

**Table 21. Coal Productivity by State and Mine Type, 2015 and 2014**

Coal-Producing State, Region <sup>1</sup> and Mine Type	Number of Mining Operations <sup>2</sup>			Number of Employees <sup>3</sup>			Average Production per Employee Hour (short tons) <sup>4</sup>		
	2015	2014	Percent Change	2015	2014	Percent Change	2015	2014	Percent Change
<b>Alabama</b>	<b>45</b>	<b>46</b>	<b>-2.2</b>	<b>3,212</b>	<b>3,694</b>	<b>-13.0</b>	<b>1.69</b>	<b>1.88</b>	<b>-10.0</b>
Underground	13	13	-	2,464	2,852	-13.6	1.63	1.84	-11.6
Surface	32	33	-3.0	748	842	-11.2	1.92	2.02	-5.0
<b>Alaska</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>113</b>	<b>120</b>	<b>-5.8</b>	<b>4.62</b>	<b>5.43</b>	<b>-15.0</b>
Surface	1	1	-	113	120	-5.8	4.62	5.43	-15.0
<b>Arizona</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>403</b>	<b>387</b>	<b>4.1</b>	<b>6.97</b>	<b>8.06</b>	<b>-13.5</b>
Surface	1	1	-	403	387	4.1	6.97	8.06	-13.5
<b>Arkansas</b>	<b>2</b>	<b>2</b>	<b>-</b>	<b>75</b>	<b>84</b>	<b>-10.7</b>	<b>0.56</b>	<b>0.53</b>	<b>5.7</b>
Underground	1	1	-	73	82	-11.0	0.56	0.49	13.9
Surface	1	1	-	2	2	-	0.19	6.39	-97.0
<b>Colorado</b>	<b>9</b>	<b>10</b>	<b>-10.0</b>	<b>1,642</b>	<b>1,822</b>	<b>-9.9</b>	<b>5.54</b>	<b>6.23</b>	<b>-11.0</b>
Underground	5	6	-16.7	1,201	1,372	-12.5	5.21	6.15	-15.2
Surface	4	4	-	441	450	-2.0	6.50	6.50	-0.1
<b>Illinois</b>	<b>31</b>	<b>32</b>	<b>-3.1</b>	<b>4,146</b>	<b>4,218</b>	<b>-1.7</b>	<b>6.09</b>	<b>5.99</b>	<b>1.6</b>
Underground	19	19	-	3,746	3,772	-0.7	6.24	6.13	1.9
Surface	12	13	-7.7	400	446	-10.3	4.67	4.92	-5.1
<b>Indiana</b>	<b>30</b>	<b>37</b>	<b>-18.9</b>	<b>3,311</b>	<b>3,810</b>	<b>-13.1</b>	<b>4.38</b>	<b>4.21</b>	<b>4.0</b>
Underground	12	13	-7.7	1,818	2,201	-17.4	3.67	3.36	9.2
Surface	18	24	-25.0	1,493	1,609	-7.2	5.21	5.36	-2.8
<b>Kansas</b>	<b>1</b>	<b>2</b>	<b>-50.0</b>	<b>7</b>	<b>10</b>	<b>-30.0</b>	<b>12.26</b>	<b>3.86</b>	<b>217.9</b>
Surface	1	2	-50.0	7	10	-30.0	12.26	3.86	217.9
<b>Kentucky Total</b>	<b>307</b>	<b>356</b>	<b>-13.8</b>	<b>9,821</b>	<b>11,834</b>	<b>-17.0</b>	<b>2.92</b>	<b>2.80</b>	<b>4.0</b>
Underground	130	144	-9.7	7,001	8,191	-14.5	2.77	2.70	2.5
Surface	177	212	-16.5	2,820	3,643	-22.6	3.35	3.06	9.4
<b>Kentucky (East)</b>	<b>279</b>	<b>323</b>	<b>-13.6</b>	<b>6,304</b>	<b>7,566</b>	<b>-16.7</b>	<b>2.23</b>	<b>2.23</b>	<b>0.3</b>
