

Table of Contents

U.S. Crude Oil and Natural Gas Proved Reserves, Year-end 2024

[Table 1: U.S. proved reserves and reserves changes, 2023–24](#)

[Table 2: Crude oil and lease condensate production and proved reserves, from shale plays, 2023–24](#)

[Table 3: U.S. natural gas, wet after lease separation, reserves changes, by source, 2023–24](#)

[Table 4: Natural gas, wet after lease separation, production and proved reserves, from shale plays, 2023–24](#)

[Table 5: U.S. crude oil and lease condensate proved reserves, 2014–24](#)

[Table 6: Crude oil and lease condensate proved reserves, reserves changes, by states and areas, 2024](#)

[Table 7: U.S. natural gas, wet after lease separation, proved reserves, 2014–2024](#)

[Table 8: Natural gas, wet after lease separation, proved reserves, reserves changes, by states and areas, 2024](#)

[Table 9: Natural gas, wet after lease separation, proved reserves and production of shale plays, by states and areas, 2021–24](#)

[Table 10: Natural gas, wet after lease separation, proved reserves, reserves changes from shale plays, by states and areas, 2024](#)

[Table 11: Estimated natural gas plant liquids and dry natural gas content of natural gas, wet after lease separation, proved reserves](#)

[Table 12: Proved nonproducing reserves by states, areas, and shale plays, 2024](#)

Terminology:

Crude oil and lease condensate: **Crude oil** is a mixture of hydrocarbons that exists in liquid phase in natural underground reservoirs, produced by oil wells, and remains liquid at atmospheric pressure after passing through surface separating facilities. Depending upon the characteristics of the crude stream, it may also include: Small amounts of hydrocarbons that exist in gaseous phase in natural underground reservoirs but are liquid at atmospheric pressure after being recovered from oil well (casinghead) gas in lease separators and are subsequently commingled with the crude stream without being separately measured. **Lease condensate** is a mixture consisting primarily of pentanes and heavier hydrocarbons, produced by natural gas wells and recovered as a liquid after passing through lease separators. **Crude oil and lease condensate** is the combined volume of these liquid hydrocarbons. Impurities, such as small amounts of nonhydrocarbons produced with the oil, such as sulfur and various metals can be included. Liquids produced at natural gas processing plants (Natural Gas Plant Liquids) are excluded.

Natural gas, wet after lease separation: 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.

Dry natural gas: Also known as dry gas or consumer-grade natural gas, dry natural gas is the volume of natural gas that remains after natural gas plant liquids and non-hydrocarbon impurities are removed from the natural gas downstream at natural gas processing plants. Dry natural gas is mostly methane and contains only negligible amounts of dissolved liquid hydrocarbons (for example, hexane and octane) and impurities. The higher the methane concentration, the drier the natural gas.

Natural gas plant liquids: Natural gas plant liquids (NGPLs) are liquid ethane, propane, butane, isobutane, pentane and sometimes heavier hydrocarbons. Unlike lease condensate, NGPLs remain within natural gas after it passes through lease separation equipment. These liquids are separated from natural gas, wet after lease separation, at natural gas processing plants, fractionators, and gas cycling plants.

Table 1. U.S. proved reserves and reserves changes, 2023–24

	Crude oil and lease condensate (million barrels)	Natural gas, wet after lease separation (billion cubic feet)
U.S. proved reserves at December 31, 2023	46,422	603,615
Extensions & Discoveries	5,145	67,764
Revisions & Other Changes (a)	-3,845	-75,413
Net of Acquisitions & Divestitures (b)	3,036	30,315
Production	4,806	42,338
Net changes to U.S. proved reserves	-471	-19,673
U.S. proved reserves at December 31, 2024	45,951	583,942
Percent change in U.S. proved reserves	-1.0%	-3.3%

(a) Annual balancing item calculated by EIA.

(b) Net of acquisitions and divestitures = acquisitions - divestitures

Notes: Natural gas, wet after lease separation includes natural gas plant liquids. Percent change calculated from unrounded numbers.

Source: U.S. Energy Information Administration, Form EIA-23L, "Annual Report of Domestic Oil and Gas Reserves," 2023 and 2024.

