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Preface

The *Annual Coal Report* (ACR) provides information about U.S. coal production, number of mines, prices, productivity, employment, productive capacity, and recoverable reserves to a wide audience, including Congress, Federal and State agencies, the coal industry, and the general public. This report is published by the Energy Information Administration (EIA) to fulfill data collection and dissemination responsibilities as specified in the Federal Energy Administration Act of 1974 (Public Law 93-275), as amended.

This report presents annual data on coal production, prices, recoverable reserves, employment, productivity, productive capacity, consumption, and stocks. U.S. coal production, employment, and productivity are based on the U.S. Department of Labor's Mine Safety and Health Administration's Form 7000-2, "Quarterly Mine Employment and Coal Production Report." Prices, recoverable reserves, and productive capacity are based on EIA's annual survey form, EIA-7A, "Coal Production Report."

This report is the 29th annual report on coal production published by EIA and continues the series formerly included in the *Minerals Yearbook* published by the Bureau of Mines.

The Office of Coal, Nuclear, Electric and Alternate Fuels acknowledges the cooperation of the respondents in supplying the information published in the *Annual Coal Report* and appreciates the valuable assistance of State coal mining agencies and the U.S. Department of Labor: Mine Safety and Health Administration.

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Executive Summary

Coal production in the United States increased in 2004 by 40.3 million short tons to end the year at 1,112.1 million short tons (3.8 percent higher than the 2003 level of 1,071.8 million short tons), according to data from the Energy Information Administration (Table ES1). (Note: All percentage change calculations are done at the short-tons level.) Although total U.S. coal consumption rose in 2004, not all coal-consuming sectors had increased consumption for the year. Coal consumption increased in the electric power sector by 1.1 percent and declined slightly in the other industrial sector, while coking coal consumption dropped by 2.4 percent. U.S. coal exports rose for the second consecutive year in 2004, while coal imports again increased to record levels. Total coal stocks declined during the year, as electric generators used their stockpiles to help meet increased demands and missed shipments.

The rebounding economy in 2004 helped to drive up the demand for coal during the year. Although data show that total generation in the electric power sector (electric utilities and independent power producers) in the United States increased by 1.9 percent in 2004, coal's share of generation decreased by 1.8 percent, resulting in only a 11.2 million short ton increase in coal consumed in the electric power sector. Coal use in the non-electric power sector declined slightly by 0.7 percent to a level of 89.1 million short tons.

The average delivered price of coal increased in all domestic markets in 2004. The U.S. electric utility price-per-short-ton increase was 5.7 percent, while the increase was 3.9 percent for independent power producers. Coking coal prices had the largest increase for any domestic sector, increasing by 21.5 percent, while the price for the other industrial sector increased by 13.2 percent in 2004. Average open market mine prices increased by 11.6 percent.

Production

U.S. coal production increased in 2004 by 3.8 percent to a total of 1,112.1 million short tons (Figure ES1 and Table ES1), a production level still below the 2001 record level of 1,127.7 million short tons. Both the Appalachian and Western Regions had increased coal production in 2004 while the Interior region remained essentially unchanged. Exclusive of refuse production, the increase in coal production in the Appalachian Region accounted for about one third of the total increase in U.S. coal production (Figure ES1 and Table ES2), while the Western Region was responsible for the rest of the increase.

Recurring problems in the coal industry had varying impacts on coal production in 2004. At issue in 2004 were transportation of coal from mines to consumers; weather; environmental concerns; legal challenges; and global economics. Transportation of coal from the mine to the consumer continues to be an issue for the industry. The majority of coal in the U.S. is moved by railroads exclusively or in tandem with another method of transportation. In 2004, major railroads experienced record levels of commodities moving around the Nation and as a result, bottlenecks were experienced across the country causing delays in coal deliveries to several utilities throughout the year. Flooding on the major waterways, along with river lock repairs and sunken barges also contributed to the transportation problems. Four hurricanes hit the United States in 2004 causing numerous problems for the coal industry including flooding, disruptions in deliveries, off-line power plants, and the ability of employees to get to the mines in southeastern coal-producing States. Several of the legal challenges concerning mining permits and the levels of environmental review needed to obtain them still have not been settled. The wide-ranging economic expansion experienced in China in 2004 drove world markets for many commodities into overdrive and helped to reestablish the United States into Asian coal markets.

Appalachian Region

Coal production in the Appalachian Region increased in 2004 by 13.8 million short tons, to end the year at 389.9 million short tons, an increase of 3.7 percent, but still below the 2002 level of 396.2 million short tons. Although there was an increase in total coal production in the region in 2004, the Appalachian Region has not experienced 3 consecutive years of coal production of less than 400 million short tons since the early 1970s. The increase in 2004 in coal production in the region was in part, fueled by the rise in U.S. coal exports (which are primarily produced in the East), and the large increases in spot coal prices in the region that occurred during the year.

Although the Appalachian Region produced more coal in 2004, the production level was still constrained by several factors. Transportation problems affected the amount of coal moved to markets. Railroads experienced numerous delays and barge shipments were curtailed due to river flooding, lock maintenance, and blocked river locks due to sunken barges. The combination of reserve degradation in the region along with the legacy of past lawsuits that had temporarily halted the issuance of needed permits to open

Table ES1. U.S. Coal Supply, Disposition, and Prices, 2003-2004
(Million Short Tons and Dollars per Short Ton)

Item	2003	2004
Production by Region		
Appalachian	376.1 [R]	389.9
Interior	146.0	146.0
Western	548.7	575.2
Refuse Recovery	1.0 [R]	1.0
Total	**1,071.8**	**1,112.1**
Consumption by Sector		
Electric Power	1,005.1	1,016.3
Coke Plants	24.2	23.7
Other Industrial Plants	61.3	61.2
Residential/Commercial	4.2	4.2
Total	**1,094.9**	**1,105.4**
Year-End Coal Stocks		
Electric Power	121.6	106.7
Coke Plants	0.9	1.3
Other Industrial Plants	4.7	4.8
Producers/Distributors	38.3	41.2
Total	**165.5**	**154.1**
Average Delivered Price		
Electric Utilities	$25.72	$27.30
Independent Power Producers	$26.21	$27.24
Coke Plants	$50.63	$61.50
Other Industrial Plants	$34.70	$39.30
Average Open Market Mine Price	$17.85	$19.93

Notes: Totals may not equal sum of components due to independent rounding. Sum of stock changes and consumption may not equal production, primarily because the supply and disposition data are obtained from different surveys.

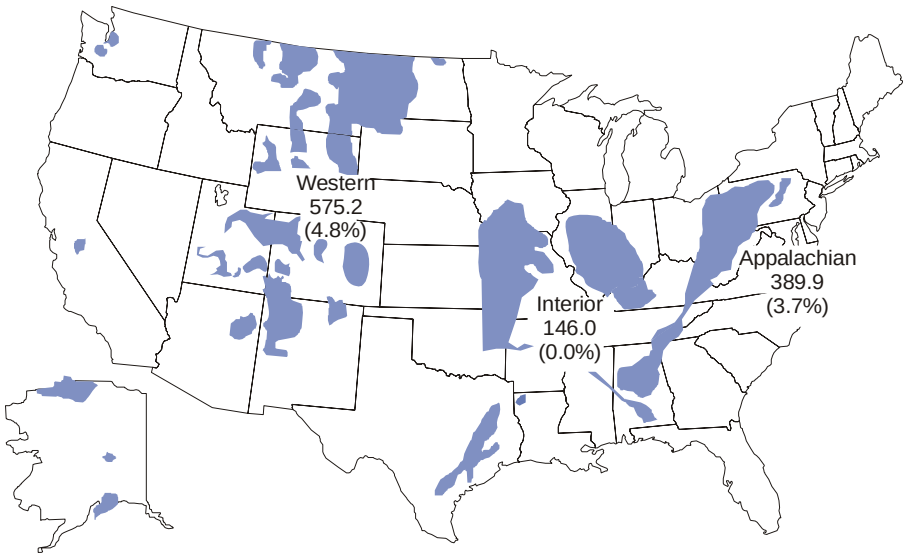
Sources: Energy Information Administration, *Annual Coal Report 2004*, tables 1; 26; 27; 28; and 34; DOE/EIA-0584 (2004) (Washington, DC, September 2005); *Electric Power Monthly*, August 2005, table 4.3; DOE/EIA-0226 (2005/08).

new mines or to expand current operations, continued to constrain the amount of coal produced. Geological and equipment problems added to the limitations in coal production in some Appalachian States. Declining productivity and increasing operating costs also contributed to the constrained production levels in the region. However, all but two States in the region had higher production levels in 2004 and the declines that were experienced in those two States were slight.

West Virginia, the largest coal-producing State in the Appalachian Region and the second largest in the United States, increased 5.9 percent to end the year with 148.0 million short tons of production, just slightly below the production level in 2002. Most of the increase in coal production in West Virginia is attributed to seven mines. One new mine, the Superior mine, began producing coal in the second quarter of the year. Two other mines, the Coalburg No. 1 and the Guyan, which opened in mid-2003, had a full year's production in 2004. Two other mines came back on-line in 2004 after being temporarily idle in 2003. The Loveridge underground mine experienced a fire in 2003, and the Fourmile Fork surface mine was placed into non-producing status for most of 2003. The McElroy mine expanded production after installing a second longwall unit in 2004 and the Twilight MTR mine expanded production as it increased its workforce.

Eastern Kentucky produced 90.9 million short tons of coal in 2004, down by only 0.4 million short tons or 0.5 percent. The drop in Eastern Kentucky, even with increased production from some mines, is in part due to the closing of a few mines due to reserve depletion.

Figure ES1. Coal Production by Coal-Producing Region, 2004
(Million Short Tons and Percent Change from 2003)
Regional totals do not include refuse recovery
U.S. Total: 1,112.1 Million Short Tons (3.8%)



Source: Energy Information Administration, *Annual Coal Report*, *2004*, DOE/EIA-0584(2004) (Washington, DC, September 2005).

Also, the Big Elk mine was placed into non-producing status in late 2004 and as a result produced 1.0 million short tons less than in 2003, while the Number 10 mine operated by Ember Contracting was only active during the middle of the year and as a result produced 1.8 million short tons less than in 2003. Pennsylvania produced 66.0 million short tons, an increase of 3.6 percent from 2003, as expansions in production at the High Quality, Bailey, and Enlow Fork mines accounted for almost 95 percent of the increase in production for the State. Coal production increased in Alabama in 2004 by 10.9 percent to reach 22.3 million short tons, a level not seen since the mid 1990s. Eight new mines opened in Alabama in 2004 and their combined production accounted for 30.3 percent of the State's increase. Also, Walter Resources expanded production at the Number 7 mine by 0.5 million short tons to help meet the increasing demand in the metallurgical coal market. Ohio increased coal production in 2004 to a total of 23.2 million short tons, an increase of 5.5 percent, as the Century mine expanded production by 1.1 million short tons. Tennessee had increased coal production in 2004 of 0.3 million short tons, while Maryland increased slightly to 5.2 million short tons. Virginia had a decline in coal production in 2004 of 0.2 million short tons.

Interior Region

Total coal production in the Interior Region in 2004 was unchanged from the prior year, even though all of the States in the region had changes in total production levels from 2003. Coal production in western Kentucky rose by 1.9 million short tons in 2004 to end the year at a total of 23.4 million short tons. Five new mines in western Kentucky contributed to the increase in production, but the expansion at the Highland Number 9 mine and the Cardinal mine is the key factor in the increase for the year. Texas, which usually accounts for about one-third of the Interior Region's coal production, had a 3.5 percent decline in total production to end the year at 45.9 million short tons, a drop of 1.7 million short tons. This decline in total coal production in Texas is primarily due to decreases in production at two mines in the State, the Beckville and Jewett mines. The decline in production at the Jewett mine was the result of near-record rainfall in June that halted production and caused a weather related *force majeure*. Production at the Beckville mine declined in 2004 as the Martin Lake power plant that it supplies, relied more heavily on lignite from the power plant's other mine, the Oak Hill.