Underground	111	123	-9.8	3,879	4,349	-10.8	1.82	1.89	-3.6
Surface	168	200	-16.0	2,425	3,217	-24.6	2.95	2.69	9.8
<b>Kentucky (West)</b>	<b>28</b>	<b>33</b>	<b>-15.2</b>	<b>3,517</b>	<b>4,268</b>	<b>-17.6</b>	<b>3.92</b>	<b>3.70</b>	<b>6.0</b>
Underground	19	21	-9.5	3,122	3,842	-18.7	3.75	3.50	7.2
Surface	9	12	-25.0	395	426	-7.3	5.51	5.73	-3.7
<b>Louisiana</b>	<b>2</b>	<b>2</b>	<b>-</b>	<b>307</b>	<b>299</b>	<b>2.7</b>	<b>5.23</b>	<b>3.96</b>	<b>32.2</b>
Surface	2	2	-	307	299	2.7	5.23	3.96	32.2
<b>Maryland</b>	<b>19</b>	<b>21</b>	<b>-9.5</b>	<b>359</b>	<b>386</b>	<b>-7.0</b>	<b>2.56</b>	<b>2.36</b>	<b>8.6</b>
Underground	3	3	-	165	167	-1.2	1.83	1.83	-0.2
Surface	16	18	-11.1	194	219	-11.4	3.13	2.82	11.0
<b>Mississippi</b>	<b>2</b>	<b>2</b>	<b>-</b>	<b>330</b>	<b>324</b>	<b>1.9</b>	<b>5.59</b>	<b>5.71</b>	<b>-2.0</b>
Surface	2	2	-	330	324	1.9	5.59	5.71	-2.0
<b>Missouri</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>15</b>	<b>20</b>	<b>-25.0</b>	<b>3.52</b>	<b>7.11</b>	<b>-50.5</b>
Surface	1	1	-	15	20	-25.0	3.52	7.11	-50.5
<b>Montana</b>	<b>6</b>	<b>6</b>	<b>-</b>	<b>1,330</b>	<b>1,320</b>	<b>0.8</b>	<b>15.76</b>	<b>16.57</b>	<b>-4.8</b>
Underground	1	1	-	313	324	-3.4	9.49	10.66	-11.0
Surface	5	5	-	1,017	996	2.1	17.91	18.81	-4.8
<b>New Mexico</b>	<b>3</b>	<b>3</b>	<b>-</b>	<b>1,130</b>	<b>1,149</b>	<b>-1.7</b>	<b>8.55</b>	<b>9.21</b>	<b>-7.2</b>
Underground	1	1	-	483	488	-1.0	6.83	8.89	-23.2
Surface	2	2	-	647	661	-2.1	9.77	9.43	3.6
<b>North Dakota</b>	<b>4</b>	<b>5</b>	<b>-20.0</b>	<b>1,261</b>	<b>1,285</b>	<b>-1.9</b>	<b>11.79</b>	<b>11.48</b>	<b>2.7</b>
Surface	4	5	-20.0	1,261	1,285	-1.9	11.79	11.48	2.7
<b>Ohio</b>	<b>34</b>	<b>38</b>	<b>-10.5</b>	<b>2,309</b>	<b>2,923</b>	<b>-21.0</b>	<b>3.59</b>	<b>3.38</b>	<b>6.3</b>
Underground	15	14	7.1	1,559	1,997	-21.9	3.71	3.43	8.1
Surface	19	24	-20.8	750	926	-19.0	3.32	3.25	2.0
<b>Oklahoma</b>	<b>5</b>	<b>6</b>	<b>-16.7</b>	<b>161</b>	<b>179</b>	<b>-10.1</b>	<b>1.84</b>	<b>1.87</b>	<b>-1.4</b>
Underground	1	1	-	74	77	-3.9	1.86	1.91	-2.7
Surface	4	5	-20.0	87	102	-14.7	1.82	1.83	-0.6
<b>Pennsylvania Total</b>	<b>258</b>	<b>300</b>	<b>-14.0</b>	<b>6,633</b>	<b>7,938</b>	<b>-16.4</b>	<b>3.61</b>	<b>3.52</b>	<b>2.4</b>