Table 2. Crude oil and lease condensate production and proved reserves, from shale plays, 2023–24 (million barrels)

Basin	Play	State(s)	2023		2024		Annual change	
			Production	Reserves	Production	Reserves	Production	Reserves
Permian	Bone Spring, Wolfcamp	NM, TX	1,763	15,399	1,920	17,394	157	1,995
Williston	Bakken/Three Forks	MT, ND	434	4,234	445	3,997	11	-237
Western Gulf	Eagle Ford	TX	377	4,123	379	3,489	2	-634
Denver-Julesburg	Niobrara*	CO, NE, WY	134	1,002	152	1,268	18	266
Appalachian	Marcellus, Pt. Pleasant,	OH, PA, WV	50	645	52	670	2	25
	Utica							
Anadarko, S. Oklahoma	Woodford							
	SCOOP/STACK*	OK	57	579	43	549	-14	-30
Fort Worth	Barnett	TX	1	11	1	11	0	0
Subtotal			2,817	25,993	2,993	27,378	176	1,385
Other shale plays			18	236	1	155	-17	-81
U.S. total			2,835	26,229	2,994	27,533	159	1,304

Notes: Bone Spring, Wolfcamp play includes proved reserves from shale formations reported on Form EIA-23L in TX RRC 7C, TX RRC 8, TX RRC 8A, and NME. Woodford SCCOP/STACK* play includes volumes reported as shale from Oklahoma on Form EIA-23L. Niobrara* play includes volumes reported as shale from Colorado and Wyoming on Form EIA-23L. Total may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Form EIA-23L, "Annual Report of Domestic Oil and Gas Reserves," 2023 and 2024.

Table 3. U.S. natural gas, wet after lease separation, reserves changes, by source, 2023–24 (trillion cubic feet)

	Changes in proved reserves during 2024					Proved reserves 12/31/2024
	Proved reserves 12/31/2023	Extensions and discoveries	Revisions and other changes (a)	Net of acquisitions and divestitures	Estimated production	
Shale	393.1	53.2	-63.0	29.0	32.9	379.4
Non-shale	210.5	14.6	-12.4	1.4	9.5	204.6
Lower 48 Onshore	109.0	6.1	-11.0	1.3	8.4	97.1
Lower 48 Offshore	4.7	0.2	0.1	0.1	0.7	4.4
Alaska	96.8	8.3	-1.5	0.0	0.4	103.1
U.S. total	603.6	67.8	-75.4	30.3	42.3	583.9

(a) Annual balancing item calculated by EIA.

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

Source: U.S. Energy Information Administration, Form EIA-23L, "Annual Report of Domestic Oil and Gas Reserves," 2023 and 2024.

Table 4. Natural gas, wet after lease separation, production and proved reserves, from shale plays, 2023–24 (trillion cubic feet)

Basin	Shale Play	State(s)	2023		2024		Annual change	
			Production	Reserves	Production	Reserves	Production	Reserves
Appalachian	Marcellus	PA,WV	10.5	147.3	10.6	141.2	0.1	-6.1
Permian Basin	Wolfcamp, Bone Spring	NM, TX	7.1	79.1	8.2	95.0	1.1	15.9
Texas-Louisiana Salt	Haynesville/Bossier	LA, TX	5.5	50.3	4.9	34.0	-0.6	-16.3
Western Gulf	Eagle Ford	TX	2.6	37.2	2.6	31.3	0.0	-5.9
Appalachian	Utica/Pt. Pleasant	OH	2.2	28.5	2.1	26.3	-0.1	-2.2
Anadarko, S. Oklahoma	Woodford SCOOP/STACK	OK	1.4	18.8	1.5	20.9	0.1	2.1
Williston	Bakken/Three Forks	MT, ND	1.2	12.3	1.3	12.7	0.1	0.4
Fort Worth	Barnett	TX	0.4	5.9	0.4	4.7	0.0	-1.2
Arkoma	Fayetteville	AR	0.4	3.8	0.3	2.8	-0.1	-1.0
Subtotal			31.3	383.2	31.9	369.0	0.6	-14.2
Other shale plays			0.9	9.9	1.0	10.4	0.1	0.5
U.S. total			32.2	393.1	32.9	379.4	0.7	-13.7

Notes: 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 non-shale reservoirs), the actual proved reserves and production of natural gas from shale plays may be higher or lower. Other shale gas includes all proved reserves reported as shale on 2024 Form EIA-23L, Part 5.

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

Source: U.S. Energy Information Administration, Form EIA-23L, "Annual Report of Domestic Oil and Gas Reserves," 2023 and 2024.