Table ES2. U.S. Coal Production by Coal-Producing Region and State, 2003-2004
(Million Short Tons)

Coal-Producing Region and State	2003	2004
Appalachian Total	**376.1** R	**389.9**
Alabama	20.1	22.3
Kentucky, Eastern	91.3 R	90.9
Maryland	5.1	5.2
Ohio	22.0	23.2
Pennsylvania Total	63.7 R	66.0
Anthracite	1.2 R	1.7
Bituminous	62.5	64.3
Tennessee	2.6	2.9
Virginia	31.6	31.4
West Virginia	139.7	148.0
Northern	34.9	40.6
Southern	104.8	107.3
Interior Total	**146.0**	**146.0**
Arkansas	*	*
Illinois	31.6	31.9
Indiana	35.4	35.1
Kansas	0.2	0.1
Kentucky, Western	21.5	23.4
Louisiana	4.0	3.8
Mississippi	3.7	3.6
Missouri	0.5	0.6
Oklahoma	1.6	1.8
Texas	47.5	45.9
Western Total	**548.7**	**575.2**
Alaska	1.1	1.5
Arizona	12.1	12.7
Colorado	35.8	39.9
Montana	37.0	40.0
New Mexico	26.4	27.3
North Dakota	30.8	29.9
Utah	23.1	21.7
Washington	6.2	5.7
Wyoming	376.3	396.5
Refuse Recovery	**1.0** R	**1.0**
U.S. Total	**1,071.8**	**1,112.1**

* = Less than 50 thousand short tons.
Note: Totals may not equal the sum of the components due to independent rounding.
Sources: U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, “Quarterly Mine Employment and Coal Production Report."

Indiana, the second largest coal producing State in the Interior Region remained almost level in 2004, decreasing by only 0.7 percent to 35.1 million short tons. Coal production in Illinois increased slightly by 0.7 percent to end the year at 31.9 million short tons. The other States in the Interior Region (Arkansas, Kansas, Louisiana, Mississippi, Missouri, and Oklahoma), which accounted for a total of 6.7 percent of the entire Region's production in 2004, all fluctuated some from their 2003 coal production levels.

Western Region

Coal production in the Western Region increased in 2004 by 4.8 percent to a total of 575.2 million short tons, which represents 51.7 percent of total U.S. coal production. The increase of 26.5 million short tons resulted in another record level for the region, surpassing the previous one set in 2002 by 24.8 million short tons. Of the nine States in the Western Region, only three had lower coal production levels in 2004 than in 2003: North Dakota, Utah, and Washington.

Wyoming continued its dominance as the largest coal-producing State in the Nation, a position it has held for 18 consecutive years. In 2004, Wyoming produced a record 396.5 million short tons of coal, an increase of 5.4 percent for the year. This production level was only 17.6 million short tons less than the combined total of the next five largest coal-producing States (West Virginia, Kentucky, Pennsylvania, Texas, and Montana). The sheer dominance of Wyoming's coal industry in the United States is further illustrated by the fact that Wyoming: accounted for about 68.9 percent of the Western Region total; was close to three times the entire Interior Region's total; was 6.6 million short tons more than the entire Appalachian Region; and was 35.7 percent of the total U.S. coal production for the year. Two new mines opened in 2004 in Wyoming, the Bridger underground mine, and the Bridger highwall mine. Although five of the twenty mines in Wyoming had declines in production, expansions of 3 million short tons or more at four other mines in the State accounted for most of the 20.2-million-short-ton increase that occurred in 2004. The Jacobs Ranch mine, the Rawhide mine, and the Caballo mine had coal production increases of 3.1, 3.2, and 3.7 million short tons respectively. However, the largest tonnage increase in production for any mine in Wyoming in 2004 was the 9.6-million-short-ton increase at the Black Thunder mine, which became the world's first coal mine to ship 1 billion short tons during its lifetime.

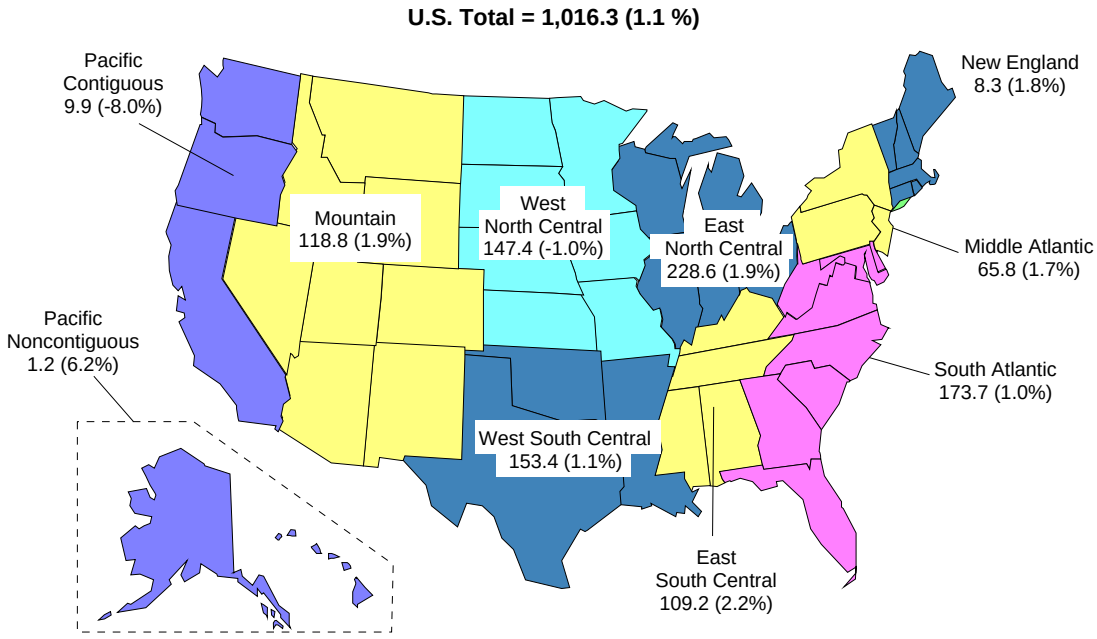
Colorado and Montana both had increases in their coal production in 2004 and are vying for the spot of second-largest coal-producing State in the Western Region. Montana had a total of 40.0 million short tons of production in 2004 while Colorado had a total of 39.9 million short tons. Although the Big Sky mine in Montana was placed into non-producing status in 2004, increases in coal production at the Spring Creek mine of 3.2 million short tons, and at the Rosebud Number 6 mine of 1.6 million short tons more than covered the loss, resulting in an overall increase of 3.0 million short tons or 8.1 percent for the year. Colorado had an increase of 4.0 million short tons or 11.3 percent in 2004, even though the Sanborn Creek mine closed in 2003. Increases in coal production at the Elk Creek mine of 2.0 million short tons in its third year of operation in particular, along with increases at most of the other mines in the State, and the start of the Colowyo highwall mine in 2004 enabled Colorado to reach a record level of coal production.

Coal production in Alaska, Arizona, and New Mexico also increased in 2004, with increases of 0.5, 0.7, and 0.9 million short tons respectively. Declines in coal production were experienced in North Dakota, Utah, and Washington in 2004. North Dakota had a decline of 0.8 million short tons in 2004, ending the year with a total of 29.9 million short tons, as three of the four mines in the State had somewhat lower production during the year. Coal production in Utah in 2004 was 21.7 million short tons, a decrease of 1.3 million short tons, or 5.7 percent. Although a new mine, the Bear Canyon Number 4, began production in the third quarter of the year, the geological problems at the Skyline mine resulted in it being placed into non-producing status in the third quarter of 2004. Washington, which has one mine, the Centralia mine, had a decrease of 0.6 million short tons in 2004 to end the year at a total of 5.7 million short tons.

Consumption

The continuing economic recovery in 2004 pushed total U.S. coal consumption to another record level. Data show that total coal consumption increased 10.5 million short tons to reach a level of 1,105.4 million short tons, an increase of 1.0 percent. The electric power sector (electric utilities and independent power producers) accounted for almost 92 percent of all coal consumed in the United States in 2004. The other coal-consuming sectors (other industrial, coking coal, and residential and commercial sectors) had minor changes in their consumption totals. The other industrial sector had almost the same level of coal consumption in 2004 as in 2003, while the coking coal sector had a decrease of 2.4 percent. The residential and commercial sector, the smallest of all coal consuming sectors, (accounting for less than one half of one percent of total consumption), remained at the same level in 2004.

Figure ES2. Electric Power Sector Consumption of Coal by Census Division, 2004
(Million Short Tons and Percent Change from 2003)



Source: Energy Information Administration, Form EIA-906, "Power Plant Report."

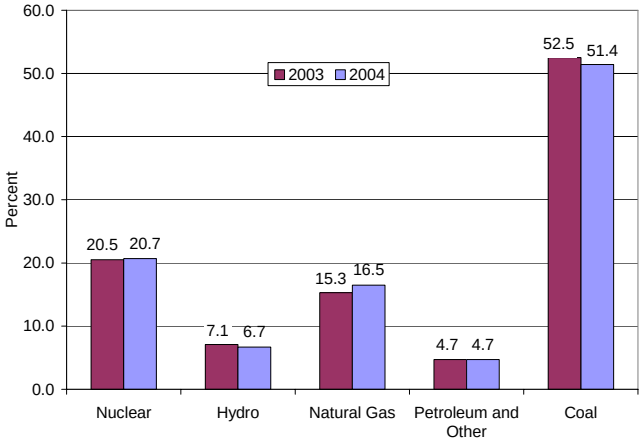
Coal consumption in the electric power sector increased by 11.2 million short tons to end 2004 at a record level of 1,016.3 million short tons (Figure ES2). Although coal consumption by the electric power sector increased by 1.1 percent in 2004, coal-based generation declined slightly, as increasing volumes of lower-Btu coal (subbituminous and lignite) were consumed. Nationally, total generation in the electric power sector from all fuels increased in 2004 by only 2.3 percent, with gains in electricity generation by natural gas and nuclear power, helping to make up the loss in generation experienced by the hydroelectric facilities in the United States (Figure ES3). The decline in electric generation by hydropower plants was a result of lower-than-normal rainfall in areas with these facilities in 2004. The increase in electric generation by natural gas plants of 10.6 percent in 2004 was due in large part to the numerous new generating facilities in the last several years that were mostly natural gas-fired. In 2004, 92 percent of the new capacity to come on-line during the year was natural gas-fired. The increase in nuclear generation of 3.3 percent in 2004 was in part due to fewer nuclear plants being down during the year for different reasons (scheduled maintenance, refueling, or operational problems) than had occurred in 2003. However, the generation from nuclear plants in 2004 was only 1.1 percent higher than the 2002 level.

One factor that helped to slow the increase in electric generation by the electric power sector was the weather. Compared to 2003, both heating and cooling degree days were lower for the country as a whole, by 3.8 percent and 4.4 percent respectively, indicating that the slight growth of 2.3 percent in total generation was primarily driven by economic factors. Also, the winter weather was warmer in 2004 than normal (30-year average) for the Nation. Overall, the United States experienced a 3-percent decline from normal in heating degree days for the first half of the year and a 6-percent decline for the second half of the year.

Even though there was a small increase in the electric power sector in total coal-fired generation for the United States, all of the Census Divisions had a decline in coal's share of the mixture of fuels for the electric power sector in 2004. The drop in the coal share ranged from 1.1 percent in the West North Central to 9.5 percent in the Pacific Division. Of the nine divisions, coal is a minor component (less than 20 percent) in the fuel mix in two divisions, New England and Pacific, and a major component (more than 50 percent of generation) in five divisions, East North Central, West North Central, South Atlantic, East South Central, and Mountain. In the other two divisions, Middle Atlantic and West South Central, coal is one of two predominant fuel sources for the electric power sector.

While seven of the nine Census Divisions had increases in coal consumption in the electric power sector in 2004, only five of those seven divisions had an increase in coal generation (Table ES3). Almost four-fifths of the increase in coal consumption in the electric power sector was attributable to three of the nine Census Divisions, the East North Central, the East South Central, and the Mountain. Coal accounts for over 70 percent of all

Figure ES3. Share of Electric Power Sector Net Generation by Energy Source, 2003 vs. 2004



Source: Energy Information Administration, Form EIA-906, "Power Plant Report."

electric generation in the East North Central Division making it the largest coal-consuming region for the electric power sector with about 22 percent of all coal consumed for electric generation in the United States. Coal consumption for the electric power sector in this division increased in 2004 by 4.3 million short tons, or 1.9 percent, and that increase represents almost 39 percent of the total increase in coal consumption in the electric power sector for the year. Total generation in the electric power sector in the East North Central Division increased in 2004 by 2.4 percent, while coal-based generation increased by 0.9 percent.