Underground	70	78	-10.3	4,780	5,821	-17.9	4.32	4.02	7.3
Surface	188	222	-15.3	1,853	2,117	-12.5	1.65	1.93	-14.3

Coal-Producing State, Region <sup>1</sup> and Mine Type	Number of Mining Operations <sup>2</sup>			Number of Employees <sup>3</sup>			Average Production per Employee Hour (short tons) <sup>4</sup>		
	2015	2014	Percent Change	2015	2014	Percent Change	2015	2014	Percent Change
<b>Pennsylvania (Anthracite)</b>	<b>94</b>	<b>99</b>	<b>-5.1</b>	<b>1,005</b>	<b>956</b>	<b>5.1</b>	<b>0.94</b>	<b>0.98</b>	<b>-3.6</b>
Underground	17	17	-	82	85	-3.5	0.57	0.60	-3.6
Surface	77	82	-6.1	923	871	6.0	0.97	1.01	-4.0
<b>Pennsylvania (Bituminous)</b>	<b>164</b>	<b>201</b>	<b>-18.4</b>	<b>5,628</b>	<b>6,982</b>	<b>-19.4</b>	<b>4.07</b>	<b>3.83</b>	<b>6.3</b>
Underground	53	61	-13.1	4,698	5,736	-18.1	4.38	4.07	7.6
Surface	111	140	-20.7	930	1,246	-25.4	2.39	2.58	-7.6
<b>Tennessee</b>	<b>12</b>	<b>10</b>	<b>20.0</b>	<b>276</b>	<b>222</b>	<b>24.3</b>	<b>1.69</b>	<b>1.85</b>	<b>-8.5</b>
Underground	5	4	25.0	181	158	14.6	1.46	1.73	-15.3
Surface	7	6	16.7	95	64	48.4	2.18	2.30	-5.0
<b>Texas</b>	<b>14</b>	<b>16</b>	<b>-12.5</b>	<b>2,689</b>	<b>2,806</b>	<b>-4.2</b>	<b>6.28</b>	<b>7.22</b>	<b>-13.0</b>
Surface	14	16	-12.5	2,689	2,806	-4.2	6.28	7.22	-13.0
<b>Utah</b>	<b>17</b>	<b>17</b>	<b>-</b>	<b>1,211</b>	<b>1,393</b>	<b>-13.1</b>	<b>5.66</b>	<b>5.97</b>	<b>-5.2</b>
Underground	14	13	7.7	1,158	1,330	-12.9	5.87	6.13	-4.2
Surface	3	4	-25.0	53	63	-15.9	2.15	3.32	-35.3
<b>Virginia</b>	<b>89</b>	<b>101</b>	<b>-11.9</b>	<b>2,993</b>	<b>3,627</b>	<b>-17.5</b>	<b>2.16</b>	<b>1.92</b>	<b>12.4</b>
Underground	45	56	-19.6	2,166	2,863	-24.3	2.03	1.79	13.6
Surface	44	45	-2.2	827	764	8.2	2.53	2.43	4.0
<b>West Virginia Total</b>	<b>234</b>	<b>288</b>	<b>-18.8</b>	<b>15,490</b>	<b>18,330</b>	<b>-15.5</b>	<b>2.77</b>	<b>2.69</b>	<b>3.2</b>
Underground	128	155	-17.4	12,555	14,338	-12.4	2.69	2.53	6.6
Surface	106	133	-20.3	2,935	3,992	-26.5	3.12	3.24	-3.6
<b>West Virginia (Northern)</b>	<b>39</b>	<b>46</b>	<b>-15.2</b>	<b>5,497</b>	<b>5,888</b>	<b>-6.6</b>	<b>3.89</b>	<b>3.70</b>	<b>5.2</b>
Underground	25	26	-3.8	5,315	5,677	-6.4	3.93	3.71	5.9
Surface	14	20	-30.0	182	211	-13.7	2.57	3.30	-22.2