**Table 5: U.S. crude oil and lease condensate proved reserves, 2014–24
(million barrels)**

Year	Revisions and other changes (a)	Net of acquisitions and divestitures (b)	Extensions and discoveries	Estimated production	Total proved reserves 12/31	Change from prior year
2014	856	353	5,404	3,200	39,933	3,413
2015	-4,493	-30	3,247	3,427	35,230	-4,703
2016	-262	264	3,204	3,223	35,213	-17
2017	3,464	1,035	5,679	3,401	41,990	6,777
2018	1,177	676	7,194	3,984	47,053	5,063
2019	-2,976	884	6,691	4,480	47,172	119
2020	-8,382	334	3,242	4,154	38,212	-8,960
2021	1,156	2,914	6,265	4,129	44,418	6,206
2022	1,865	1,036	5,370	4,368	48,321	3,903
2023	-3,898	1,703	5,002	4,705	46,422	-1,899
2024	-3,845	3,036	5,145	4,806	45,951	-471

(a) Annual balancing item calculated by EIA.

(b) Net of acquisitions and divestitures = acquisitions - divestitures

Notes: 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. They may differ from the official EIA production data for crude oil and lease condensate contained in *Petroleum Supply Annual* and the *Natural Gas Annual*.

Source: U.S. Energy Information Administration, Form EIA-23L, "Annual Report of Domestic Oil and Gas Proved Reserves," 2014-2024.

**Table 6: Crude oil and lease condensate proved reserves, reserves changes, by states and areas, 2024
(million barrels)**

State and Subdivision	Changes in proved reserves during 2024						Estimated production (-)	Proved producing reserves 12/31/24	Proved nonproducing reserves 12/31/24	Total proved reserves 12/31/24
	Total proved reserves 12/31/23	Revisions and other changes (c) (+,-)	Extensions and discoveries (+)	Divestitures (-)	Acquisitions (+)					
Alaska	2,973	-1	280	150	176	154	2,180	944	3,124	
Lower 48 States	43,449	-3,844	4,865	950	3,959	4,652	26,663	16,164	42,827	
Alabama	51	-3	0	0	0	3	41	4	45	
Arkansas	32	4	0	0	0	4	29	3	32	
California	1,273	21	21	237	246	117	1,029	178	1,207	
Coastal Region Onshore	108	21	0	25	28	11	112	9	121	
Los Angeles Basin Onshore	121	-4	0	0	0	8	84	25	109	
San Joaquin Basin Onshore	877	25	21	211	218	87	709	134	843	
State Offshore	167	-21	0	0	0	11	124	10	135	
Colorado	1,069	218	107	15	51	169	726	536	1,262	
Kansas	270	-27	1	14	7	26	205	6	211	
Louisiana	451	-118	11	6	0	28	168	142	310	
North	64	0	0	0	0	5	45	14	59	
South Onshore	359	-115	10	0	0	18	113	123	236	
State Offshore	28	-3	1	6	0	5	10	5	15	
Michigan	44	5	0	0	0	4	40	4	44	
Mississippi	70	-2	0	0	0	12	55	1	56	
Montana	351	27	24	1	16	26	189	202	391	
Nebraska	10	0	0	0	0	1	8	0	8	
New Mexico	6,572	-184	1,201	51	269	739	3,597	3,471	7,068	
East	6,358	-93	1,178	51	148	729	3,481	3,330	6,811	
West	214	-91	23	0	121	10	116	141	257	
North Dakota	4,354	-892	349	262	756	438	2,794	1,072	3,867	
Ohio	425	-67	135	1	19	35	170	306	476	
Oklahoma	1,606	-4	134	15	54	144	1,100	532	1,631	
South Dakota	7	4	0	0	0	1	10	0	10	
Texas	20,173	-2,762	2,332	278	2,224	2,045	12,413	7,232	19,644	
RRC District 1	2,285	-323	116	9	151	203	1,266	751	2,016	
RRC District 2 Onshore	1,355	-146	29	3	149	171	706	508	1,213	
RRC District 3 Onshore	836	-82	26	5	8	45	361	379	740	
RRC District 4 Onshore	337	-115	13	0	31	25	148	93	241	
RRC District 5	201	-123	0	1	0	7	71	0	71	
RRC District 6	137	1	1	9	60	14	145	32	176	
RRC District 7B	66	22	0	0	2	8	79	1	81	
RRC District 7C	1,372	118	344	55	130	185	1,011	715	1,725	
RRC District 8	12,046	-2,126	1,722	141	1,599	1,266	7,422	4,412	11,834	
RRC District 8A	1,245	120	80	49	70	104	1,036	327	1,363	
RRC District 9	74	5	0	0	0	8	65	6	71	
RRC District 10	219	-114	0	7	24	10	104	9	113	
State Offshore	-	-	-	-	-	-	-	-	-	
Utah	645	-226	58	5	144	67	310	238	549	
West Virginia	161	-89	13	0	81	15	80	71	151	
Wyoming	1,101	-74	171	2	1	105	810	282	1,092	
Federal Offshore	4,665	336	258	63	88	658	2,773	1,853	4,626	
Pacific (California)	52	15	0	0	0	4	45	18	63	
Gulf of America (Central & Eastern) (a)	4,288	290	231	63	88	606	2,578	1,649	4,227	
Gulf of America (Western)	326	31	27	0	0	48	150	186	336	
Other States (b)	116	-8	48	0	2	14	117	28	145	
U.S. Total	46,422	-3,845	5,145	1,100	4,135	4,806	28,843	17,108	45,951	