In the other two Census Divisions where coal consumption increased by over 2 million short tons, the East South Central and Mountain, coal accounts for about two-thirds of the fuel mix for electric power sector generation. The East South Central Division had an increase of 3.3 percent in total electric power sector generation in 2004 and an increase of 1.7 percent in coal-based generation. Coal consumption in the East South Central Division in the electric power sector increased by 2.4 million short tons in 2004. The Mountain Division had an increase of 5.5 percent in total electric power sector generation and an increase of 2.1 percent in coal-based generation. The Mountain Division had an increase in coal consumption of 2.3 million short tons, or 1.9 percent.

The West South Central Census Division had an increase in 2004 of 3.0 percent in total electric power sector generation and a 0.8-percent increase in coal generation. However, generation from nuclear power increased by 13.6 percent primarily due to the increase in electricity generation at the South Texas Number 1 plant that had

Table ES3. Electric Power Sector Net Generation, 2003-2004 (Million Kilowatthours)

Census Division	2003	2004	Percent Change
New England			
Coal	19,201	19,024	-0.9
Total	122,954	126,832	3.2
Middle Atlantic			
Coal	147,356	148,401	0.7
Total	393,640	401,317	2.0
East North Central			
Coal	445,150	449,078	0.9
Total	618,898	633,442	2.4
West North Central			
Coal	231,608	228,016	-1.6
Total	296,528	295,280	-0.4
South Atlantic			
Coal	417,727	412,433	-1.3
Total	765,233	775,681	1.4
East South Central			
Coal	230,953	234,796	1.7
Total	350,884	362,445	3.3
West South Central			
Coal	226,684	228,415	0.8
Total	513,398	528,683	3.0
Mountain			
Coal	214,881	219,311	2.1
Total	323,453	341,220	5.5
Pacific			
Coal	19,154	17,719	-7.5
Total	336,172	343,461	2.2
U.S. Total			
Coal	1,952,714	1,957,194	0.2
Total	3,721,159	3,808,360	2.3

Source: Energy Information Administration, Form EIA-906, "Power Plant Report."

been offline for 4 months in 2003. In the West South Central Division in 2004 coal consumption for electric power sector generation increased by 1.7 million short tons or 1.1 percent. In 2004, the South Atlantic Division had an increase in total electric power sector generation of 1.4 percent and a decrease in coal generation of 1.3 percent. An increase in generation by natural gas plants of 18.9 percent for the year, helped to hold down the coal generation. Coal accounts for about 53 percent of electric power sector generation in the South Atlantic Division and it had an increase in coal consumption, 1.0 percent or 1.7 million short tons.

In the Middle Atlantic Division, where both the coal and the nuclear share of electric power sector generation is about 37 percent each, total electric power sector generation increased by 2.0 percent in 2004. Coal consumed in the electric power sector in the Middle Atlantic increased by 1.1 million short tons, or 1.7 percent in 2004.

In 2004, total generation in the electric power sector in the West North Central Division decreased slightly, by 0.4 percent, while coal-based generation decreased by 1.6 percent. In the West North Central Division, coal accounts for about 78 percent of generation, and there was a decrease in coal consumption of 1.5 million short tons, or 1.0 percent. The other two Census Divisions, New England and Pacific, had minor changes in coal consumption in 2004.

Coal consumption in the non-electric power sector decreased in 2004, mainly due to the decline in the coking coal sector. Coal consumption at coke plants declined in 2004 by 2.4 percent, erasing the increase it experienced the prior year. The decline of 0.6 million short tons in coal consumption at coke plants was in part caused by the tight world market for metallurgical coal. Increasing international demand for metallurgical coal pushed exports higher as increasing prices motivated producers to switch some of the coal to overseas markets. To help meet domestic demand for coke, imports of coke into the United States jumped in 2004 by 149.2 percent to a total of 6.9 million short tons.

The economic expansion did not extend very deeply into the manufacturing sector in 2004, and as a result, coal consumption in the other industrial sector declined only a few thousand short tons to end the year at 61.2 million short tons. While the total coal consumption in the other industrial sector did not change much from the prior year, the amount of coal consumed by the other industrial sector's combined heat and power plants increased by 12.7 percent as the plants produced 7.2 percent more coal-based electricity in part for the wholesale electricity market sales. The manufacturing sectors that experienced slight increases in coal consumption in 2004 include food, primary metal, and chemical manufacturing, while the paper, beverage, and fabricated metals sectors had declines in coal consumption for the year. Coal consumption in the residential and commercial sector remained steady in 2004.

Coal Prices

Coal prices rose across the board in 2004. The average open market f.o.b. (free on board) mine price increased in 2004 to $19.93 per ton, an increase of 11.6 percent over 2003, a price level not seen since 1993. While spot coal prices for some of the producing regions set record levels in 2004, average delivered prices in the consuming sectors increased for the year but not as steeply as the spot prices. Due to the fact that coal deliveries to the electric power sector are mostly done through long-term contracts, the delivered price of coal to the electric power sector increased in 2004, but not by huge amounts. Coal prices at electric utilities (a subset of the electric power sector) increased for a fourth consecutive year, to $27.30 per short ton (1.34 dollars per million Btu), an increase of 5.7 percent. Coal prices at independent power producers increased in 2004 to $27.24 per short ton (1.41 dollars per million Btu), an increase of 3.9 percent from 2003. The increase in the delivered price of coal to the other sectors in 2004 was more evident as both the coking coal sector and the other industrial sector rely more heavily on short-term contracts and the spot market. The average delivered price of coal to the other industrial sector increased by 13.2 percent to an average price of $39.30 per short ton in 2004.

The largest increase in consumer prices was in the coking coal sector. The tight specifications needed for coal to produce coke limit the availability of the coal. As the world market for metallurgical coal tightened during the course of the year, the delivered price of coal to U.S. coke plants increased by 21.5 percent to reach $61.50 per short ton in 2004.

Coal Stocks

Total coal stocks at the end of 2004 were 154.1 million short tons, a decrease of 11.4 million short tons from the prior year. Coal stocks held by producers and distributors increased by 2.9 million short tons. Industrial users, including coke plants, held a total of 6.2 million short tons at the end of 2004, 0.6 million short tons more than the level at the start of the year. Coal stocks in the electric power sector dropped for the second consecutive year in 2004, declining by 14.9 million short tons (12.2 percent), to end the year at 106.7 million short tons, as power facilities used their stockpiles to meet increasing demand for electricity.

Coal Production

Table 1. Coal Production and Number of Mines by State and Mine Type, 2004-2003

(Thousand Short Tons)

Coal-Producing State and Region[1]	2004		2003		Percent Change	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Alabama	**49**	**22,271**	**43**	**20,118**	**14.0**	**10.7**
Underground	8	16,114	9	15,375	-11.1	4.8
Surface	41	6,156	34	4,742	20.6	29.8
Alaska	**1**	**1,512**	**1**	**1,081**	**-**	**39.8**
Surface	1	1,512	1	1,081	-	39.8
Arizona	**2**	**12,731**	**2**	**12,059**	**-**	**5.6**
Surface	2	12,731	2	12,059	-	5.6
Arkansas	**2**	**7**	**2**	**8**	**-**	**-3.1**
Underground	1	1	1	1	-	-5.6
Surface	1	6	1	7	-	-2.7
Colorado	**13**	**39,870**	**12**	**35,831**	**8.3**	**11.3**
Underground	8	29,608	8	27,177	-	8.9
Surface	5	10,262	4	8,654	25.0	18.6
Illinois	**19**	**31,853**	**22**	**31,640**	**-13.6**	**0.7**
Underground	12	26,907	14	25,985	-14.3	3.6
Surface	7	4,946	8	5,655	-12.5	-12.5
Indiana	**29**	**35,110**	**31**	**35,355**	**-6.5**	**-0.7**
Underground	7	10,092	8	8,635	-12.5	16.9
Surface	22	25,018	23	26,720	-4.3	-6.4
Kansas	**1**	**71**	**1**	**154**	**-**	**-54.0**
Surface	1	71	1	154	-	-54.0
Kentucky Total	**419**	**114,244**	**400**[R]	**112,806**[R]	**4.8**	**1.3**
Underground	223	71,765	213	69,238	4.7	3.7
Surface	196	42,478	187[R]	43,568[R]	4.8	-2.5
Eastern	**397**	**90,871**	**375**[R]	**91,309**[R]	**5.9**	**-0.5**
Underground	212	52,445	201	52,078	5.5	0.7
Surface	185	38,426	174[R]	39,231[R]	6.3	-2.1
Western	**22**	**23,373**	**25**	**21,496**	**-12.0**	**8.7**
Underground	11	19,321	12	17,160	-8.3	12.6
Surface	11	4,052	13	4,337	-15.4	-6.6
Louisiana	**2**	**3,805**	**2**	**4,028**	**-**	**-5.5**
Surface	2	3,805	2	4,028	-	-5.5
Maryland	**19**	**5,225**	**16**	**5,056**	**18.8**	**3.3**
Underground	3	3,339	2	3,300	50.0	1.2
Surface	16	1,886	14	1,756	14.3	7.4
Mississippi	**1**	**3,586**	**1**	**3,695**	**-**	**-3.0**
Surface	1	3,586	1	3,695	-	-3.0
Missouri	**3**	**578**	**2**	**533**	**50.0**	**8.4**
Surface	3	578	2	533	50.0	8.4
Montana	**6**	**39,989**	**7**	**36,994**	**-14.3**	**8.1**
Underground	1	158	1	32	-	393.6
Surface	5	39,831	6	36,962	-16.7	7.8
New Mexico	**4**	**27,250**	**5**	**26,389**	**-20.0**	**3.3**
Underground	1	7,685	1	5,890	-	30.5
Surface	3	19,565	4	20,499	-25.0	-4.6
North Dakota	**4**	**29,943**	**4**	**30,775**	**-**	**-2.7**
Surface	4	29,943	4	30,775	-	-2.7
Ohio	**52**	**23,222**	**54**	**22,009**	**-3.7**	**5.5**
Underground	8	14,270	7	12,828	14.3	11.2
Surface	44	8,952	47	9,182	-6.4	-2.5
Oklahoma	**8**	**1,792**	**7**	**1,565**	**14.3**	**14.5**
Underground	1	409	1	393	-	4.2
Surface	7	1,383	6	1,172	16.7	18.0
Pennsylvania Total	**260**	**65,996**	**241**[R]	**63,708**[R]	**7.9**	**3.6**
Underground	58	53,224	58	52,212	-	1.9
Surface	202	12,772	183[R]	11,495[R]	10.4	11.1
Anthracite	**66**	**1,679**	**63**[R]	**1,243**[R]	**4.8**	**35.0**
Underground	20	271	22	282	-9.1	-4.1
Surface	46	1,408	41[R]	961[R]	12.2	46.5
Bituminous	**194**	**64,317**	**178**	**62,465**	**9.0**	**3.0**
Underground	38	52,953	36	51,930	5.6	2.0
Surface	156	11,364	142	10,535	9.9	7.9
Tennessee	**32**	**2,887**	**23**	**2,564**	**39.1**	**12.6**
Underground	12	826	10	657	20.0	25.8
Surface	20	2,061	13	1,907	53.8	8.0
Texas	**13**	**45,863**	**13**	**47,517**	**-**	**-3.5**
Surface	13	45,863	13	47,517	-	-3.5
Utah	**13**	**21,746**	**14**	**23,069**	**-7.1**	**-5.7**
Underground	13	21,746	13	23,044	-	-5.6

See footnotes at end of table.

