

Supply

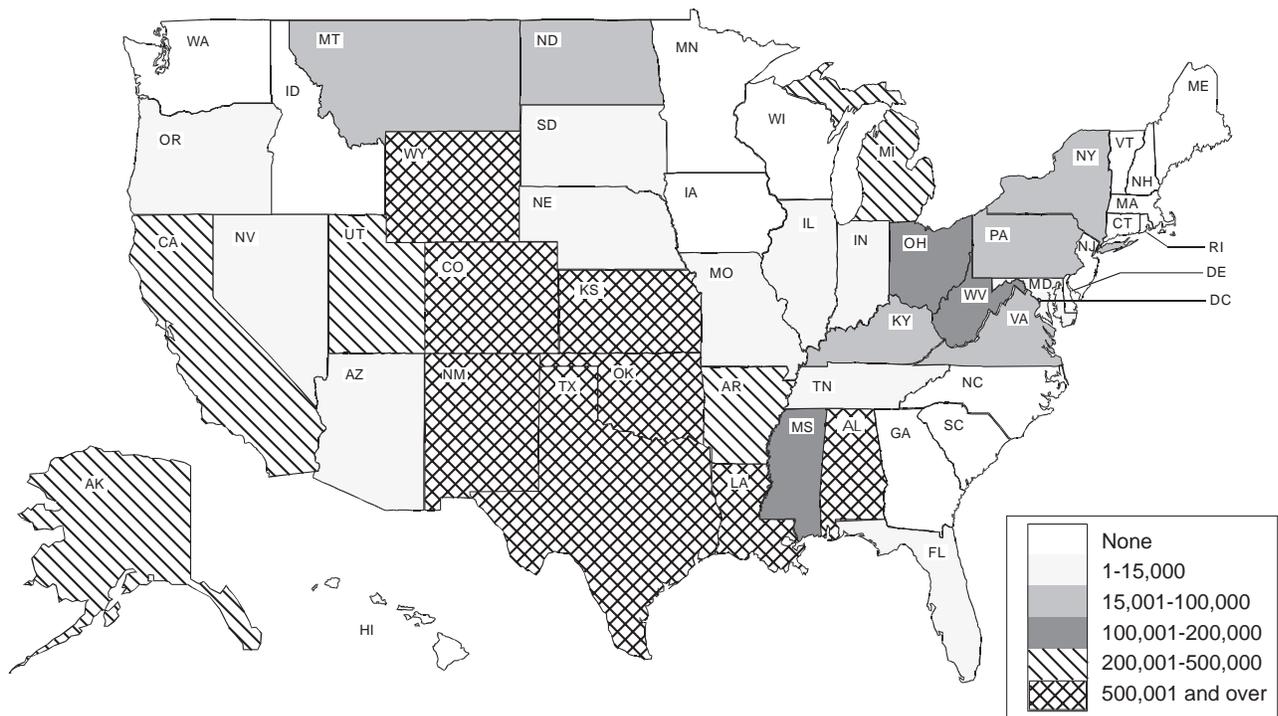
Production

Natural gas marketed production rose in 1997 to 19.9 trillion cubic feet, the highest level since 1981. Marketed production is derived from gross withdrawals by subtracting quantities used for repressuring, nonhydrocarbon gases removed, and gas vented and flared. Production has risen 3.0 trillion cubic feet since 1986, but current volumes remain 12 percent below the historical peak of 22.6 trillion cubic feet in 1973. Louisiana, Texas, Oklahoma, and New Mexico continued as the leading producers of natural gas. Together these four States supplied 14.9 trillion cubic feet, 75 percent of marketed natural gas production in 1997.

From 1996 to 1997, four States showed substantial increases in marketed production: Alabama, 52 billion cubic feet; Colorado, 65 billion cubic feet; Michigan, 60 billion cubic feet; and Wyoming, 72 billion cubic feet. In Texas it rose very modestly, by 5 billion cubic feet, to reach 6.5 trillion cubic feet. Marketed production declined 31 billion cubic feet in Oklahoma to 1.7 trillion cubic feet. In Louisiana and New Mexico, production remained virtually the same.