(a) Includes Federal offshore Louisiana, Mississippi, Alabama, and Florida.

(b) Includes Arizona, Florida, Idaho, Illinois, Indiana, Kentucky, Maryland, Missouri, Nevada, New York, Oregon, Pennsylvania, Tennessee, and Virginia.

(c) Annual balancing item calculated by EIA.

Notes: We base the production estimates in this table on data reported on Form EIA-23L. The estimates may differ slightly from our official production data for crude oil and lease condensate for 2024 in the *Petroleum Supply Annual 2024*. One barrel = 42 U.S. gallons.

- No data reported

Source: U.S. Energy Information Administration, Form EIA-23L, "Annual Report of Domestic Oil and Gas Reserves," 2023 and 2024.

**Table 7: U.S. natural gas, wet after lease separation, proved reserves, 2014–24
(billion cubic feet)**

Year	Revisions and other changes (a)	Net of acquisitions & divestitures (b)	Extensions and discoveries	Estimated production	Total proved reserves 12/31	Change from prior year
2014	5,889	6,565	50,487	28,094	388,841	34,847
2015	-71,332	1,417	34,706	29,329	324,303	-64,538
2016	7,180	432	38,371	29,153	341,133	16,830
2017	60,644	22,123	70,783	30,391	464,292	123,159
2018	-18,917	13,746	79,457	34,077	504,501	40,209
2019	-44,837	16,171	56,910	37,365	495,380	-9,121
2020	-93,066	68,204	39,829	37,062	473,285	-22,095
2021	91,392	31,230	67,564	38,098	625,373	152,088
2022	36,430	11,988	57,786	40,551	691,025	65,652
2023	-100,202	12,448	42,290	41,946	603,615	-87,410
2024	-75,413	30,315	67,764	42,338	583,942	-19,673

(a) Annual balancing item calculated by EIA.

(b) Net of acquisitions and divestitures = acquisitions - divestitures

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

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

Source: U.S. Energy Information Administration, Form EIA-23L, "Annual Report of Domestic Oil and Gas Reserves," 2014–2024.

Table 8: Natural gas, wet after lease separation, proved reserves, reserves changes, by states and areas, 2024 (billion cubic feet)