Table 1. Coal Production and Number of Mines by State and Mine Type, 2004-2003 (Continued)
(Thousand Short Tons)

Coal-Producing State and Region [1]	2004		2003		Percent Change	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Utah (continued)						
Surface	-	-	1	25	-100.0	-100.0
Virginia	**123**	**31,420**	**123**	**31,596**	**-**	**-0.6**
Underground	77	20,437	79	21,225	-2.5	-3.7
Surface	46	10,983	44	10,371	4.5	5.9
Washington	**1**	**5,653**	**1**	**6,232**	**-**	**-9.3**
Surface	1	5,653	1	6,232	-	-9.3
West Virginia Total	**261**	**147,993**	**249**	**139,711**	**4.8**	**5.9**
Underground	152	90,932	155	86,793	-1.9	4.8
Surface	109	57,061	94	52,919	16.0	7.8
Northern	**49**	**40,646**	**58**	**34,949**	**-15.5**	**16.3**
Underground	27	36,082	32	30,029	-15.6	20.2
Surface	22	4,564	26	4,921	-15.4	-7.2
Southern	**212**	**107,347**	**191**	**104,762**	**11.0**	**2.5**
Underground	125	54,851	123	56,764	1.6	-3.4
Surface	87	52,497	68	47,998	27.9	9.4
Wyoming	**20**	**396,493**	**18**	**376,270**	**11.1**	**5.4**
Underground	1	43	-	-	-	-
Surface	19	396,450	18	376,270	5.6	5.4
Appalachian Total	**1,193**	**389,884**	**1,124**	**376,071**[R]	**6.1**	**3.7**
Underground	530	251,588	521	244,468	1.7	2.9
Surface	663	138,297	603	131,603[R]	10.0	5.1
Northern	**380**	**135,089**	**369**[R]	**125,722**[R]	**3.0**	**7.5**
Underground	96	106,915	99	98,369	-3.0	8.7
Surface	284	28,174	270[R]	27,354[R]	5.2	3.0
Central	**764**	**232,525**	**712**[R]	**230,231**[R]	**7.3**	**1.0**
Underground	426	128,559	413	130,724	3.1	-1.7
Surface	338	103,966	299[R]	99,508[R]	13.0	4.5
Southern	**49**	**22,271**	**43**	**20,118**	**14.0**	**10.7**
Underground	8	16,114	9	15,375	-11.1	4.8
Surface	41	6,156	34	4,742	20.6	29.8
Interior Total	**100**	**146,038**	**106**	**145,992**	**-5.7**	*****
Underground	32	56,729	36	52,173	-11.1	8.7
Surface	68	89,309	70	93,819	-2.9	-4.8
Illinois Basin Total	**70**	**90,336**	**78**	**88,491**	**-10.3**	**2.1**
Underground	30	56,319	34	51,779	-11.8	8.8
Surface	40	34,016	44	36,712	-9.1	-7.3
Western Total	**64**	**575,186**	**64**	**548,701**	**-**	**4.8**
Underground	24	59,240	23	56,144	4.3	5.5
Surface	40	515,946	41	492,557	-2.4	4.7
Powder River Basin	**17**	**420,992**	**18**	**399,953**	**-5.6**	**5.3**
Underground	-	-	-	-	-	-
Surface	17	420,992	18	399,953	-5.6	5.3
Uinta Region	**24**	**60,744**	**24**	**58,154**	**-**	**4.5**
Underground	20	50,896	20	49,828	-	2.1
Surface	4	9,848	4	8,326	-	18.3
East of Miss. River	**1,264**	**483,806**	**1,203**	**468,258**[R]	**5.1**	**3.3**
West of Miss. River	**93**	**627,303**	**91**	**602,506**	**2.2**	**4.1**
U.S. Subtotal	**1,357**	**1,111,109**	**1,294**	**1,070,764**[R]	**4.9**	**3.8**
Refuse Recovery	**22**	**990**	**22**	**989**[R]	**-**	**0.1**
U.S. Total	**1,379**	**1,112,099**	**1,316**	**1,071,753**	**4.8**	**3.8**

[1] For a definition of coal producing regions, see the Glossary.
* = The unit of measure is less than 0.5 or percent change is less than 0.1%.
[R] = Revised data.
Note: • Totals may not equal sum of components because of independent rounding.
Source: • U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 2. Coal Production and Number of Mines by State, County, and Mine Type, 2004

(Thousand Short Tons)

Coal-Producing State and County	Underground		Surface		Total	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Alabama	**8**	**16,114**	**41**	**6,156**	**49**	**22,271**
Cullman	-	-	2	474	2	474
Franklin	-	-	1	68	1	68
Jackson	-	-	3	84	3	84
Jefferson	3	5,418	10	1,675	13	7,093
Marion	-	-	2	56	2	56
Shelby	-	-	1	101	1	101
Tuscaloosa	4	10,602	5	1,124	9	11,726
Walker	1	94	15	2,471	16	2,565
Winston	-	-	2	104	2	104
Alaska	**-**	**-**	**1**	**1,512**	**1**	**1,512**
Yukon-Koyukuk Division	-	-	1	1,512	1	1,512
Arizona	**-**	**-**	**2**	**12,731**	**2**	**12,731**
Navajo	-	-	2	12,731	2	12,731
Arkansas	**1**	**1**	**1**	**6**	**2**	**7**
Sebastian	1	1	1	6	2	7
Colorado	**8**	**29,608**	**5**	**10,262**	**13**	**39,870**
Delta	2	4,696	-	-	2	4,696
Garfield	1	301	-	-	1	301
Gunnison	2	13,044	-	-	2	13,044
La Plata	1	459	-	-	1	459
Moffat	-	-	3	8,355	3	8,355
Montrose	-	-	1	413	1	413
Rio Blanco	1	2,551	-	-	1	2,551
Routt	1	8,558	1	1,493	2	10,051
Illinois	**12**	**26,907**	**7**	**4,946**	**19**	**31,853**
Gallatin	-	-	1	2,747	1	2,747
Jackson	-	-	2	1,442	2	1,442
Macoupin	2	4,420	-	-	2	4,420
Montgomery	1	1,895	-	-	1	1,895
Perry	-	-	2	578	2	578
Randolph	1	1,461	-	-	1	1,461
Saline	3	10,593	-	-	3	10,593
Sangamon	1	2,123	-	-	1	2,123
Vermilion	2	2,310	-	-	2	2,310
Wabash	1	1,665	1	96	2	1,761
White	1	2,440	-	-	1	2,440
Williamson	-	-	1	83	1	83
Indiana	**7**	**10,092**	**22**	**25,018**	**29**	**35,110**
Clay	-	-	2	928	2	928
Daviess	-	-	2	3,668	2	3,668
Gibson	3	4,668	4	9,334	7	14,002
Greene	-	-	1	218	1	218
Jackson	-	-	1	53	1	53
Knox	3	3,057	3	1,121	6	4,178
Pike	1	2,367	3	2,612	4	4,978
Spencer	-	-	1	311	1	311
Sullivan	-	-	1	875	1	875
Vigo	-	-	2	4,686	2	4,686
Warrick	-	-	2	1,214	2	1,214
Kansas	**-**	**-**	**1**	**71**	**1**	**71**
Bourbon	-	-	1	71	1	71
Kentucky	**223**	**71,765**	**196**	**42,478**	**419**	**114,244**
Bell	6	626	9	747	15	1,372
Boyd	-	-	1	11	1	11
Breathitt	-	-	6	925	6	925
Carter	-	-	1	10	1	10
Clay	1	2	6	54	7	56
Floyd	25	1,263	6	1,727	31	2,990
Harlan	35	9,473	16	2,455	51	11,928
Henderson	1	1,527	2	1,405	3	2,932
Hopkins	4	3,683	3	770	7	4,454
Jackson	-	-	2	47	2	47
Johnson	2	101	8	208	10	308
Knott	25	7,444	14	3,646	39	11,091
Knox	5	156	8	602	13	758
Laurel	-	-	2	81	2	81
Lawrence	2	781	5	949	7	1,730
Lee	-	-	1	18	1	18

See footnotes at end of table.

Table 2. Coal Production and Number of Mines by State, County, and Mine Type, 2004 (Continued)
(Thousand Short Tons)

Coal-Producing State and County	Underground		Surface		Total	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Kentucky (continued)						
Leslie	6	2,691	6	1,771	12	4,462
Letcher	22	4,648	21	2,859	43	7,506
Magoffin	-	-	4	748	4	748
Martin	11	3,711	5	2,519	16	6,229
Morgan	-	-	1	22	1	22
Muhlenberg	1	2,564	6	1,877	7	4,441
Ohio	1	1,305	-	-	1	1,305
Owsley	-	-	2	74	2	74
Perry	10	4,481	19	7,600	29	12,081
Pike	61	16,952	40	11,161	101	28,113
Union	2	4,360	-	-	2	4,360
Webster	2	5,881	-	-	2	5,881
Whitley	1	117	2	193	3	309
Louisiana	**-**	**-**	**2**	**3,805**	**2**	**3,805**
De Soto	-	-	1	3,265	1	3,265
Red River	-	-	1	540	1	540
Maryland	**3**	**3,339**	**16**	**1,886**	**19**	**5,225**
Allegany	1	127	10	1,582	11	1,709
Garrett	2	3,212	6	305	8	3,516
Mississippi	**-**	**-**	**1**	**3,586**	**1**	**3,586**
Choctaw	-	-	1	3,586	1	3,586
Missouri	**-**	**-**	**3**	**578**	**3**	**578**
Bates	-	-	3	578	3	578
Montana	**1**	**158**	**5**	**39,831**	**6**	**39,989**
Big Horn	-	-	3	26,784	3	26,784
Musselshell	1	158	-	-	1	158
Richland	-	-	1	382	1	382
Rosebud	-	-	1	12,665	1	12,665
New Mexico	**1**	**7,685**	**3**	**19,565**	**4**	**27,250**
Mckinley	-	-	2	11,575	2	11,575
San Juan	1	7,685	1	7,990	2	15,675
North Dakota	**-**	**-**	**4**	**29,943**	**4**	**29,943**
Mclean	-	-	1	7,578	1	7,578
Mercer	-	-	2	18,261	2	18,261
Oliver	-	-	1	4,104	1	4,104
Ohio	**8**	**14,270**	**44**	**8,952**	**52**	**23,222**
Athens	1	1,215	-	-	1	1,215
Belmont	1	4,537	6	1,551	7	6,088
Carroll	1	410	1	4	2	414
Columbiana	-	-	3	499	3	499
Coshocton	-	-	1	442	1	442
Guernsey	-	-	1	3	1	3
Harrison	1	1,632	7	2,139	8	3,772
Jackson	-	-	2	159	2	159
Jefferson	2	549	7	364	9	913
Lawrence	-	-	1	6	1	6
Mahoning	-	-	2	18	2	18
Monroe	1	5,821	-	-	1	5,821
Muskingum	-	-	1	91	1	91
Noble	-	-	1	490	1	490
Perry	-	-	1	711	1	711
Stark	-	-	3	424	3	424
Tuscarawas	1	106	5	1,016	6	1,122
Vinton	-	-	2	1,035	2	1,035
Oklahoma	**1**	**409**	**7**	**1,383**	**8**	**1,792**
Craig	-	-	1	288	1	288
Haskell	-	-	1	437	1	437
Le Flore	1	409	3	496	4	905
Okmulgee	-	-	1	5	1	5
Rogers	-	-	1	157	1	157
Pennsylvania	**58**	**53,224**	**202**	**12,772**	**260**	**65,996**
Allegheny	1	*	-	-	1	*
Armstrong	11	4,231	10	776	21	5,007
Beaver	1	402	-	-	1	402
Blair	-	-	1	23	1	23
Butler	-	-	3	401	3	401
Cambria	3	309	8	608	11	916
Centre	-	-	1	29	1	29
Clarion	-	-	3	359	3	359
Clearfield	-	-	38	3,340	38	3,340

See footnotes at end of table.