For the fifth year in a row, the number of producing gas wells and gas-condensate wells rose, reaching 311,338 in 1997, 3 percent above the level one year ago. Colorado, New Mexico, and Texas each showed substantial increases from 1996 to 1997, ranging from approximately 2,900 to more than 4,100 wells. The number of wells in West Virginia declined, by more than 4,100.

Figure 4. Marketed Production of Natural Gas in the United States, 1997
(Million Cubic Feet)



Sources: West Virginia, 1997: Energy Information Administration (EIA), *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, Annual Reports*, DOE/EIA-0216; and EIA computations. All other data: Form EIA-895, "Monthly Quantity and Value of Natural Gas Report" and the United States Minerals Management Service.

Wellhead Prices

The average wellhead price rose in 1997 for the second year in a row. It reached \$2.32 per thousand cubic feet, 7 percent more than the 1996 price of \$2.17 and 50 percent above the 1995 low of \$1.55. Average wellhead prices during 1996 and 1997 were at their highest level since the 1982 through 1985 time period when they peaked in the range of \$2.51 to \$2.66 per thousand cubic feet. The 1997 price of \$2.32 per thousand cubic feet still was more than 41 percent below the 1983 peak after adjustment for inflation.

Drilling

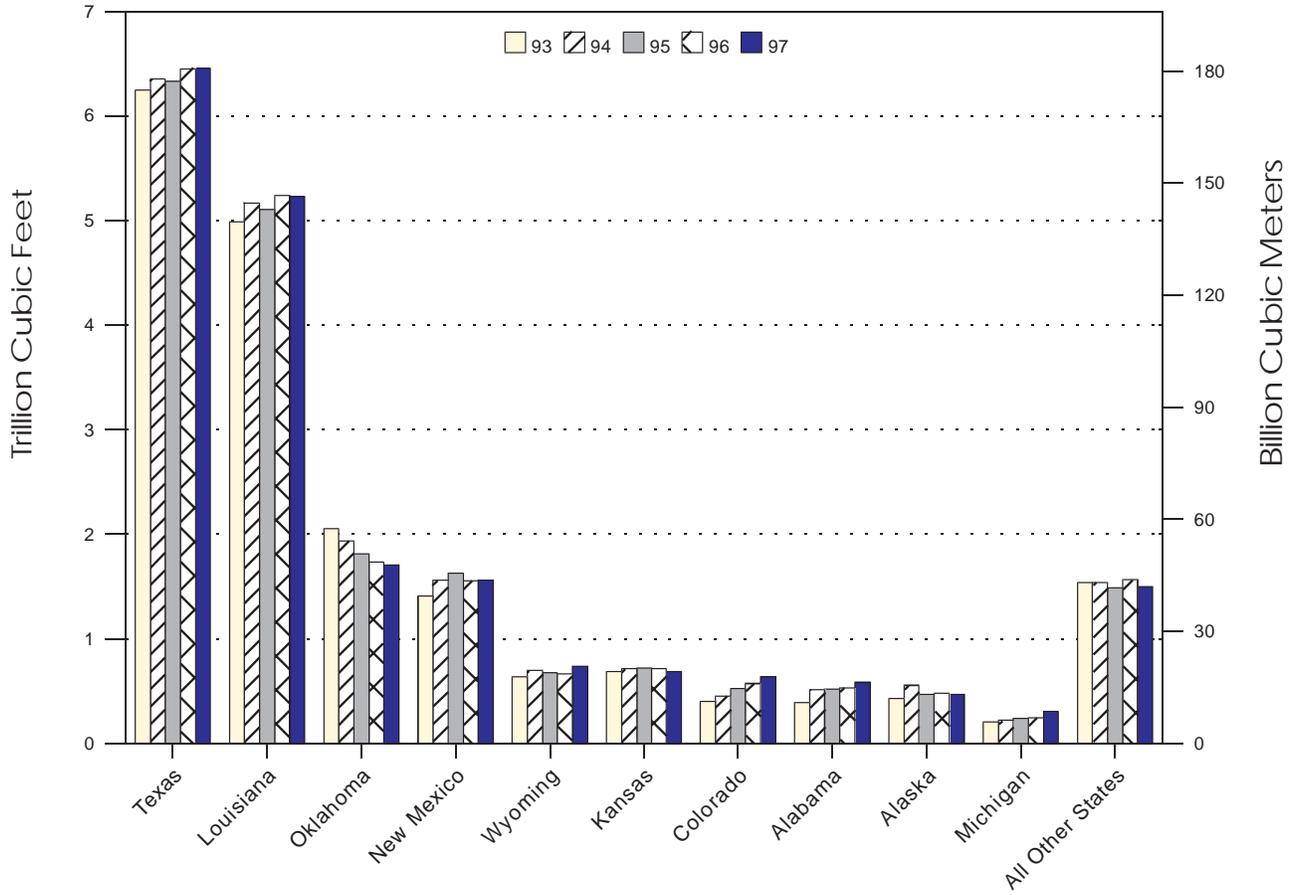
Exploration and development activities incrementally added to proved reserves of natural gas. In 1997, natural gas reserves reached 167,223 billion cubic feet, and reserve additions replaced production for the fourth year in a row. The number of rotary rigs running and the number of well completions are indicators that in the past have been good guides to the level of exploration and development activity,