State and subdivision	Changes in proved reserves during 2024						Estimated production (-)	Proved producing reserves 12/31/24	Proved nonproducing reserves 12/31/24	Total proved reserves 12/31/24
	Total proved reserves 12/31/23	Revisions and other changes (c) (+,-)	Extensions and discoveries (+)	Divestitures (-)	Acquisitions (+)					
Alaska	96,779	-1,522	8,276	43	20	378	98,199	4,932	103,131	
Lower 48 States	506,836	-73,891	59,488	6,712	37,050	41,960	323,207	157,604	480,811	
Alabama	984	-173	0	0	0	76	610	126	735	
Arkansas	4,679	-1,237	1	0	0	350	2,988	106	3,094	
California	1,006	-116	0	69	59	90	671	119	790	
Coastal Region Onshore	93	3	0	10	9	7	77	10	88	
Los Angeles Basin Onshore	61	-6	0	0	0	4	45	5	50	
San Joaquin Basin Onshore	789	-106	0	59	50	73	499	101	601	
State Offshore	63	-7	0	0	0	5	49	3	51	
Colorado	18,003	1,638	1,060	2,494	2,840	1,844	14,360	4,843	19,203	
Kansas	2,842	-327	0	74	6	126	2,264	56	2,321	
Louisiana	32,579	-8,757	499	186	3,752	3,723	14,986	9,178	24,164	
North	31,599	-8,730	414	118	3,749	3,621	14,602	8,691	23,293	
South Onshore	838	-3	86	0	2	89	367	467	834	
State Offshore	142	-24	0	67	0	13	17	21	38	
Michigan	1,119	31	0	2	2	65	1,078	8	1,086	
Mississippi	169	39	0	0	0	26	145	37	181	
Montana	694	153	59	114	33	47	446	332	778	
New Mexico	45,432	-2,279	6,701	190	1,079	3,586	25,831	21,326	47,157	
East	32,354	-649	5,969	190	529	3,079	17,539	17,394	34,933	
West	13,078	-1,630	732	0	550	506	8,291	3,932	12,224	
New York	101	28	0	0	3	8	124	0	124	
North Dakota	12,730	-1,830	849	565	2,229	1,253	9,530	2,630	12,160	
Ohio	28,571	-3,715	1,957	8	1,783	2,148	15,134	11,306	26,440	
Oklahoma	34,996	1,732	3,333	460	1,045	2,994	27,213	10,438	37,651	
Pennsylvania	102,123	-26,904	23,780	1	3,581	7,445	69,485	25,650	95,135	
Texas	148,854	-23,487	14,871	1,666	12,822	12,724	90,083	48,587	138,670	
RRC District 1	10,560	-1,889	914	63	575	880	4,980	4,235	9,216	
RRC District 2 Onshore	5,550	-892	131	8	1,070	714	2,897	2,241	5,138	
RRC District 3 Onshore	3,079	-355	214	55	15	239	1,573	1,085	2,658	
RRC District 4 Onshore	21,820	-9,766	3,713	21	1,231	1,154	8,211	7,613	15,823	
RRC District 5	6,797	507	455	228	222	635	5,122	1,996	7,119	
RRC District 6	24,301	-6,007	350	105	151	2,014	10,041	6,635	16,676	
RRC District 7B	1,074	-125	0	0	8	90	853	13	867	
RRC District 7C	11,729	820	1,945	329	1,162	1,145	9,849	4,332	14,181	
RRC District 8	53,742	-5,468	7,017	691	7,833	5,116	38,089	19,227	57,316	
RRC District 8A	1,487	630	129	18	63	159	1,677	455	2,132	
RRC District 9	5,288	-740	0	32	160	328	3,749	598	4,347	
RRC District 10	3,427	-201	5	115	333	249	3,042	156	3,199	
State Offshore	0	1	0	0	0	1	0	0	0	
Utah	3,499	-53	129	764	970	305	2,533	944	3,477	
West Virginia	47,891	-8,541	5,396	0	6,588	3,299	30,665	17,371	48,036	
Wyoming	13,383	-110	630	0	2	1,010	10,820	2,075	12,894	
Federal Offshore	4,490	162	216	120	250	690	2,209	2,100	4,309	
Pacific (California)	50	-1	0	0	0	4	32	12	44	
Gulf of America (Central & Eastern) (a)	3,748	179	122	120	250	608	1,972	1,600	3,572	
Gulf of America (Western)	692	-16	94	0	0	78	206	487	693	
Other States (b)	2,691	-146	5	0	5	150	2,032	373	2,405	
U.S. Total	603,615	-75,413	67,764	6,755	37,069	42,338	421,406	162,536	583,942	

(a) Includes Federal offshore Louisiana, Mississippi, Alabama, and Florida.

(b) Includes Arizona, Florida, Idaho, Illinois, Indiana, Kentucky, Maryland, Missouri, Nebraska, Nevada, Oregon, South Dakota, Tennessee, and Virginia.

(c) Annual balancing item calculated by EIA.

Notes: We base the production estimates in this table on data reported on Form EIA-23L. The estimates may differ from our official production data for natural gas for 2024 contained in the *Natural Gas Annual 2024*.

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

Source: U.S. Energy Information Administration, Form EIA-23L, "Annual Report of Domestic Oil and Gas Reserves," 2023 and 2024.