Table 2. Coal Production and Number of Mines by State, County, and Mine Type, 2004 (Continued)
(Thousand Short Tons)

Coal-Producing State and County	Underground		Surface		Total	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Pennsylvania (continued)						
Columbia	-	-	4	297	4	297
Dauphin	1	2	-	-	1	2
Elk	1	468	7	482	8	950
Fayette	-	-	13	500	13	500
Greene	7	37,377	5	308	12	37,685
Indiana	5	2,456	18	574	23	3,030
Jefferson	1	208	15	510	16	718
Lackawanna	-	-	3	40	3	40
Lawrence	-	-	2	28	2	28
Luzerne	-	-	5	429	5	429
Lycoming	-	-	1	294	1	294
Mercer	-	-	1	84	1	84
Northumberland	5	190	2	51	7	241
Schuylkill	14	79	32	590	46	669
Somerset	6	1,746	20	2,662	26	4,407
Venango	-	-	1	4	1	4
Washington	2	5,757	4	332	6	6,089
Westmoreland	-	-	5	50	5	50
Tennessee	**12**	**826**	**20**	**2,061**	**32**	**2,887**
Anderson	2	36	2	131	4	167
Campbell	3	91	4	226	7	316
Claiborne	5	522	12	1,503	17	2,025
Cumberland	-	-	1	90	1	90
Fentress	-	-	1	111	1	111
Scott	2	177	-	-	2	177
Texas	**-**	**-**	**13**	**45,863**	**13**	**45,863**
Atascosa	-	-	1	3,090	1	3,090
Freestone	-	-	1	4,340	1	4,340
Harrison	-	-	1	4,275	1	4,275
Hopkins	-	-	1	2,581	1	2,581
Leon	-	-	1	6,457	1	6,457
Milam	-	-	1	6,105	1	6,105
Panola	-	-	2	7,031	2	7,031
Robertson	-	-	1	1,945	1	1,945
Rusk	-	-	1	5,975	1	5,975
Titus	-	-	2	4,024	2	4,024
Webb	-	-	1	40	1	40
Utah	**13**	**21,746**	**-**	**-**	**13**	**21,746**
Carbon	6	9,235	-	-	6	9,235
Emery	6	4,943	-	-	6	4,943
Sevier	1	7,568	-	-	1	7,568
Virginia	**77**	**20,437**	**46**	**10,983**	**123**	**31,420**
Buchanan	20	7,634	14	2,714	34	10,348
Dickenson	12	2,130	8	434	20	2,564
Lee	2	507	1	309	3	816
Russell	4	120	4	370	8	490
Tazewell	5	1,153	1	182	6	1,335
Wise	34	8,894	18	6,974	52	15,868
Washington	**-**	**-**	**1**	**5,653**	**1**	**5,653**
Lewis	-	-	1	5,653	1	5,653
West Virginia	**152**	**90,932**	**109**	**57,061**	**261**	**147,993**
Barbour	3	771	3	196	6	968
Boone	25	16,854	16	14,416	41	31,270
Clay	1	209	2	3,949	3	4,158
Fayette	3	1,206	10	2,558	13	3,763
Grant	1	200	1	981	2	1,181
Greenbrier	2	606	-	-	2	606
Harrison	3	6,869	4	128	7	6,997
Kanawha	11	9,143	8	5,896	19	15,039
Lincoln	3	777	-	-	3	777
Logan	8	3,278	11	8,083	19	11,361
Marion	1	4,971	2	101	3	5,072
Marshall	2	12,051	-	-	2	12,051
Mcdowell	29	2,310	12	2,370	41	4,680
Mineral	-	-	2	88	2	88
Mingo	13	6,087	12	7,227	25	13,314
Monongalia	3	5,612	5	327	8	5,939
Nicholas	2	577	3	4,298	5	4,875
Preston	2	1,836	2	22	4	1,858
Raleigh	14	6,811	4	849	18	7,660

See footnotes at end of table.

Table 2. Coal Production and Number of Mines by State, County, and Mine Type, 2004 (Continued)
(Thousand Short Tons)

Coal-Producing State and County	Underground		Surface		Total	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
West Virginia (continued)						
Randolph	1	1	-	-	1	1
Upshur	7	1,782	1	4	8	1,786
Wayne	3	4,187	2	950	5	5,137
Webster	4	1,989	2	2,717	6	4,706
Wyoming	11	2,806	7	1,901	18	4,707
Wyoming	**1**	**43**	**19**	**396,450**	**20**	**396,493**
Campbell	-	-	12	351,860	12	351,860
Carbon	-	-	2	20	2	20
Converse	-	-	1	29,683	1	29,683
Lincoln	-	-	1	4,491	1	4,491
Sweetwater	1	43	3	10,396	4	10,439
U.S. Subtotal	**586**	**367,557**	**771**	**743,552**	**1,357**	**1,111,109**
Refuse Recovery	**-**	**-**	**-**	**-**	**22**	**990**
U.S. Total	**586**	**367,557**	**771**	**743,552**	**1,379**	**1,112,099**

* = The unit of measure is less than 0.5 or percent change is less than 0.1%.
Note: • Totals may not equal sum of components because of independent rounding.
Source: • U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 3. Underground Coal Production by State and Mining Method, 2004

(Thousand Short Tons)

Coal-Producing State and Region[1]	Continuous[2]	Conventional[3]	Longwall[4]	Other[5]	Total
Alabama	196	-	15,918	-	16,114
Arkansas	-	-	-	1	1
Colorado	5,455	-	24,153	-	29,608
Illinois	17,339	-	9,568	-	26,907
Indiana	10,092	-	-	-	10,092
Kentucky Total	66,725	1,076	2,217	1,747	71,765
Eastern	47,551	930	2,217	1,747	52,445
Western	19,174	147	-	-	19,321
Maryland	193	-	3,146	-	3,339
Montana	158	-	-	-	158
New Mexico	-	-	7,685	-	7,685
Ohio	3,913	-	10,357	-	14,270
Oklahoma	409	-	-	-	409
Pennsylvania Total	9,643	743	42,791	47	53,224
Anthracite	197	29	-	45	271
Bituminous	9,446	714	42,791	2	52,953
Tennessee	822	-	-	4	826
Utah	1,164	-	20,582	-	21,746
Virginia	14,407	107	5,910	13	20,437
West Virginia Total	45,165	60	45,621	86	90,932
Northern	7,860	60	28,158	4	36,082
Southern	37,305	-	17,463	83	54,851
Wyoming	43	-	-	-	43
Appalachian Total	**121,890**	**1,840**	**125,960**	**1,898**	**251,588**
Northern	21,609	803	84,452	50	106,915
Central	100,084	1,037	25,590	1,847	128,559
Southern	196	-	15,918	-	16,114
Interior Total	**47,013**	**147**	**9,568**	**1**	**56,729**
Illinois Basin	46,604	147	9,568	-	56,319
Western Total	**6,820**	**-**	**52,420**	**-**	**59,240**
Powder River Basin	-	-	-	-	-
Uinta Region	6,161	-	44,735	-	50,896
East of Miss. River	**168,494**	**1,987**	**135,528**	**1,898**	**307,907**
West of Miss. River	**7,229**	**-**	**52,420**	**1**	**59,650**
U.S. Total	**175,723**	**1,987**	**187,948**	**1,899**	**367,557**

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

[2] Mines that produce greater than 50 percent of their coal by continuous mining methods.

[3] Mines that produce greater than 50 percent of their coal by conventional mining methods.

[4] Mines that have any production from the longwall mining method. A typical longwall mining operation uses 80 percent longwall mining and 20 percent continuous mining.

[5] Mines that produce coal using shortwall, scoop loading, hand loading, or other mining methods or a 50/50 percent continuous conventional split in mining method, or mines that produce less than 10,000 short tons, which are not required to provide data.

Note: • Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 4. Coal Production by Coalbed Thickness and Mine Type, 2004
(Thousand Short Tons)

Coalbed Thickness (inches)	Underground	Surface	Total
< 7	-	9	9
7-12	-	3,206	3,206
13-18	725	7,142	7,867
19-24	415	17,000	17,415
25-30	2,801	22,732	25,533
31-36	18,539	26,437	44,976
37-42	23,885	17,592	41,478
43-48	45,676	26,045	71,721
49-54	19,424	14,551	33,975
55-60	54,870	20,189	75,060
61-66	30,712	20,062	50,774
67-72	46,250	11,515	57,765
73-78	19,391	14,041	33,432
79-84	27,267	9,452	36,719
85-90	8,006	4,104	12,109
91-96	13,407	11,569	24,976
97-102	18,232	5,416	23,647
103-108	4,218	6,411	10,629
109-114	4,096	7,964	12,060
115-120	709	6,046	6,755
> 120	28,772	491,483	520,256
Unknown[1]	**162**	**585**	**1,737**
U.S. Total	**367,557**	**743,552**	**1,112,099**

[1] Includes mines with production of less than 10,000 short tons, which are not required to provide data, and refuse recovery.

Note: • Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 5. Coal Production and Coalbed Thickness by Major Coalbeds and Mine Type, 2004

Coalbed ID Number[1] Coalbed Name	Production (thousand short tons)			Thickness (inches)		
	Underground	Surface	Total	Average[2]	Low	High
1699 Wyodak	-	336,662	336,662	762	76	900
0036 Pittsburgh	82,588	3,009	85,597	72	25	159
0489 No. 9	35,726	10,403	46,128	63	37	86
1697 Canyon	-	29,211	29,211	596	240	803
1569 Beulah-Zap	-	27,918	27,918	184	144	210
0111 Hazard No. 5-A	6,259	20,591	26,850	71	11	150
0151 Upper Elkhorn No. 3	16,340	5,293	21,633	50	12	120
0484 Herrin (Illinois No. 6)	15,730	4,253	19,983	70	46	96
0103 Stockton-Lewiston	4,682	13,007	17,689	69	12	120
1696 Anderson-Dietz 1-Dietz 2	-	17,590	17,590	855	600	972
0084 Lower Kittanning	8,914	8,316	17,230	49	10	105
1808 Rosebud	-	16,290	16,290	263	216	276
1787 Roland	-	15,670	15,670	529	359	696
0176 Eagle	11,925	1,320	13,245	55	11	108
0168 Pond Creek	11,400	1,687	13,087	55	11	84
0135 Hazard No. 4	8,434	4,599	13,033	45	18	98
0280 Blue Creek	11,467	516	11,983	57	11	70
1488 Fruitland No. 8	7,685	3,276	10,961	163	58	204
1755 D	10,647	-	10,647	143	112	162
0142 Williamson (Amburgy)	6,560	2,720	9,279	41	11	70
0121 Winifrede	5,136	4,023	9,159	54	12	116
0480 No. 7	3,327	5,697	9,024	46	12	54
0071 Upper Freeport	5,532	3,462	8,994	60	15	84
1753 Somerset B	8,914	-	8,914	134	108	144
0344 Pocahontas No. 3	8,831	-	8,831	60	36	68
Major Coalbeds Total	**270,096**	**535,513**	**805,610**	**412**	**10**	**972**
Other Coalbeds	**97,298**	**207,453**	**304,752**	**86**	**6**	**760**
Unknown[3]	**162**	**585**	**1,737**	**NA**	**NA**	**NA**
U.S. Total	**367,557**	**743,552**	**1,112,099**	**322**	**6**	**972**

[1] The coalbed ID number is a unique code assigned by EIA to each correlated coalbed or to coal-bearing geologic formations, coal groups, or coal zones. See Coalbed name discussion in note below.

[2] Average thickness is the bed thickness weighted by bed production.

[3] Includes mines with production of less than 10,000 short tons, which are not required to provide data, and refuse recovery.

NA = This estimated value is not available due to insufficient data or inadequate data/model performance.

Notes: • Major coalbeds for this table are the top 25 producing coalbeds. The category "Other Coalbeds" includes all coalbeds from which less than 8.8 million short tons were produced during the year. In some regions, coalbeds are characteristically discontinuous or uncorrelatable from one location to another, and production is identified by the geological formations, coal groups, or coal zones of the native rock where the coalbeds occur. These types of coalbeds are found primarily in the Rocky Mountain States and even in the Gulf Coast lignite belt. Coalbeds of these types are also included in "Other Coalbeds," even though production may exceed 8.8 million short tons. Totals may not equal sum of components due to independent rounding. • The coalbed name given is the name most commonly used in the State having the greatest production from that coalbed. The States having greatest production for each coalbed are Alabama (coalbed 0280), Eastern Kentucky (0111, 0121, 0135, 0142, 0151, 0168, and 0176); West Virginia (0036, 0084, 0103, and 0344); Pennsylvania (0071); Western Kentucky (0489); Illinois (0484); Indiana (0480); Colorado (1750, 1753, and 1755); New Mexico (1488); North Dakota (1569); Montana (1696, and 1808); and Wyoming (1697, 1699, and 1787). In some other States where these are major producing beds, the following alternative coalbed names are also used: 0084, No 5 Block (Eastern Kentucky); 0111, Coalburg (West Virginia); 0135, Chilton (West Virginia); 0151, Jellico (Tennessee); Taggert (Virginia); Cedar Grove (West Virginia); 0168, No 2 Gas (West Virginia); 0176, Middle Eagle (West Virginia); 0483, No 14 (Western Kentucky); 0484, No 11 (Western Kentucky); 0489, No 5 (Illinois and Indiana).