<b>West Virginia (Southern)</b>	<b>195</b>	<b>242</b>	<b>-19.4</b>	<b>9,993</b>	<b>12,442</b>	<b>-19.7</b>	<b>2.15</b>	<b>2.22</b>	<b>-2.9</b>
Underground	103	129	-20.2	7,240	8,661	-16.4	1.77	1.75	1.3
Surface	92	113	-18.6	2,753	3,781	-27.2	3.15	3.24	-2.6
<b>Wyoming</b>	<b>16</b>	<b>18</b>	<b>-11.1</b>	<b>6,635</b>	<b>6,624</b>	<b>0.2</b>	<b>27.38</b>	<b>28.62</b>	<b>-4.3</b>
Underground	1	1	-	308	315	-2.2	4.43	4.39	1.0
Surface	15	17	-11.8	6,327	6,309	0.3	28.61	30.05	-4.8
<b>Appalachia Total</b>	<b>970</b>	<b>1,127</b>	<b>-13.9</b>	<b>37,576</b>	<b>44,686</b>	<b>-15.9</b>	<b>2.72</b>	<b>2.66</b>	<b>2.1</b>
Underground	390	446	-12.6	27,749	32,545	-14.7	2.73	2.63	3.9
Surface	580	681	-14.8	9,827	12,141	-19.1	2.67	2.75	-2.8
<b>Appalachia Central</b>	<b>575</b>	<b>676</b>	<b>-14.9</b>	<b>19,566</b>	<b>23,857</b>	<b>-18.0</b>	<b>2.17</b>	<b>2.17</b>	<b>-0.1</b>
Underground	264	312	-15.4	13,466	16,031	-16.0	1.82	1.79	1.7
Surface	311	364	-14.6	6,100	7,826	-22.1	2.99	2.94	1.5
<b>Appalachia Northern</b>	<b>350</b>	<b>405</b>	<b>-13.6</b>	<b>14,798</b>	<b>17,135</b>	<b>-13.6</b>	<b>3.69</b>	<b>3.53</b>	<b>4.4</b>
Underground	113	121	-6.6	11,819	13,662	-13.5	4.03	3.78	6.6
Surface	237	284	-16.5	2,979	3,473	-14.2	2.22	2.45	-9.4
<b>Appalachia Southern</b>	<b>45</b>	<b>46</b>	<b>-2.2</b>	<b>3,212</b>	<b>3,694</b>	<b>-13.0</b>	<b>1.69</b>	<b>1.88</b>	<b>-10.0</b>
Underground	13	13	-	2,464	2,852	-13.6	1.63	1.84	-11.6
Surface	32	33	-3.0	748	842	-11.2	1.92	2.02	-5.0
<b>Interior Region Total</b>	<b>116</b>	<b>133</b>	<b>-12.8</b>	<b>14,558</b>	<b>16,018</b>	<b>-9.1</b>	<b>5.05</b>	<b>4.98</b>	<b>1.5</b>
Underground	52	55	-5.5	8,833	9,974	-11.4	4.70	4.37	7.5
Surface	64	78	-17.9	5,725	6,044	-5.3	5.65	6.05	-6.8
<b>Illinois Basin</b>	<b>89</b>	<b>102</b>	<b>-12.7</b>	<b>10,974</b>	<b>12,296</b>	<b>-10.8</b>	<b>4.84</b>	<b>4.60</b>	<b>5.2</b>
Underground	50	53	-5.7	8,686	9,815	-11.5	4.76	4.42	7.7
Surface	39	49	-20.4	2,288	2,481	-7.8	5.17	5.34	-3.2
<b>Other Interior</b>	<b>27</b>	<b>31</b>	<b>-12.9</b>	<b>3,584</b>	<b>3,722</b>	<b>-3.7</b>	<b>5.77</b>	<b>6.35</b>	<b>-9.3</b>
Underground	2	2	-	147	159	-7.5	1.29	1.26	2.6
Surface	25	29	-13.8	3,437	3,563	-3.5	6.00	6.61	-9.3
<b>Western Region Total</b>	<b>57</b>	<b>61</b>	<b>-6.6</b>	<b>13,725</b>	<b>14,100</b>	<b>-2.7</b>	<b>17.92</b>	<b>18.36</b>	<b>-2.4</b>
