

Table 21. Coal Productivity by State and Mine Type, 2017 and 2016

Coal-Producing State, Region ¹ and Mine Type	Number of Mining Operations ²			Number of Employees ³			Average Production per Employee Hour (short tons) ⁴		
	2017	2016	Percent Change	2017	2016	Percent Change	2017	2016	Percent Change
Alabama	37	37	-	2,600	2,124	22.4	2.15	2.12	1.7
Underground	10	11	-9.1	2,055	1,544	33.1	2.21	2.21	0.1
Surface	27	26	3.8	545	580	-6.0	1.94	1.87	3.9
Alaska	1	1	-	102	110	-7.3	5.24	4.51	16.1
Surface	1	1	-	102	110	-7.3	5.24	4.51	16.1
Arizona	1	1	-	402	385	4.4	6.64	5.96	11.4
Surface	1	1	-	402	385	4.4	6.64	5.96	11.4
Arkansas	3	3	-	71	67	6.0	0.50	0.38	33.8
Underground	1	1	-	61	56	8.9	0.36	0.35	2.3
Surface	2	2	-	10	11	-9.1	1.04	0.48	115.8
Colorado	7	8	-12.5	1,253	1,331	-5.9	5.69	4.49	27.0
Underground	4	5	-20.0	808	912	-11.4	6.45	4.46	44.5
Surface	3	3	-	445	419	6.2	4.28	4.54	-5.7
Illinois	27	29	-6.9	3,135	3,219	-2.6	6.54	5.89	10.9
Underground	16	17	-5.9	2,858	2,995	-4.6	6.72	6.01	11.9
Surface	11	12	-8.3	277	224	23.7	4.74	4.32	9.7
Indiana	23	26	-11.5	2,790	2,819	-1.0	4.75	4.46	6.4
Underground	8	12	-33.3	1,312	1,442	-9.0	4.50	3.75	20.0
Surface	15	14	7.1	1,478	1,377	7.3	4.98	5.20	-4.2
Kansas	-	1	-	-	7	-	-	20.19	-
Surface	-	1	-	-	7	-	-	20.19	-
Kentucky Total	214	232	-7.8	6,597	6,729	-2.0	2.73	2.94	-7.1
Underground	91	99	-8.1	4,913	5,020	-2.1	2.69	2.88	-6.6
Surface	123	133	-7.5	1,684	1,709	-1.5	2.88	3.17	-9.1
Kentucky (East)	193	207	-6.8	4,110	4,009	2.5	1.94	2.03	-4.7
Underground	79	84	-6.0	2,638	2,551	3.4	1.59	1.73	-7.8
Surface	114	123	-7.3	1,472	1,458	1.0	2.62	2.67	-1.8
Kentucky (West)	21	25	-16.0	2,487	2,720	-8.6	4.00	4.13	-3.2
Underground	12	15	-20.0	2,275	2,469	-7.9	3.94	3.99	-1.4
Surface	9	10	-10.0	212	251	-15.5	4.79	5.64	-15.0
Louisiana	2	2	-	325	305	6.6	2.67	3.86	-30.9
Surface	2	2	-	325	305	6.6	2.67	3.86	-30.9
Maryland	15	18	-16.7	303	335	-9.6	2.58	2.30	12.3
Underground	3	3	-	172	174	-1.1	1.86	1.92	-3.1
Surface	12	15	-20.0	131	161	-18.6	3.54	2.72	30.3
Mississippi	2	2	-	380	338	12.4	4.04	4.76	-15.1
Surface	2	2	-	380	338	12.4	4.04	4.76	-15.1
Missouri	1	1	-	15	19	-21.1	7.45	5.45	36.8
Surface	1	1	-	15	19	-21.1	7.45	5.45	36.8
Montana	7	7	-	1,146	1,157	-1.0	14.70	14.26	3.1
Underground	1	1	-	252	237	6.3	10.41	11.09	-6.1
Surface	6	6	-	894	920	-2.8	16.03	15.17	5.7
New Mexico	3	3	-	929	1,023	-9.2	7.46	6.68	11.6
Underground	1	1	-	349	404	-13.6	8.59	5.82	47.5
Surface	2	2	-	580	619	-6.3	6.89	7.19	-4.2
North Dakota	5	5	-	1,255	1,257	-0.2	12.07	11.80	2.3
Surface	5	5	-	1,255	1,257	-0.2	12.07	11.80	2.3
Ohio	26	26	-	1,086	1,466	-25.9	4.07	4.15	-1.9
Underground	11	12	-8.3	693	976	-29.0	4.43	4.57	-3.1
Surface	15	14	7.1	393	490	-19.8	3.37	3.28	2.7
Oklahoma	5	4	25.0	186	152	22.4	1.68	1.71	-2.0
Underground	1	1	-	84	76	10.5	1.59	1.86	-14.6
Surface	4	3	33.3	102	76	34.2	1.81	1.54	18.0
Pennsylvania Total	211	230	-8.3	5,458	5,214	4.7	4.07	4.25	-4.3
Underground	58	63	-7.9	3,919	3,644	7.5	4.84	5.24	-7.5
Surface	153	167	-8.4	1,539	1,570	-2.0	1.79	1.52	17.9