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 6. Coal Production and Number of Mines by State and Coal Rank, 2004

(Thousand Short Tons)

Coal-Producing State and Region[1]	Bituminous		Subbituminous		Lignite		Anthracite		Total	
	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production	Number of Mines	Production
Alabama	49	22,271	-	-	-	-	-	-	49	22,271
Alaska	-	-	1	1,512	-	-	-	-	1	1,512
Arizona	2	12,731	-	-	-	-	-	-	2	12,731
Arkansas	2	7	-	-	-	-	-	-	2	7
Colorado	10	31,515	3	8,355	-	-	-	-	13	39,870
Illinois	19	31,853	-	-	-	-	-	-	19	31,853
Indiana	29	35,110	-	-	-	-	-	-	29	35,110
Kansas	1	71	-	-	-	-	-	-	1	71
Kentucky Total	419	114,244	-	-	-	-	-	-	419	114,244
Eastern	397	90,871	-	-	-	-	-	-	397	90,871
Western	22	23,373	-	-	-	-	-	-	22	23,373
Louisiana	-	-	-	-	2	3,805	-	-	2	3,805
Maryland	19	5,225	-	-	-	-	-	-	19	5,225
Mississippi	-	-	-	-	1	3,586	-	-	1	3,586
Missouri	3	578	-	-	-	-	-	-	3	578
Montana	-	-	5	39,607	1	382	-	-	6	39,989
New Mexico[2]	2	13,484	2	13,766	-	-	-	-	4	27,250
North Dakota	-	-	-	-	4	29,943	-	-	4	29,943
Ohio	52	23,222	-	-	-	-	-	-	52	23,222
Oklahoma	8	1,792	-	-	-	-	-	-	8	1,792
Pennsylvania Total	194	64,317	-	-	-	-	66	1,679	260	65,996
Anthracite	-	-	-	-	-	-	66	1,679	66	1,679
Bituminous	194	64,317	-	-	-	-	-	-	194	64,317
Tennessee	32	2,887	-	-	-	-	-	-	32	2,887
Texas	1	40	-	-	12	45,823	-	-	13	45,863
Utah	13	21,746	-	-	-	-	-	-	13	21,746
Virginia	123	31,420	-	-	-	-	-	-	123	31,420
Washington	-	-	1	5,653	-	-	-	-	1	5,653
West Virginia Total	261	147,993	-	-	-	-	-	-	261	147,993
Northern	49	40,646	-	-	-	-	-	-	49	40,646
Southern	212	107,347	-	-	-	-	-	-	212	107,347
Wyoming	2	20	18	396,473	-	-	-	-	20	396,493
Appalachian Total	**1,127**	**388,206**	**-**	**-**	**-**	**-**	**66**	**1,679**	**1,193**	**389,884**
Northern	314	133,410	-	-	-	-	66	1,679	380	135,089
Central	764	232,525	-	-	-	-	-	-	764	232,525
Southern	49	22,271	-	-	-	-	-	-	49	22,271
Interior Total	**85**	**92,824**	**-**	**-**	**15**	**53,215**	**-**	**-**	**100**	**146,038**
Illinois Basin	70	90,336	-	-	-	-	-	-	70	90,336
Western Total	**29**	**79,496**	**30**	**465,365**	**5**	**30,325**	**-**	**-**	**64**	**575,186**
Powder River Basin	-	-	17	420,992	-	-	-	-	17	420,992
Uinta Region	21	52,389	3	8,355	-	-	-	-	24	60,744
East of Miss. River	**1,197**	**478,541**	**-**	**-**	**1**	**3,586**	**66**	**1,679**	**1,264**	**483,806**
West of Miss. River	**44**	**81,984**	**30**	**465,365**	**19**	**79,953**	**-**	**-**	**93**	**627,303**
U.S. Subtotal	**1,241**	**560,526**	**30**	**465,365**	**20**	**83,540**	**66**	**1,679**	**1,357**	**1,111,109**
Refuse Recovery	**19**	**963**	**-**	**-**	**-**	**-**	**3**	**27**	**22**	**990**
U.S. Total	**1,260**	**561,488**	**30**	**465,365**	**20**	**83,540**	**69**	**1,706**	**1,379**	**1,112,099**

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

[2] One Mine in New Mexico periodically produces both bituminous and subbituminous coal. When this occurs, it is double counted as a subbituminous and bituminous mine, but is not double counted in the total.

Note: • Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 7. Coal Production by State, Mine Type, and Union Status, 2004

(Thousand Short Tons)

Coal-Producing State and Region[1]	Union		Nonunion		Total	
	Underground	Surface	Underground	Surface	Underground	Surface
Alabama	15,918	-	196	6,128	16,114	6,128
Alaska	-	1,512	-	-	-	1,512
Arizona	-	12,731	-	-	-	12,731
Colorado	2,551	3,756	27,058	6,506	29,608	10,262
Illinois	13,516	-	13,391	4,946	26,907	4,946
Indiana	-	2,011	10,092	23,007	10,092	25,018
Kansas	-	-	-	71	-	71
Kentucky Total	4,411	1,312	67,259	41,022	71,670	42,334
Eastern	139	1,312	52,210	36,971	52,349	38,283
Western	4,271	-	15,049	4,050	19,321	4,050
Louisiana	-	-	-	3,805	-	3,805
Maryland	-	-	3,339	1,857	3,339	1,857
Mississippi	-	-	-	3,586	-	3,586
Missouri	-	-	-	578	-	578
Montana	-	27,763	158	12,068	158	39,831
New Mexico	7,685	13,789	-	5,776	7,685	19,565
North Dakota	-	7,156	-	22,786	-	29,943
Ohio	4,537	741	9,734	8,172	14,270	8,913
Oklahoma	-	-	409	1,378	409	1,378
Pennsylvania Total	22,439	519	30,753	12,013	53,192	12,532
Anthracite	-	206	240	1,152	240	1,358
Bituminous	22,439	313	30,513	10,861	52,951	11,174
Tennessee	-	-	822	2,050	822	2,050
Texas	-	30,057	-	15,806	-	45,863
Utah	3,854	-	17,892	-	21,746	-
Virginia	3,063	706	17,362	10,260	20,424	10,966
Washington	-	5,653	-	-	-	5,653
West Virginia Total	40,874	8,334	50,042	48,665	90,916	56,999
Northern	28,158	-	7,920	4,544	36,078	4,544
Southern	12,716	8,334	42,122	44,121	54,838	52,455
Wyoming	43	10,088	-	386,358	43	396,446
Appalachian Total	**86,969**	**11,613**	**164,457**	**126,116**	**251,426**	**137,728**
Northern	55,133	1,260	51,746	26,586	106,879	27,846
Central	15,918	10,353	112,515	93,402	128,433	103,754
Southern	15,918	-	196	6,128	16,114	6,128
Interior Total	**17,788**	**32,068**	**38,941**	**57,228**	**56,728**	**89,296**
Illinois Basin	17,788	2,011	38,532	32,003	56,319	34,014
Western Total	**14,133**	**82,448**	**45,107**	**433,495**	**59,240**	**515,942**
Powder River Basin	-	27,381	-	393,611	-	420,992
Uinta Region	6,405	3,342	44,491	6,506	50,896	9,848
East of Miss. River	**104,756**	**13,624**	**202,989**	**161,705**	**307,745**	**175,329**
West of Miss. River	**14,133**	**112,505**	**45,516**	**455,133**	**59,649**	**567,638**
Unknown[2]	-	-	-	-	**162**	**585**
U.S. Total	**118,889**	**126,128**	**248,505**	**616,838**	**367,557**	**743,552**

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

[2] Includes mines with production of less than 10,000 short tons, which are not required to provide data.

Note: • Totals may not equal sum of components because of independent rounding. Excludes refuse recovery operations.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 8. Coal Disposition by State, 2004

(Thousand Short Tons)

Coal-Producing State	Open Market Sales[1]	Captive Sales/Transactions[2]	Total
Alabama	21,436	-	21,436
Alaska	W	-	W
Arizona	W	-	W
Colorado	36,566	2,866	39,432
Illinois	32,181	-	32,181
Indiana	32,700	2,283	34,983
Kansas	W	-	W
Kentucky Total	109,474	4,888	114,362
Eastern	86,676	4,057	90,733
Western	22,798	831	23,629
Louisiana	W	W	W
Maryland	5,273	130	5,403
Mississippi	W	-	W
Missouri	W	-	W
Montana	39,399	817	40,216
New Mexico	27,017	-	27,017
North Dakota	25,822	4,163	29,985
Ohio	21,309	1,230	22,539
Oklahoma	1,789	-	1,789
Pennsylvania Total	62,686	3,022	65,707
Anthracite	1,546	134	1,680
Bituminous	61,139	2,888	64,027
Tennessee	2,798	-	2,798
Texas	12,964	33,338	46,303
Utah	18,832	3,783	22,615
Virginia	21,206	9,731	30,937
Washington	-	W	W
West Virginia Total	136,070	11,218	147,287
Northern	34,158	5,966	40,124
Southern	101,912	5,252	107,163
Wyoming	378,123	17,627	395,750
U.S. Total[3]	**1,006,807**	**102,377**	**1,109,184**

[1] Open market sales include all coal sold on the open market to other coal companies or consumers.
[2] Captive sales transactions include all coal used by the producing company or sold to affiliated or parent companies.
[3] Excludes mines producing less than 10,000 short tons, which are not required to provide data, and refuse recovery.
W = Withheld to avoid disclosure of individual company data.
Note: • Totals may not equal sum of components because of independent rounding.
Source: • Energy Information Administration Form EIA-7A, "Coal Production Report."