Underground	22	22	-	3,463	3,829	-9.6	5.97	6.71	-11.1
Surface	35	39	-10.3	10,262	10,271	-0.1	22.04	22.89	-3.7
<b>Powder River Basin</b>	<b>16</b>	<b>16</b>	<b>-</b>	<b>6,633</b>	<b>6,592</b>	<b>0.6</b>	<b>29.34</b>	<b>30.55</b>	<b>-4.0</b>
Surface	16	16	-	6,633	6,592	0.6	29.34	30.55	-4.0
<b>Uinta Basin</b>	<b>22</b>	<b>23</b>	<b>-4.3</b>	<b>2,664</b>	<b>3,016</b>	<b>-11.7</b>	<b>5.77</b>	<b>6.27</b>	<b>-8.0</b>
Underground	17	17	-	2,229	2,559	-12.9	5.68	6.30	-9.9
Surface	5	6	-16.7	435	457	-4.8	6.24	6.09	2.5
<b>Other Western</b>	<b>19</b>	<b>22</b>	<b>-13.6</b>	<b>4,428</b>	<b>4,492</b>	<b>-1.4</b>	<b>8.36</b>	<b>8.91</b>	<b>-6.1</b>
Underground	5	5	-	1,234	1,270	-2.8	6.48	7.50	-13.7

Coal-Producing State, Region <sup>1</sup> and Mine Type	Number of Mining Operations <sup>2</sup>			Number of Employees <sup>3</sup>			Average Production per Employee Hour (short tons) <sup>4</sup>		
	2015	2014	Percent Change	2015	2014	Percent Change	2015	2014	Percent Change
Surface	14	17	-17.6	3,194	3,222	-0.9	9.11	9.51	-4.2
<b>East of Mississippi River</b>	<b>1,061</b>	<b>1,231</b>	<b>-13.8</b>	<b>48,880</b>	<b>57,306</b>	<b>-14.7</b>	<b>3.24</b>	<b>3.12</b>	<b>3.8</b>
Underground	440	499	-11.8	36,435	42,360	-14.0	3.24	3.07	5.5
Surface	621	732	-15.2	12,445	14,946	-16.7	3.24	3.27	-0.9
<b>West of Mississippi River</b>	<b>82</b>	<b>90</b>	<b>-8.9</b>	<b>16,979</b>	<b>17,498</b>	<b>-3.0</b>	<b>15.51</b>	<b>15.96</b>	<b>-2.8</b>
Underground	24	24	-	3,610	3,988	-9.5	5.74	6.47	-11.3
Surface	58	66	-12.1	13,369	13,510	-1.0	18.20	18.86	-3.5
<b>U.S. Subtotal</b>	<b>1,143</b>	<b>1,321</b>	<b>-13.5</b>	<b>65,859</b>	<b>74,804</b>	<b>-12.0</b>	<b>6.28</b>	<b>5.95</b>	<b>5.5</b>
Underground	464	523	-11.3	40,045	46,348	-13.6	3.45	3.35	3.2
Surface	679	798	-14.9	25,814	28,456	-9.3	10.95	10.42	5.0
<b>Refuse Recovery</b>	<b>25</b>	<b>33</b>	<b>-24.2</b>	<b>112</b>	<b>127</b>	<b>-11.8</b>	<b>8.99</b>	<b>13.21</b>	<b>-32.0</b>
<b>U.S. Total</b>	<b>1,168</b>	<b>1,354</b>	<b>-13.7</b>	<b>65,971</b>	<b>74,931</b>	<b>-12.0</b>	<b>6.28</b>	<b>5.96</b>	<b>5.4</b>

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.

- = No data reported.

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

Source: 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.'