and thus to subsequent reserve additions. The number of rotary rigs drilling for gas in 1997 rose from 464 to 564, exceeding the number of rigs drilling for oil for the fourth year in a row. Total rigs running rose from 779 to 943, with offshore rigs up 13 percent to 122 and onshore rigs up 22 percent to 821.

Well completions for gas exceeded those for oil for the fifth year in a row. Exploratory gas well completions were down in 1997 from 560 to 538, while gas development well completions rose from 8,625 to 10,755. Total gas well completions increased from 9,185 to 11,293.

Overall well completions rose from 22,706 to 27,101. Of these, 3,036 were exploratory wells and 24,065 were development wells. This continues the upward trend in total completions that began with a 1996 drilling surge. The reversal has continued to be driven by 1997's higher natural gas prices and the increased focus of independent operators in the Gulf of Mexico.

Figure 5. Marketed Production of Natural Gas in Selected Sectors, 1993-1997



Sources: West Virginia, 1997: Energy Information Administration (EIA), *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, Annual Reports*, DOE/EIA-0216; and EIA computations. All other data: Form EIA-895, "Monthly Quantity and Value of Natural Gas Report" and the United States Minerals Management Service.

Table 3. Gross Withdrawals and Marketed Production of Natural Gas by State, 1993-1997
(Million Cubic Feet)