Table 9. Major U.S. Coal Mines, 2004

Rank	Mine Names/Company	Mine Type	State	Production (short tons)
1	North Antelope Rochelle Complex/Powder River Coal Company	Surface	Wyoming	82,471,922
2	Black Thunder/Thunder Basin Coal Company LLC	Surface	Wyoming	72,220,213
3	Cordero Mine/Cordero Mining Co.	Surface	Wyoming	38,743,666
4	Jacobs Ranch Mine/Jacobs Ranch Coal Company	Surface	Wyoming	38,548,799
5	Antelope Coal Mine/Antelope Coal Company	Surface	Wyoming	29,682,854
6	Caballo Mine/Caballo Coal Company	Surface	Wyoming	26,480,950
7	Eagle Butte Mine/Rag Coal West, Inc.	Surface	Wyoming	23,004,687
8	Buckskin Mine/Triton Coal Company	Surface	Wyoming	20,266,859
9	Belle Ayr Mine/Foundation Coal West Incorporation	Surface	Wyoming	18,704,482
10	North Rochelle/Triton Coal Company LLC	Surface	Wyoming	15,234,753
11	Freedom Mine/The Coteau Properties Company	Surface	North Dakota	15,208,281
12	Rosebud #6 Mine & Crusher & Conv/Western Energy Company	Surface	Montana	12,664,823
13	Spring Creek Coal Company/Spring Creek Coal Company	Surface	Montana	12,068,328
14	Enlow Fork Mine/Consol Pennsylvania Coal Company	Underground	Pennsylvania	10,218,960
15	Bailey Mine/Consol Pennsylvania Coal Company	Underground	Pennsylvania	10,133,685
16	Foidel Creek Mine/Twentymile Coal Company	Underground	Colorado	8,557,741
17	McElroy Mine/McElroy Coal Company	Underground	West Virginia	8,357,061
18	Decker Mine/Decker Coal Co.	Surface	Montana	8,241,467
19	Kayenta/Peabody Western Coal Company	Surface	Arizona	8,180,942
20	Navajo Mine/BHP Navajo Coal Company	Surface	New Mexico	7,990,021
21	San Juan South/San Juan Coal Company	Underground	New Mexico	7,685,041
22	Falkirk Mine/The Falkirk Mining Company	Surface	North Dakota	7,578,153
23	Sufco/Canyon Fuel Company LLC	Underground	Utah	7,568,276
24	Rawhide Mine/Caballo Coal Company	Surface	Wyoming	6,869,989
25	Elk Creek Mine/Oxbow Mining, LLC	Underground	Colorado	6,551,034
26	Galatia Mine/The American Coal Company	Underground	Illinois	6,517,541
27	West Elk Mine/Mountain Coal Company LLC	Underground	Colorado	6,493,363
28	Absaloka Mine/Washington Group International	Surface	Montana	6,474,339
29	Jewett Mine/Texas Westmoreland Coal Co.	Surface	Texas	6,456,625
30	Robinson Run No 95/Consolidation Coal Company	Underground	West Virginia	6,245,830
31	Sandow Mine/Alcoa Incorporated	Surface	Texas	6,105,182
32	Oak Hill Strip/TXU Mining Company LP	Surface	Texas	5,975,453
33	Century Mine/American Energy Corporation	Underground	Ohio	5,820,654
34	McKinley/Pittsburg & Midway Coal Mining	Surface	New Mexico	5,799,112
35	Lee Ranch Coal Co/Lee Ranch Coal Company	Surface	New Mexico	5,775,777
36	Emerald Mine No. 1/Emerald Coal Resources, LP	Underground	Pennsylvania	5,768,397
37	Blacksville No 2/Consolidation Coal Company	Underground	Pennsylvania	5,718,668
38	Centralia Coal Mine/Trans Alta Centralia Mining LLP	Surface	Washington	5,653,221
39	Jim Bridger Mine/Bridger Coal Company	Surface	Wyoming	5,597,531
40	Beckville Strip/TXU Mining Company LP	Surface	Texas	5,560,732
41	Colowyo Mine/Colowyo Coal Company L P	Surface	Colorado	5,435,256
42	Cumberland Mine/Cumberland Coal Resources, LP	Underground	Pennsylvania	5,194,971
43	Loveridge No 22/Consolidation Coal Company	Underground	West Virginia	4,970,733
44	Federal No 2/Eastern Associated Coal Corp	Underground	West Virginia	4,889,905
45	Samples Mine/Catenary Coal Company	Surface	West Virginia	4,790,415
46	Dotiki Mine/Webster County Coal LLC	Underground	Kentucky	4,780,111
47	Wyodak/Wyodak Resources Development Co	Surface	Wyoming	4,780,101
48	Black Mesa Mine/Peabody Western Coal Company	Surface	Arizona	4,549,887
49	Powhatan No. 6 Mine/The Ohio Valley Coal Company	Underground	Ohio	4,536,510
50	Dry Fork Mine/Dry Fork Coal Company	Surface	Wyoming	4,533,621
51	Kemmerer Mine/The Pittsburg & Midway Coal Mining	Surface	Wyoming	4,490,573
52	Hobet 21 Surface Mine/Hobet Mining, Inc.	Surface	West Virginia	4,417,418
53	Buchanan Mine #1/Consolidation Coal Company	Underground	Virginia	4,376,918
54	Big Brown Strip/TXU Mining Company LP	Surface	Texas	4,339,582
55	No 1 Surface/Alex Energy, Inc.	Surface	West Virginia	4,277,629
56	South Hallsville No 1 Mine/Sabine Mining Company	Surface	Texas	4,275,227
57	Farmersburg Mine/Black Beauty Coal Company	Surface	Indiana	4,267,613
58	Twilight MTR Surface Mine/Progress Coal	Surface	West Virginia	4,122,751
59	Center Mine/BNI Coal, Ltd.	Surface	North Dakota	4,103,859
60	Bowie Mine #2/Bowie Resources, LLC	Underground	Colorado	4,096,085
61	American Eagle Mine/Speed Mining Inc	Underground	West Virginia	4,095,165
	Subtotal			**688,519,742**
	All Other Mines			**423,579,128**
	U.S. Total			**1,112,098,870**

Note: • Major mines are mines that produced more than 4 million short tons in 2004. The company is the firm operating the mine.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and/or U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 10. Major U.S. Coal Producers, 2004

Rank	Controlling Company Name	Production (thousand short tons)	Percent of Total Production
1	Peabody Coal Co.	192,484	17.3
2	Kennecott Energy & Coal Co.	124,479	11.2
3	Arch Coal, Inc.	115,244	10.4
4	CONSOL Energy, Inc.	65,222	5.9
5	Foundation Coal Corp.	60,428	5.4
6	A.T. Massey Coal Co., Inc.	40,373	3.6
7	Vulcan Partners, LP	35,502	3.2
8	North American Coal Corp.	30,648	2.8
9	Westmoreland Coal Co.	29,030	2.6
10	TXU Corp.	23,952	2.2
11	Robert Murray	21,330	1.9
12	Alliance Coal, LLC	20,323	1.8
13	International Coal Group, Inc.	17,459	1.6
14	BHP Minerals Group	15,675	1.4
15	Alpha Natural Resources, LLC	13,891	1.2
16	Pittsburg & Midway Coal Mining Co.	10,290	0.9
17	PacifiCorp	8,953	0.8
18	Peter Kiewit/Kennecott	8,241	0.7
19	James River Coal Co.	7,853	0.7
20	Horizon Natural Resources, Inc.	7,349	0.7
21	Walter Industries, Inc.	6,876	0.6
22	Oxbow Carbon & Minerals, Inc.	6,551	0.6
23	Wexford Capital, LLC	6,300	0.6
24	Alcoa, Inc.	6,105	0.5
25	Transalta Centralia Mining, LLC	5,653	0.5
26	Andalex Resources, Inc	5,648	0.5
27	TECO Energy, Inc.	5,607	0.5
	Subtotal	**891,465**	**80.2**
	All Other Coal Producers	**220,634**	**19.8**
	U.S. Total	**1,112,099**	**100.0**

Note: • Major coal producers are companies that produced more than 5 million short tons in 2004. A controlling company of a mine is defined as the company "controlling the coal, particularly the sale of the coal." Most often, but not always, this is the owner of the mine.

Source: • COALdat, a product of RDI/Platts and U.S. Department of Labor, Mine Safety and Health Administration Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Productive Capacity

Table 11. Productive Capacity of Coal Mines by State, 2004, 2003

(Thousand Short Tons)

Coal-Producing State	2004			2003			Percent Change		
	Underground	Surface	Total	Underground	Surface	Total	Underground	Surface	Total
Alabama	17,377	7,784	25,161	16,143	6,269	22,413	7.6	24.2	12.3
Alaska	-	W	W	-	W	W	-	W	W
Arizona	-	W	W	-	W	W	-	W	W
Colorado	32,492	11,428	43,920	31,245	9,433	40,678	4.0	21.1	8.0
Illinois	29,487	6,180	35,667	31,455	7,371	38,826	-6.3	-16.2	-8.1
Indiana	11,638	27,226	38,864	11,622	32,543	44,165	0.1	-16.3	-12.0
Kansas	-	W	W	-	W	W	-	W	W
Kentucky Total	95,138	55,665	150,804	96,831	65,193[R]	162,025[R]	-1.7	-14.6	-6.9
Eastern	73,071	50,516	123,586	74,474	59,673[R]	134,147[R]	-1.9	-15.3	-7.9
Western	22,068	5,149	27,217	22,357	5,520	27,877	-1.3	-6.7	-2.4
Louisiana	-	W	W	-	W	W	-	W	W
Maryland	W	W	6,171	W	W	5,659	W	W	9.0
Mississippi	-	W	W	-	W	W	-	W	W
Missouri	-	W	W	-	W	W	-	W	W
Montana	W	W	50,384	W	W	53,734	W	W	-6.2
New Mexico	W	W	30,300	W	W	29,951	W	W	1.2
North Dakota	-	33,000	33,000	-	32,600	32,600	-	1.2	1.2
Ohio	15,216	12,879	28,095	13,811	15,683	29,494	10.2	-17.9	-4.7
Oklahoma	W	W	2,361	W	W	2,159	W	W	9.3
Pennsylvania Total	59,764	16,782	76,546	60,748	17,076[R]	77,824[R]	-1.6	-1.7	-1.6
Anthracite	276	2,592	2,868	279	2,415[R]	2,694[R]	-1.0	7.3	6.5
Bituminous	59,488	14,190	73,678	60,469	14,661	75,130	-1.6	-3.2	-1.9
Tennessee	1,755	3,520	5,276	1,096	3,069	4,164	60.2	14.7	26.7
Texas	-	47,005	47,005	-	49,621	49,621	-	-5.3	-5.3
Utah	28,304	-	28,304	W	W	29,611	W	-100.0	-4.4
Virginia	27,864	15,239	43,103	25,690	12,317	38,007	8.5	23.7	13.4
Washington	-	W	W	-	W	W	-	W	W
West Virginia Total	114,083	69,507	183,590	115,972	67,214	183,186	-1.6	3.4	0.2
Northern	37,767	5,121	42,889	38,246	5,492	43,738	-1.3	-6.7	-1.9
Southern	76,316	64,386	140,702	77,727	61,721	139,448	-1.8	4.3	0.9
Wyoming	W	W	448,798	-	432,484	432,484	W	W	3.8
U.S. Total	**445,712**	**862,801**	**1,308,513**	**445,950**	**862,582[R]**	**1,308,532[R]**	*	*	*

* = The unit of measure is less than 0.5 or percent change is less than 0.1%.

W = Withheld to avoid disclosure of individual company data.

[R] = Revised data.

Note: • Productive capacity is the maximum amount of coal that can be produced annually as reported by mining companies on Form EIA-7A. Excludes mines producing less than 10,000 short tons, which are not required to provide data and refuse recovery. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report."

Table 12. Capacity Utilization of Coal Mines by State, 2004, 2003

(Percent)

Coal-Producing State	2004			2003		
	Underground	Surface	Total	Underground	Surface	Total
Alabama	92.73	78.73	88.40	95.24	75.60	89.75
Alaska	-	W	W	-	W	W
Arizona	-	W	W	-	W	W
Colorado	91.12	89.80	90.78	86.98	91.74	88.08
Illinois	91.25	80.04	89.31	82.59	76.73	81.47
Indiana	86.71	91.89	90.34	74.29	82.07	80.03
Kansas	-	W	W	-	W	W
Kentucky Total	75.33	76.05	75.60	71.43	66.66[R]	69.51[R]
Eastern	71.64	75.78	73.34	69.84	65.55[R]	67.93[R]
Western	87.55	78.66	85.87	76.75	78.56	77.11
Louisiana	-	W	W	-	W	W
Maryland	W	W	84.20	W	W	89.10
Mississippi	-	W	W	-	W	W
Missouri	-	W	W	-	W	W
Montana	W	W	79.37	W	W	68.85
New Mexico	W	W	89.93	W	W	88.11
North Dakota	-	90.74	90.74	-	94.40	94.40
Ohio	93.79	69.20	82.52	92.88	58.48	74.59
Oklahoma	W	W	75.69	W	W	72.33
Pennsylvania Total	89.00	74.68	85.86	85.87	65.97[R]	81.50
Anthracite	87.13	52.40	55.74	86.57	36.78[R]	41.93[R]
Bituminous	89.01	78.75	87.03	85.87	70.78	82.92
Tennessee	46.81	58.24	54.44	58.39	61.97	61.03
Texas	-	97.57	97.57	-	95.76	95.76
Utah	76.83	-	76.83	W	W	77.91
Virginia	73.30	71.96	72.83	82.53	83.97	83.00
Washington	-	W	W	-	W	W
West Virginia Total	79.69	82.00	80.57	74.80	78.66	76.22
Northern	95.53	88.73	94.72	78.51	89.05	79.83
Southern	71.86	81.47	76.26	72.98	77.74	75.08
Wyoming	W	W	88.34	-	87.00	87.00
U.S. Total	**82.43**	**86.11**	**84.86**	**79.06**	**83.18[R]**	**81.78**

W = Withheld to avoid disclosure of individual company data.
[R] = Revised data.

Note: • Capacity utilization is the ratio of annual production to annual productive capacity. Excludes mines producing less than 10,000 short tons, which are not required to provide data and refuse recovery. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," for productive capacity, and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report," for annual production.