**Table 9: Natural gas, wet after lease separation, proved reserves and production of shale plays, by states and areas, 2021–24
(billion cubic feet)**

State and Subdivision	Natural gas production from shale plays				Natural gas proved reserves of shale plays			
	2021	2022	2023	2024	2021	2022	2023	2024
Alaska	-	-	-	-	-	-	-	-
Lower 48 States	27,985	30,586	32,228	32,868	393,779	431,413	393,094	379,354
Arizona	-	-	-	-	-	-	-	-
Arkansas	387	357	361	328	5,127	5,341	3,836	2,814
Colorado	301	716	746	815	4,149	9,546	6,964	7,610
Idaho	-	-	-	-	-	-	-	-
Louisiana	2,942	3,615	3,975	3,415	35,630	34,770	29,858	21,224
North Onshore	2,942	3,615	3,975	3,415	35,630	34,770	29,858	21,224
South Onshore	-	-	-	-	-	-	-	-
State Offshore	-	-	-	-	-	-	-	-
Michigan	53	64	61	58	1,092	1,246	1,067	1,011
Montana	15	19	20	36	254	395	460	657
Nevada	-	-	-	-	-	-	-	-
New Mexico	1,642	2,036	2,384	2,800	22,245	25,794	28,220	31,315
East	1,642	2,036	2,384	2,800	22,245	25,794	28,220	31,315
West	-	-	-	-	-	-	-	-
North Dakota	1,052	1,059	1,155	1,243	11,146	12,822	11,879	12,079
Ohio	2,207	2,196	2,174	2,115	31,790	32,362	28,455	26,291
Oklahoma	1,239	1,397	1,444	1,477	20,750	24,025	18,823	20,912
Oregon	-	-	-	-	-	-	-	-
Pennsylvania	7,546	7,433	7,502	7,372	105,586	104,998	101,243	94,452
Texas	8,262	8,767	9,330	9,900	116,848	130,448	114,326	112,442
RRC District 1	652	689	746	788	9,790	10,236	10,073	8,588
RRC District 2 Onshore	582	632	645	617	5,775	5,834	4,785	4,604
RRC District 3 Onshore	18	11	8	9	177	176	430	304
RRC District 4 Onshore	608	663	759	679	14,235	16,390	16,371	11,910
RRC District 5 Onshore	480	444	481	487	6,467	6,946	5,492	5,847
RRC District 6 Onshore	1,358	1,463	1,546	1,503	20,453	26,315	20,412	12,798
RRC District 7B Onshore	77	73	66	61	1,067	1,223	846	676
RRC District 7C Onshore	803	779	876	1,051	12,282	11,699	10,158	13,472
RRC District 8 Onshore	3,339	3,642	3,853	4,376	40,334	43,647	40,509	49,940
RRC District 8A Onshore	5	6	12	19	120	160	230	284
RRC District 9 Onshore	340	365	340	310	6,148	7,823	5,020	4,018
RRC District 10 Onshore	-	-	-	-	-	-	-	-
State Offshore	-	-	-	-	-	-	-	-
West Virginia	2,339	2,872	2,997	3,180	39,160	48,226	46,056	46,779
Wyoming	0	38	58	124	0	1,174	1,631	1,532
Federal Offshore	-	-	-	-	-	-	-	-
Other States (a)	0	16	20	6	2	264	278	235
U.S. Total	27,985	30,586	32,228	32,868	393,779	431,413	393,094	379,354

(a) Includes Alabama, California, Florida, Illinois, Indiana, Kansas, Kentucky, Maryland, Mississippi, Missouri, Nebraska, New York, South Dakota, Tennessee, Utah, and Virginia.

- No data reported

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

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

Source: U.S. Energy Information Administration, Form EIA-23L, "Annual Report of Domestic Oil and Gas Proved Reserves," 2021-2024.

Table 10: Natural gas, wet after lease separation, proved reserves, reserves changes from shale plays, by states and areas, 2024
(billion cubic feet)