Year and State	Gross Withdrawals			Repressuring	Nonhydrocarbon Gases Removed	Vented and Flared	Marketed Production
	From Gas Wells	From Oil Wells	Total				
1993 Total	16,691,139	6,034,504	22,725,642	3,103,014	413,971	226,743	18,981,915
1994 Total	17,351,060	6,229,645	23,580,706	3,230,667	412,178	228,336	19,709,525
1995 Total	17,282,032	6,461,596	23,743,628	3,565,023	388,392	283,739	19,506,474
1996 Total	17,680,777	6,370,888	24,051,665	3,510,330	^a 518,425	272,117	19,750,793
1997 Total	17,844,046	6,368,631	24,212,677	3,491,542	592,134	263,819	19,865,182
Alabama Total	619,302	10,463	629,765	17,724	27,205	1,563	583,272
Onshore	210,211	10,463	220,674	17,724	16,056	1,320	185,574
State Offshore.....	214,414	0	214,414	0	11,149	243	203,021
Federal Offshore...	194,677	0	194,677	0	0	0	194,677
Alaska Total	179,534	3,201,416	3,380,950	2,904,370	0	8,269	468,311
Onshore	63,599	3,193,497	3,257,096	2,904,370	0	6,401	346,325
State Offshore.....	115,934	7,919	123,854	0	0	1,868	121,986
Federal Offshore...	0	0	0	0	0	0	0
Arizona.....	398	55	453	0	0	1	452
Arkansas.....	172,642	38,145	210,787	2,139	0	134	208,514
California Total	78,800	318,852	397,652	110,134	239	1,590	285,690
Onshore	74,540	242,597	317,137	78,583	239	1,590	236,725
State Offshore.....	0	7,171	7,171	225	NA	NA	6,947
Federal Offshore...	4,260	69,084	73,345	31,327	NA	NA	42,018
Colorado	550,765	95,960	646,725	7,172	0	2,178	637,375
Florida.....	0	6,907	6,907	0	793	0	6,114
Illinois ^E	224	7	231	0	0	0	231
Indiana.....	526	0	526	NA	NA	NA	526
Kansas.....	618,016	71,037	689,053	1,157	NA	680	687,215
Kentucky.....	79,547	0	79,547	0	0	0	79,547
Louisiana Total	4,613,916	685,040	5,298,956	47,207	NA	21,928	5,229,821
Onshore	1,254,326	102,828	1,357,155	9,782	NA	21,928	1,325,445
State Offshore.....	164,847	16,002	180,848	1,279	NA	NA	179,569
Federal Offshore...	3,194,743	566,210	3,760,953	36,147	NA	NA	3,724,807
Maryland.....	118	0	118	0	0	0	118
Michigan.....	249,291	62,323	311,614	2,340	NA	3,324	305,950
Mississippi.....	119,347	7,276	126,623	8,414	8,166	2,742	107,300
Missouri.....	5	0	5	0	0	0	5
Montana.....	46,613	7,008	53,621	64	NA	1,120	52,437
Nebraska.....	1,144	526	1,670	0	0	0	1,670
Nevada.....	0	9	9	0	0	0	9
New Mexico	1,460,104	257,365	1,717,468	10,456	145,594	2,786	1,558,633
New York ^E	15,525	669	16,193	0	0	5	16,188
North Dakota ^b	18,186	38,107	56,292	196	161	3,534	52,401
Ohio.....	116,246	0	116,246	NA	NA	NA	116,246
Oklahoma.....	1,450,118	253,770	1,703,888	NA	NA	NA	1,703,888
Oregon.....	1,382	0	1,382	43	166	0	1,173
Pennsylvania	80,000	0	80,000	NA	NA	NA	80,000
South Dakota.....	687	9,107	9,795	0	0	9,107	687
Tennessee.....	0	1,510	1,510	NA	NA	NA	1,510
Texas Total	5,865,930	1,150,211	7,016,141	250,949	263,397	47,922	6,453,873
Onshore	4,609,355	1,055,719	5,665,074	250,949	263,397	47,922	5,102,806
State Offshore.....	63,903	625	64,528	NA	NA	NA	64,528
Federal Offshore...	1,192,672	93,867	1,286,539	NA	NA	NA	1,286,539
Utah.....	231,368	43,552	274,920	990	NA	16,790	257,139
Virginia.....	58,249	0	58,249	0	0	0	58,249
West Virginia ^E	172,268	0	172,268	NA	NA	NA	172,268
Wyoming.....	1,043,797	109,318	1,153,115	128,186	146,414	140,147	738,368

^a Nonhydrocarbon gases removed increased significantly in 1996 due to production increases in the Bravo Dome.

^b Ceased injections.

^E = Estimated data.

NA = Not available.

Note: Totals may not equal sum of components due to independent rounding.

