)	12	2	2	34	36
Gulf of Mexico (Louisiana) ^b	2,013	66	2,660	1,786	4,446
Gulf of Mexico (Texas)	125	35	1,096	461	1557
Miscellaneous ^c	7	0	102	0	102
U.S. Total	6,015	511	90,477	7,615	98,092

^aIncludes only those operators who produced during the report year 400,000 barrels of crude oil or 2 billion cubic feet of wet natural gas, or more (Category I and Category II operators).

^bIncludes Federal offshore Alabama.

^cIncludes Arizona, Illinois, Indiana, Maryland, Missouri, Nebraska, Nevada, Oregon, South Dakota, and Tennessee.

Source: Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves," 2009.