State and Subdivision	Changes in proved reserves during 2024						Proved producing reserves of shale plays	Proved nonproducing reserves of shale plays	Proved reserves of shale plays 12/31/24
	Proved reserves of shale plays 12/31/23	Revisions and other changes (b) (+,-)	Divestitures (-)	Acquisitions (+)	Extensions and discoveries (+)	Estimated production (-)			
Alaska	-	-	-	-	-	-	-	-	-
Lower 48 States	393,094	-62,988	1,966	30,924	53,157	32,868	244,669	134,685	379,354
Arizona	-	-	-	-	-	-	-	-	-
Arkansas	3,836	-695	0	0	0	328	2,732	82	2,814
Colorado	6,964	142	12	355	977	815	4,616	2,995	7,610
Idaho	-	-	-	-	-	-	-	-	-
Louisiana	29,858	-9,244	118	3,749	393	3,415	12,966	8,259	21,224
North Onshore	29,858	-9,244	118	3,749	393	3,415	12,966	8,259	21,224
South Onshore	-	-	-	-	-	-	-	-	-
State Offshore	-	-	-	-	-	-	-	-	-
Michigan	1,067	0	0	2	0	58	1,011	0	1,011
Montana	460	150	0	33	49	36	326	331	657
Nevada	-	-	-	-	-	-	-	-	-
New Mexico	28,220	30	30	518	5,378	2,800	16,233	15,082	31,315
East	28,220	30	30	518	5,378	2,800	16,233	15,082	31,315
West	-	-	-	-	-	-	-	-	-
North Dakota	11,879	-1,072	561	2,229	847	1,243	9,456	2,623	12,079
Ohio	28,455	-3,765	8	1,783	1,941	2,115	14,985	11,306	26,291
Oklahoma	18,823	1,328	153	440	1,951	1,477	13,834	7,079	20,912
Oregon	-	-	-	-	-	-	-	-	-
Pennsylvania	101,243	-26,683	0	3,581	23,683	7,372	68,808	25,644	94,452
Texas	114,326	-14,619	1,084	11,478	12,241	9,900	69,381	43,060	112,442
RRC District 1	10,073	-1,892	63	553	704	788	4,501	4,088	8,588
RRC District 2 Onshore	4,785	-672	4	1,006	107	617	2,448	2,156	4,604
RRC District 3 Onshore	430	-114	8	1	4	9	133	171	304
RRC District 4 Onshore	16,371	-7,796	1	883	3,133	679	4,935	6,975	11,910
RRC District 5 Onshore	5,492	191	0	200	450	487	3,921	1,926	5,847
RRC District 6 Onshore	20,412	-6,420	24	0	332	1,503	6,939	5,858	12,798
RRC District 7B Onshore	846	-109	0	0	0	61	666	10	676
RRC District 7C Onshore	10,158	1,789	307	957	1,926	1,051	9,213	4,259	13,472
RRC District 8 Onshore	40,509	1,232	645	7,716	5,505	4,376	32,995	16,945	49,940
RRC District 8A Onshore	230	-23	0	18	78	19	166	118	284
RRC District 9 Onshore	5,020	-804	32	144	0	310	3,464	554	4,018
RRC District 10 Onshore	-	-	-	-	-	-	-	-	-
State Offshore	-	-	-	-	-	-	-	-	-
West Virginia	46,056	-7,975	0	6,581	5,297	3,180	29,408	17,371	46,779
Wyoming	1,631	-374	0	0	399	124	792	740	1,532
Federal Offshore	-	-	-	-	-	-	-	-	-
Other States (a)	278	-211	0	174	0	6	121	113	235
U.S. Total	393,094	-62,988	1,966	30,924	53,157	32,868	244,669	134,685	379,354

(a) Includes Alabama, California, Florida, Illinois, Indiana, Kansas, Kentucky, Maryland, Mississippi, Missouri, Nebraska, New York, South Dakota, Tennessee, Utah, and Virginia.

(b) Annual balancing item calculated by EIA.

- No data reported

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

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

Source: U.S. Energy Information Administration, Form EIA-23L, "Annual Report of Domestic Oil and Gas Proved Reserves," 2023 and 2024.

Table 11. Estimated natural gas plant liquids and dry natural gas content of natural gas, wet after lease separation, proved reserves, by states and areas, 2024

State and Subdivision	Natural gas, wet after lease separation, proved reserves (billion cubic feet)	Estimated yield from total natural gas, wet after lease separation, proved reserves	
		Natural gas plant liquids (million barrels)	Dry natural gas (billion cubic feet)
Alaska	103,131	5,011	102,436
Lower 48 States	480,811	29,061	442,969
Alabama	735	10	725
Arkansas	3,094	1	3,093
California	790	38	739
Coastal Region Onshore	88	3	84
Los Angeles Basin Onshore	50	2	47
San Joaquin Basin Onshore	601	33	556
State Offshore	51	0	51
Colorado	19,203	1,584	16,974
Kansas	2,321	135	2,123
Louisiana	24,164	78	24,083
North	23,293	23	23,263
South Onshore	834	46	786
State Offshore	38	9	34
Michigan	1,086	8	1,075
Mississippi	181	0	182
Montana	778	15	758
New Mexico	47,157	2,431	43,716
East	34,933	1,892	32,236
West	12,224	539	11,479
New York	124	0	124
North Dakota	12,160	1,659	9,857
Ohio	26,440	633	25,535
Oklahoma	37,651	2,322	34,350
Pennsylvania	95,135	1,084	93,561
Texas	138,670	14,963	120,816
RRC District 1	9,216	358	8,674
RRC District 2 Onshore	5,138	1,075	4,205
RRC District 3 Onshore	2,658	451	2,220
RRC District 4 Onshore	15,823	339	15,341
RRC District 5	7,119	291	6,693
RRC District 6	16,676	160	16,449
RRC District 7B	867	78	753
RRC District 7C	14,181	1,456	12,091
RRC District 8	57,316	9,819	45,816
RRC District 8A	2,132	236	1,962
RRC District 9	4,347	345	3,842
RRC District 10	3,199	355	2,770
State Offshore	0	0	0
Utah	3,477	106	3,334
West Virginia	48,036	3,072	43,589
Wyoming	12,894	507	12,202
Federal Offshore	4,309	354	3,803
Pacific (California)	44	0	44
Gulf of America (Central & Eastern) (a)	3,572	316	3,119
Gulf of America (Western)	693	38	640
Other States (b)	2,405	61	2,331
U.S. total	583,942	34,072	545,405