Coal-Producing State, Region ¹ and Mine Type	Number of Mining Operations ²			Number of Employees ³			Average Production per Employee Hour (short tons) ⁴		
	2017	2016	Percent Change	2017	2016	Percent Change	2017	2016	Percent Change
Pennsylvania (Anthracite)	94	94	-	914	964	-5.2	1.07	0.82	30.7
Underground	18	22	-18.2	82	96	-14.6	0.60	0.53	14.4
Surface	76	72	5.6	832	868	-4.1	1.11	0.85	30.5
Pennsylvania (Bituminous)	117	136	-14.0	4,544	4,250	6.9	4.57	4.95	-7.7
Underground	40	41	-2.4	3,837	3,548	8.1	4.90	5.34	-8.2
Surface	77	95	-18.9	707	702	0.7	2.55	2.45	4.0
Tennessee	8	8	-	148	178	-16.9	1.51	1.84	-17.8
Underground	4	5	-20.0	99	136	-27.2	1.50	1.59	-5.7
Surface	4	3	33.3	49	42	16.7	1.56	2.64	-40.9
Texas	10	14	-28.6	1,993	2,561	-22.2	8.58	7.02	22.1
Surface	10	14	-28.6	1,993	2,561	-22.2	8.58	7.02	22.1
Utah	15	15	-	1,240	1,178	5.3	5.34	5.66	-5.7
Underground	12	12	-	1,191	1,129	5.5	5.33	5.67	-6.0
Surface	3	3	-	49	49	-	5.49	5.39	1.8
Virginia	74	76	-2.6	2,660	2,417	10.1	2.17	2.46	-11.5
Underground	37	36	2.8	1,984	1,729	14.7	2.19	2.36	-7.3
Surface	37	40	-7.5	676	688	-1.7	2.13	2.70	-21.2
West Virginia Total	213	204	4.4	13,222	11,561	14.4	3.04	3.19	-4.6
Underground	107	113	-5.3	10,507	9,259	13.5	3.00	3.19	-5.8
Surface	106	91	16.5	2,715	2,302	17.9	3.20	3.18	0.4
West Virginia (Northern)	26	28	-7.1	4,246	4,148	2.4	4.73	4.75	-0.5
Underground	19	21	-9.5	4,212	4,075	3.4	4.74	4.79	-1.2
Surface	7	7	-	34	73	-53.4	3.03	1.79	69.2
West Virginia (Southern)	187	176	6.3	8,976	7,413	21.1	2.23	2.28	-2.2
Underground	88	92	-4.3	6,295	5,184	21.4	1.81	1.88	-3.5
Surface	99	84	17.9	2,681	2,229	20.3	3.20	3.22	-0.8
Wyoming	17	17	-	5,700	5,756	-1.0	26.82	25.66	4.5
Underground	1	1	-	230	279	-17.6	3.44	1.90	80.5
Surface	16	16	-	5,470	5,477	-0.1	27.85	26.99	3.2
Appalachia Total	777	806	-3.6	29,587	27,304	8.4	2.94	3.10	-5.2
Underground	309	327	-5.5	22,067	20,013	10.3	3.04	3.27	-7.1
Surface	468	479	-2.3	7,520	7,291	3.1	2.64	2.60	1.5
Appalachia Central	462	467	-1.1	15,894	14,017	13.4	2.14	2.24	-4.4
Underground	208	217	-4.1	11,016	9,600	14.8	1.82	1.92	-5.2
Surface	254	250	1.6	4,878	4,417	10.4	2.87	2.97	-3.3
Appalachia Northern	278	302	-7.9	11,093	11,163	-0.6	4.29	4.37	-2.0
Underground	91	99	-8.1	8,996	8,869	1.4	4.71	4.90	-3.9
Surface	187	203	-7.9	2,097	2,294	-8.6	2.23	2.03	10.0
Appalachia Southern	37	37	-	2,600	2,124	22.4	2.15	2.12	1.7
Underground	10	11	-9.1	2,055	1,544	33.1	2.21	2.21	0.1
Surface	27	26	3.8	545	580	-6.0	1.94	1.87	3.9
Interior Region Total	94	107	-12.1	11,382	12,207	-6.8	5.58	5.22	6.9
Underground	38	46	-17.4	6,590	7,038	-6.4	5.20	4.75	9.5
Surface	56	61	-8.2	4,792	5,169	-7.3	6.15	5.90	4.3
Illinois Basin	71	80	-11.3	8,412	8,758	-4.0	5.19	4.88	6.3
Underground	36	44	-18.2	6,445	6,906	-6.7	5.27	4.81	9.4
Surface	35	36	-2.8	1,967	1,852	6.2	4.92	5.15	-4.4
Other Interior	23	27	-14.8	2,970	3,449	-13.9	6.85	6.13	11.7
Underground	2	2	-	145	132	9.8	1.28	1.35	-5.1
Surface	21	25	-16.0	2,825	3,317	-14.8	7.11	6.34	12.0
Western Region Total	56	57	-1.8	12,027	12,197	-1.4	17.32	16.40	5.6
Underground	19	20	-5.0	2,830	2,961	-4.4	6.32	5.37	17.5
Surface	37	37	-	9,197	9,236	-0.4	20.78	20.09	3.4
Powder River Basin	17	18	-5.6	5,657	5,692	-0.6	28.48	27.62	3.1
Surface	17	18	-5.6	5,657	5,692	-0.6	28.48	27.62	3.1
Uinta Basin	19	19	-	2,359	2,344	0.6	5.59	5.09	9.8
Underground	15	15	-	1,917	1,931	-0.7	5.90	5.24	12.5
Surface	4	4	-	442	413	7.0	4.22	4.34	-2.9
Other Western	20	20	-	4,011	4,161	-3.6	8.43	7.81	7.9
Underground	4	5	-20.0	913	1,030	-11.4	7.23	5.63	28.5