Sources: West Virginia, 1997: Energy Information Administration (EIA), *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, Annual Reports*, DOE/EIA-0216; and EIA computations. All other data: Form EIA-627, "Annual Quantity and Value of Natural Gas Report" (1993 through 1995); Form EIA-895, "Monthly Quantity and Value of Natural Gas Report" (1996 and 1997); and the United States Minerals Management Service.

Table 4. Offshore Gross Withdrawals of Natural Gas by State, 1993-1997
(Million Cubic Feet)

Year and State	State			Federal			Total Offshore
	From Gas Wells	From Oil Wells	Total	From Gas Wells	From Oil Wells	Total	
1993 Total	470,487	136,948	607,435	4,215,015	550,850	4,765,865	5,373,300
Alabama	131,508	0	131,508	86,515	0	86,515	218,023
Alaska	127,834	105,363	233,198	0	0	0	233,198
California	0	6,484	6,484	10,618	41,532	52,150	58,635
Louisiana	133,261	23,750	157,011	2,883,761	467,340	3,351,101	3,508,112
Texas	77,883	1,350	79,234	1,234,121	41,978	1,276,099	1,355,333
1994 Total	550,079	154,390	704,469	4,373,962	622,235	4,996,197	5,700,666
Alabama	228,878	0	228,878	117,308	3,194	120,502	349,380
Alaska	99,801	124,501	224,301	0	0	0	224,301
California	0	7,204	7,204	11,064	42,497	53,561	60,765
Louisiana	137,823	21,690	159,513	2,995,676	518,305	3,513,981	3,673,494
Texas	83,577	996	84,573	1,249,914	58,240	1,308,154	1,392,727
1995 Total	460,659	28,917	489,576	4,288,219	653,870	4,942,089	5,431,665
Alabama	212,895	0	212,895	143,353	350	143,703	356,598
Alaska	105,867	7,684	113,552	0	0	0	113,552
California	0	5,904	5,904	7,874	46,916	54,790	60,694
Louisiana	79,515	14,528	94,044	2,937,666	522,437	3,460,103	3,554,147
Texas	62,381	801	63,181	1,199,326	84,167	1,283,493	1,346,674
1996 Total	563,746	33,493	597,239	4,493,294	682,111	5,175,405	5,772,644
Alabama	209,013	0	209,013	152,055	0	152,055	361,068
Alaska	118,996	7,055	126,051	0	0	0	126,051
California	0	6,309	6,309	5,508	61,276	66,784	73,092
Louisiana	173,114	19,414	192,527	3,120,143	519,609	3,639,752	3,832,280
Texas	62,624	716	63,340	1,215,587	101,226	1,316,814	1,380,154
1997 Total	559,098	31,717	590,815	4,586,352	729,162	5,315,514	5,906,329
Alabama	214,414	0	214,414	194,677	0	194,677	409,091
Alaska	115,934	7,919	123,854	0	0	0	123,854
California	0	7,171	7,171	4,260	69,084	73,345	80,516
Louisiana	164,847	16,002	180,848	3,194,743	566,210	3,760,953	3,941,802
Texas	63,903	625	64,528	1,192,672	93,867	1,286,539	1,351,067

Notes: For individual State and U.S. production, see Table 3. Totals may not equal sum of components due to independent rounding.

Source: Appropriate State agencies responses to informal data requests and the United States Minerals Management Service.

Table 5. Number of Producing Gas and Gas Condensate Wells by State as of December 31, 1993-1997