(a) Includes Federal offshore Louisiana, Mississippi, Alabama, and Florida.

(b) Includes Arizona, Florida, Idaho, Illinois, Indiana, Kentucky, Maryland, Missouri, Nebraska, Nevada, Oregon, South Dakota, Tennessee, and Virginia.

- No data reported

Source: U.S. Energy Information Administration, Form EIA-23L, "Annual Report of Domestic Oil and Gas Reserves," 2024, and Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production."

Table 12: Proved nonproducing reserves by states, areas, and shale plays, 2024

State and Subdivision	Crude oil and lease condensate		Natural gas, wet after lease separation	
	Total proved nonproducing reserves (million barrels)	Subtotal of nonproducing reserves of shale plays (million barrels)	Total proved nonproducing reserves (billion cubic feet)	Subtotal of nonproducing reserves of shale plays (billion cubic feet)
Alaska	944	-	4,932	-
Lower 48 States	16,164	11,180	157,604	134,685
Alabama	4	-	126	-
Arkansas	3	0	106	82
California	178	0	119	0
Coastal Region Onshore	9	-	10	-
Los Angeles Basin Onshore	25	-	5	-
San Joaquin Basin Onshore	134	0	101	-
State Offshore	10	-	3	-
Colorado	536	431	4,843	2,995
Kansas	6	-	56	-
Louisiana	142	0	9,178	8,259
North	14	0	8,691	8,259
South Onshore	123	-	467	-
State Offshore	5	-	21	-
Michigan	4	0	8	0
Mississippi	1	-	37	-
Montana	202	199	332	331
New Mexico	3,471	2,687	21,326	15,082
East	3,330	2,687	17,394	15,082
West	141	-	3,932	-
New York	0	-	0	-
North Dakota	1,072	1,053	2,630	2,623
Ohio	306	306	11,306	11,306
Oklahoma	532	252	10,438	7,079
Pennsylvania	W	W	25,650	25,644
Texas	7,232	5,849	48,587	43,060
RRC District 1	751	646	4,235	4,088
RRC District 2 Onshore	508	482	2,241	2,156
RRC District 3 Onshore	379	217	1,085	171
RRC District 4 Onshore	93	78	7,613	6,975
RRC District 5	0	0	1,996	1,926
RRC District 6	32	1	6,635	5,858
RRC District 7B	1	0	13	10
RRC District 7C	715	689	4,332	4,259
RRC District 8	4,412	3,657	19,227	16,945
RRC District 8A	327	77	455	118
RRC District 9	6	3	598	554
RRC District 10	9	-	156	-
State Offshore	-	-	0	-
West Virginia	W	W	17,371	17,371
Wyoming	282	209	2,075	740
Federal Offshore	1,853	-	2,100	-
Pacific (California)	18	-	12	-
Gulf of America (Central & Eastern) (a)	1,649	-	1,600	-
Gulf of America (Western)	186	-	487	-
Other States (b)	338	191	1,317	113
U.S. total	17,108	11,180	162,536	134,685

(a) Includes Federal offshore Louisiana, Mississippi, Alabama, and Florida.

(b) Includes Arizona, Florida, Idaho, Illinois, Indiana, Kentucky, Maryland, Missouri, Nebraska, Nevada, Oregon, Pennsylvania (crude oil only), South Dakota, Tennessee, Utah, Virginia, and West Virginia (crude oil only).

- No data reported W - Data withheld to avoid disclosure of individual company data

Source: U.S. Energy Information Administration, Form EIA-23L, "Annual Report of Domestic Oil and Gas Reserves", 2024.