Coal-Producing State, Region ¹ and Mine Type	Number of Mining Operations ²			Number of Employees ³			Average Production per Employee Hour (short tons) ⁴		
	2017	2016	Percent Change	2017	2016	Percent Change	2017	2016	Percent Change
Surface	16	15	6.7	3,098	3,131	-1.1	8.79	8.54	2.9
East of Mississippi River	850	888	-4.3	38,379	36,400	5.4	3.46	3.57	-3.2
Underground	345	371	-7.0	28,512	26,919	5.9	3.55	3.68	-3.5
Surface	505	517	-2.3	9,867	9,481	4.1	3.16	3.22	-2.0
West of Mississippi River	77	82	-6.1	14,617	15,308	-4.5	15.49	14.20	9.1
Underground	21	22	-4.5	2,975	3,093	-3.8	6.10	5.18	17.7
Surface	56	60	-6.7	11,642	12,215	-4.7	17.91	16.54	8.3
U.S. Subtotal	927	970	-4.4	52,996	51,708	2.5	6.55	6.61	-0.9
Underground	366	393	-6.9	31,487	30,012	4.9	3.77	3.83	-1.5
Surface	561	577	-2.8	21,509	21,696	-0.9	10.92	10.73	1.8
Refuse Recovery	16	18	-11.1	55	99	-44.4	9.82	5.55	76.9
U.S. Total	943	988	-4.6	53,051	51,807	2.4	6.55	6.60	-0.9

-- No data reported.

1 For a definition of coal producing regions, see the Glossary.

2 Mining operations that consist of a mine and preparation plant or preparation plant processing both underground and surface coal are reported as two operations.

3 Includes all employees engaged in production, processing, development, maintenance, repair shop, or yard work at mining operations, including office workers.

4 Calculated by dividing total coal production by the total labor hours worked by all employees engaged in production, processing, development, maintenance, repair shop, or yard work at mining operations, including office workers.

Note: Excludes preparation plants with less than 5,000 employee hours per year, which are not required to provide data.

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' and U.S. Department of Labor, Mine Safety and Health Administration Form 7000-2, 'Quarterly Mine Employment and Coal Production Report.'