State	1993	1994	1995	1996	1997
Alabama	3,514	3,565	3,526	4,105	4,156
Alaska	113	104	100	102	141
Arizona	6	6	7	7	8
Arkansas	3,500	3,500	3,988	4,020	3,700
California	1,092	1,261	997	978	930
Colorado.....	6,372	7,056	7,017	8,251	12,433
Illinois	385	390	372	370	372
Indiana	1,336	1,348	1,347	1,367	1,458
Kansas	19,472	19,365	22,020	21,388	21,500
Kentucky	12,836	13,036	13,311	13,501	13,825
Louisiana.....	15,569	12,958	14,169	15,295	14,958
Maryland	7	7	7	8	8
Michigan	5,500	6,000	5,258	5,826	6,825
Mississippi.....	620	583	535	568	560
Missouri ^a	8	12	15	24	0
Montana	3,075	2,940	2,918	2,990	3,071
Nebraska.....	59	87	87	88	91
Nevada	0	0	0	5	5
New Mexico.....	20,846	23,292	23,510	24,134	27,421
New York.....	5,757	5,884	6,134	6,208	5,731
North Dakota ^b	101	104	99	108	104
Ohio.....	34,782	34,731	34,520	34,380	34,238
Oklahoma.....	29,118	29,121	29,733	29,733	30,101
Oregon	18	19	17	18	17
Pennsylvania.....	31,100	31,150	31,025	31,792	32,692
South Dakota	47	55	56	61	60
Tennessee	0	0	0	0	505
Texas.....	47,101	48,654	54,635	53,816	56,747
Utah.....	1,061	1,303	1,127	1,339	1,475
Virginia	1,426	1,470	1,671	1,671	2,046
West Virginia.....	33,716	39,830	36,144	35,148	31,000
Wyoming	3,615	3,942	4,196	4,510	5,160
Total.....	282,152	291,773	298,541	301,811	311,338

^a No wells currently in production.

^b Ceased injections.

Sources: Energy Information Administration (EIA), Form EIA-627, "Annual Quantity and Value of Natural Gas Report" (1993 through 1995); Form EIA-895, "Monthly Quantity and Value of Natural Gas Report" (1996 and 1997); the United States Minerals Management Services (MMS), and *World Oil* Magazine.

Table 6. Wellhead Value and Marketed Production of Natural Gas by State, 1993-1997

Year and State	Reported Wellhead Value		Average Wellhead Price (dollars per thousand cubic feet)	Marketed Production (million cubic feet)	Imputed Wellhead Value of Marketed Production ^b (thousand dollars)
	Volume ^a (million cubic feet)	Value (thousand dollars)			
1993 Total	15,341,514	—	2.04	18,981,915	38,810,612
1994 Total	15,513,667	—	1.85	19,709,525	36,535,940
1995 Total	15,557,464	—	1.55	19,506,474	30,159,545
1996 Total	14,822,258	—	2.17	19,750,793	42,818,138
1997 Total	17,105,855	—	2.32	19,865,182	46,131,323
Alabama.....	583,370	1,556,913	2.67	583,272	1,556,655
Alaska.....	191,017	346,783	1.82	468,311	850,200
Arizona.....	401	963	2.40	452	1,084
Arkansas ^c	71,449	288,214	4.03	208,514	841,118
California.....	219,216	527,433	2.41	285,690	687,367
Colorado ^c	637,375	1,418,457	2.23	637,375	1,418,458
Florida.....	NA	NA	—	6,114	0
Illinois.....	NA	NA	—	231	0
Indiana.....	526	1,147	2.18	526	1,147
Kansas.....	678,652	1,388,744	2.05	687,215	1,406,269
Kentucky.....	79,547	211,571	2.66	79,547	211,571
Louisiana.....	5,398,216	12,749,469	2.36	5,229,821	12,351,739
Maryland.....	118	263	2.23	118	263
Michigan.....	305,950	670,174	2.19	305,950	670,175
Mississippi.....	98,075	169,898	1.73	107,300	185,880
Missouri.....	5	8	1.70	5	8
Montana.....	50,409	80,316	1.59	52,437	83,548
Nebraska.....	1,194	1,823	1.53	1,670	2,548
Nevada ^d	0	0	—	9	0
New Mexico.....	1,540,157	2,717,844	1.76	1,558,633	2,750,442
New York.....	15,415	39,500	2.56	16,188	41,481
North Dakota.....	52,401	113,187	2.16	52,401	113,187
Ohio.....	116,246	313,864	2.70	116,246	313,864
Oklahoma.....	1,452,233	3,375,207	2.32	1,703,888	3,960,091
Oregon.....	1,173	2,566	2.19	1,173	2,566
Pennsylvania.....	NA	NA	—	80,000	0
South Dakota.....	687	1,435	2.09	687	1,435
Tennessee.....	1,510	3,850	2.55	1,510	3,850
Texas.....	4,716,304	11,674,626	2.48	6,453,873	15,975,789
Utah.....	174,275	324,277	1.86	257,139	478,465
Virginia.....	NA	NA	—	58,249	0
West Virginia.....	NA	NA	—	172,268	0
Wyoming.....	719,933	1,745,072	2.42	738,368	1,789,760

^a Quantity of production associated with reported wellhead value. A number of States reported values associated with quantities other than marketed production.

^b Average wellhead price times marketed production does not equal imputed value of marketed production due to independent rounding.

^c Quantity and value data obtained from Energy Information Administration Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition."

^d All of Nevada's marketed production was consumed as lease fuel.
NA = Not available.

— = Not applicable.

Note: Totals may not equal sum of components due to independent rounding.

Sources: West Virginia, 1997: Energy Information Administration (EIA), *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, Annual Reports*, DOE/EIA-0216; and EIA computations. All other data: Form EIA-627, "Annual Quantity and Value of Natural Gas Report" (1993 through 1995); Form EIA-895, "Monthly Quantity and Value of Natural Gas Report" (1996 and 1997); and the United States Minerals Management Service.

Table 7. Natural Gas Processed, Liquids Extracted, and Estimated Extraction Loss by State, 1997

Plant Location	Natural Gas Processed (million cubic feet)	Total Liquids Extracted (thousand barrels)	Extraction Loss	
			Volume (million cubic feet)	Estimated Heat Content (billion Btu)
Alabama	114,411	3,471	4,637	14,645
Alaska	2,964,734	34,908	41,535	154,848
Arkansas	185,244	429	554	1,785
California	243,054	9,246	11,600	38,594
Colorado.....	374,728	20,659	28,851	77,431
Florida	8,364	1,596	1,563	5,970
Illinois	500	60	200	260
Kansas	749,423	29,027	38,224	114,392
Kentucky	43,352	1,745	2,404	6,771
Louisiana.....	4,767,965	107,473	150,008	405,737
Michigan.....	86,564	4,484	6,147	17,426
Mississippi.....	4,372	232	300	1,011
Montana	8,859	324	409	1,342
New Mexico.....	851,305	74,970	109,046	271,830
North Dakota.....	51,657	3,897	5,076	16,291
Ohio.....	2,553	65	83	273
Oklahoma.....	1,014,008	67,745	96,830	248,951
Pennsylvania.....	11,661	587	734	2,413
Texas	4,171,967	275,315	391,174	1,018,436
Utah.....	249,930	13,757	17,872	53,176
West Virginia.....	69,092	5,057	7,179	18,906
Wyoming	863,052	35,952	49,333	135,528
Total.....	16,836,795	690,999	963,759	2,606,015

Note: Totals may not equal sum of components due to independent rounding.

Sources: Natural Gas Processed, Total Liquids Extracted, and Extraction Loss Volume: Energy Information Administration (EIA), Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production." Estimated Heat Content of Extraction Loss: Estimated, assuming the makeup to total liquids production as reported on Form EIA-64A for each State was proportional to the components and products ultimately separated in

the States as reported on the 12 monthly reports on Energy Information Administration, Form EIA-816, "Monthly Natural Gas Liquids Report," and applying the following conversion factors to the individual component and product production estimates (million Btu extraction loss per barrel of liquid produced): ethane, 3.082; propane, 3.836; normal butane, 4.326; isobutane, 3.974; pentanes plus, 4.620.