Table 13. Productive Capacity and Capacity Utilization of Underground Coal Mines by State and Mining Method, 2004

(Thousand Short Tons)

Coal-Producing State	Continuous		Conventional		Longwall		Other		Total	
	Productive Capacity	Capacity Utilization Percent	Productive Capacity	Capacity Utilization Percent	Productive Capacity	Capacity Utilization Percent	Productive Capacity	Capacity Utilization Percent	Productive Capacity	Capacity Utilization Percent
Alabama	W	W	-	-	W	W	-	-	17,377	92.73
Colorado	W	W	-	-	W	W	-	-	32,492	91.12
Illinois	W	W	-	-	W	W	-	-	29,487	91.25
Indiana	11,638	86.71	-	-	-	-	-	-	11,638	86.71
Kentucky Total	88,367	75.51	2,309	W	W	W	W	91.62	95,138	75.33
Eastern	W	W	W	W	W	W	W	91.62	73,071	71.64
Western	W	W	W	W	-	-	-	-	22,068	87.55
Maryland	W	W	-	-	W	W	-	-	W	W
Montana	W	W	-	-	-	-	-	-	W	W
New Mexico	-	-	-	-	W	W	-	-	W	W
Ohio	W	W	-	-	W	W	-	-	15,216	93.79
Oklahoma	W	W	-	-	-	-	-	-	W	W
Pennsylvania Total	W	86.00	1,129	W	47,388	90.30	W	W	59,764	89.00
Anthracite	W	W	W	W	-	-	W	W	276	87.13
Bituminous	W	W	W	W	47,388	90.30	-	-	59,488	89.01
Tennessee	1,755	46.81	-	-	-	-	-	-	1,755	46.81
Utah	2,015	57.76	-	-	26,289	78.29	-	-	28,304	76.83
Virginia	19,856	72.56	W	W	W	W	-	-	27,864	73.30
West Virginia Total	59,755	75.58	W	W	54,023	84.45	W	W	114,083	79.69
Northern	8,971	W	W	W	W	W	-	-	37,767	95.53
Southern	50,785	W	-	-	W	W	W	W	76,316	71.86
Wyoming	W	W	-	-	-	-	-	-	W	W
U.S. Total	**225,091**	**78.07**	**3,725**	**53.33**	**214,933**	**87.44**	**1,963**	**88.46**	**445,712**	**82.43**

W = Withheld to avoid disclosure of individual company data.

Note: • Productive capacity is the maximum amount of coal that can be produced annually. Capacity utilization is the ratio of total production to annual productive capacity. Excludes mines producing less than 10,000 short tons, which are not required to provide data and recovery operations. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," for productive capacity, and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report," for annual production.

Recoverable Reserves

Table 14. Recoverable Coal Reserves and Average Recovery Percentage at Producing Mines by State, 2004, 2003
(Million Short Tons)

Coal-Producing State	2004		2003		Percent Change Recoverable Coal Reserves
	Recoverable Coal Reserves	Average Recovery Percentage	Recoverable Coal Reserves	Average Recovery Percentage	
Alabama	341	58.76	308	56.16	10.9
Alaska	W	W	W	W	W
Arizona	W	W	W	W	W
Arkansas	-	-	-	-	-
Colorado	415	69.34	427	69.87	-2.9
Illinois	796	59.40	913	58.41	-12.8
Indiana	398	66.95	432	68.84	-7.7
Kansas	W	W	-	-	-
Kentucky Total	1,129	55.17	994	56.93	13.6
Eastern	823	56.14	639	59.38	28.8
Western	306	52.58	355	52.52	-13.8
Louisiana	W	W	W	W	W
Maryland	17	62.64	61	61.65	-72.7
Mississippi	W	W	W	W	W
Missouri	W	W	W	W	W
Montana	1,140	87.75	1,197	87.86	-4.8
New Mexico	1,304	91.31	1,351	91.21	-3.5
North Dakota	1,191	89.41	1,211	89.36	-1.7
Ohio	318	72.36	336	74.15	-5.4
Oklahoma	17	68.95	17	68.34	0.6
Pennsylvania Total	614	68.22	536	68.88[R]	14.5
Anthracite	22	52.73	25[R]	54.60[R]	-13.8
Bituminous	592	68.79	511	69.58	15.9
Tennessee	26	74.73	22	76.43	17.4
Texas	546	92.35	623	92.31	-12.3
Utah	317	58.57	331	57.64	-4.0
Virginia	250	56.95	226	58.40	10.4
Washington	W	W	W	W	W
West Virginia Total	1,518	60.63	1,497	59.93	1.5
Northern	375	60.03	418	61.14	-10.4
Southern	1,144	60.82	1,078	59.46	6.1
Wyoming	7,053	92.92	6,707	93.43	5.1
U.S. Total	**18,122**	**81.42**	**17,954[R]**	**81.65**	**0.9**

W = Withheld to avoid disclosure of individual company data.
[R] = Revised data.

Note: • Recoverable reserves represent the quantity of coal that can be recovered (i.e., mined) from existing coal reserves at reporting mines. Average recovery percentage represents the percentage of coal that can be recovered from coal reserves at reporting mines, weighted for all mines in the reported geographic area. Excludes mines producing less than 10,000 short tons, which are not required to provide data and refuse recovery. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 15. Recoverable Coal Reserves at Producing Mines, Estimated Recoverable Reserves, and Demonstrated Reserve Base by Mining Method, 2004

(Million Short Tons)

Coal-Resource State	Underground - Minable Coal			Surface - Minable Coal			Total		
	Recoverable Reserves at Producing Mines	Estimated Recoverable Reserves	Demonstrated Reserve Base	Recoverable Reserves at Producing Mines	Estimated Recoverable Reserves	Demonstrated Reserve Base	Recoverable Reserves at Producing Mines	Estimated Recoverable Reserves	Demonstrated Reserve Base
Alabama	308	521	1,034	33	2,285	3,208	341	2,806	4,242
Alaska	-	2,745	5,423	W	545	689	W	3,291	6,112
Arizona	-	-	-	W	5	7	W	5	7
Arkansas	-	127	272	-	101	144	-	228	417
Colorado	362	6,050	11,529	53	3,748	4,764	415	9,798	16,293
Georgia	-	1	2	-	1	2	-	2	4
Idaho	-	2	4	-	-	-	-	2	4
Illinois	760	27,944	87,972	36	10,075	16,557	796	38,019	104,529
Indiana	256	3,630	8,764	142	451	771	398	4,080	9,534
Iowa	-	807	1,732	-	320	457	-	1,127	2,189
Kansas	-	-	-	W	681	973	W	681	973
Kentucky Total	948	7,488	17,202	181	7,516	13,023	1,129	15,004	30,225
Eastern	669	716	1,282	154	5,244	9,389	823	5,960	10,671
Western	279	6,772	15,920	26	2,273	3,634	306	9,044	19,554
Louisiana	-	-	-	W	316	427	W	316	427
Maryland	W	320	584	W	46	67	17	366	652
Michigan	-	55	123	-	3	5	-	59	128
Mississippi	-	-	-	W	-	-	W	-	-
Missouri	-	689	1,479	W	3,158	4,511	W	3,847	5,990
Montana	W	35,922	70,958	W	39,067	48,322	1,140	74,989	119,280
New Mexico	W	2,848	6,171	W	4,086	6,001	1,304	6,934	12,172
North Carolina	-	5	11	-	-	-	-	5	11
North Dakota	-	-	-	1,191	6,935	9,090	1,191	6,935	9,090
Ohio	199	7,733	17,577	119	3,774	5,765	318	11,507	23,342
Oklahoma	W	574	1,232	W	227	325	17	801	1,557
Oregon	-	7	15	-	2	3	-	9	17
Pennsylvania Total	521	10,768	23,330	93	1,055	4,267	614	11,822	27,597
Anthracite	W	340	3,844	W	420	3,356	22	760	7,200
Bituminous	W	10,428	19,486	W	635	911	592	11,062	20,397
South Dakota	-	-	-	-	277	366	-	277	366
Tennessee	7	281	513	19	180	266	26	462	779
Texas	-	-	-	546	9,578	12,442	546	9,578	12,442
Utah	317	2,538	5,177	-	212	268	317	2,750	5,445
Virginia	200	653	1,163	50	369	576	250	1,022	1,740
Washington	-	674	1,332	W	7	8	W	681	1,341
West Virginia Total	1,136	15,673	29,366	382	2,431	3,854	1,518	18,104	33,220
Northern	351	NA	NA	24	NA	NA	375	NA	NA
Southern	785	NA	NA	358	NA	NA	1,144	NA	NA
Wyoming	W	22,950	42,501	W	18,853	21,824	7,053	41,804	64,325
U.S. Total	**5,339**	**151,007**	**335,468**	**12,783**	**116,305**	**158,982**	**18,122**	**267,312**	**494,450**

W = Withheld to avoid disclosure of individual company data.

NA = This estimated value is not available due to insufficient data or inadequate data/model performance.

Note: • Recoverable coal reserves at producing mines represent the quantity of coal that can be recovered (i.e. mined) from existing coal reserves at reporting mines. EIA's estimated recoverable reserves include the coal in the demonstrated reserve base considered recoverable after excluding coal estimated to be unavailable due to land use restrictions or currently economically unattractive for mining, and after applying assumed mining recovery rates; see Glossary for criteria. The effective date for the demonstrated reserve base, as customarily worded, is "Remaining as of January 1, 2005." These data are contemporaneous with the Recoverable reserves at Producing Mines, customarily presented as of the end of the past year's mining, that is in this case, December 31, 2004. The demonstrated reserve base includes publicly available data on coal mapped to measured and indicated degrees of accuracy and found at depths and in coalbed thicknesses considered technologically minable at the time of determinations; see Glossary for criteria. Excludes silt, culm, refuse bank, slurry dam, and dredge operations except for Pennsylvania anthracite. Excludes mines producing less than 10,000 short tons, which are not required to provide data and refuse recovery.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report," and EIA estimates.

Table 16. Recoverable Coal Reserves and Average Recovery Percentage at Producing Underground Coal Mines by State and Mining Method, 2004

(Million Short Tons)

Coal-Producing State	Continuous[1]		Conventional[2]		Longwall[3]		Other[4]		Total	
	Recoverable Coal Reserves at Producing Mines	Average Recovery Percentage	Recoverable Coal Reserves at Producing Mines	Average Recovery Percentage	Recoverable Coal Reserves at Producing Mines	Average Recovery Percentage	Recoverable Coal Reserves at Producing Mines	Average Recovery Percentage	Recoverable Coal Reserves at Producing Mines	Average Recovery Percentage
Alabama	W	W	-	-	W	W	-	-	308	55.64
Colorado	W	W	-	-	W	W	-	-	362	66.41
Illinois	W	W	-	-	W	W	-	-	760	58.50
Indiana	256	59.29	-	-	-	-	-	-	256	59.29
Kentucky Total	913	49.69	9	54.22	W	W	W	W	948	49.43
Eastern	W	W	W	W	W	W	W	W	669	49.66
Western	W	W	W	W	-	-	-	-	279	48.87
Maryland	W	W	-	-	W	W	-	-	W	W
Montana	W	W	-	-	-	-	-	-	W	W
New Mexico	-	-	-	-	W	W	-	-	W	W
Ohio	W	W	-	-	W	W	-	-	199	64.27
Oklahoma	W	W	-	-	-	-	-	-	W	W
Pennsylvania Total	W	W	15	70.35	405	66.30	W	W	521	66.29
Anthracite	W	W	W	W	-	-	W	W	W	W
Bituminous	W	W	W	W	405	66.30	-	-	W	W
Tennessee	7	50.00	-	-	-	-	-	-	7	50.00
Utah	42	78.07	-	-	275	55.57	-	-	317	58.57
Virginia	142	48.67	W	W	W	W	-	-	200	49.28
West Virginia Total	591	52.08	W	W	545	54.84	W	W	1,136	53.41
Northern	W	W	W	W	W	W	-	-	351	59.31
Southern	W	W	-	-	W	W	W	W	785	50.77
Wyoming	W	W	-	-	-	-	-	-	W	W
U.S. Total	**2,689**	**53.96**	**24**	**64.03**	**2,618**	**61.18**	**9**	**49.88**	**5,339**	**57.54**

[1] Mines that produce greater than 50 percent of their coal by continuous mining methods.

[2] Mines that produce greater than 50 percent of their coal by conventional mining methods.

[3] Mines that have any production from the longwall mining method. A typical longwall mining operation uses 80 percent longwall mining and 20 percent continuous mining.

[4] Mines that produce coal using shortwall, scoop loading, hand loading, or other mining methods or 50/50 percent continuous conventional split in mining method.

W = Withheld to avoid disclosure of individual company data.

Note: • Recoverable coal reserves at producing mines represent the quantity of coal that can be recovered (i.e. mined) from existing coal reserves at reporting mines. Average recovery percentage represents the percentage of coal that can be recovered from coal reserves at reporting mines, weighted for all mines in the reported geographic area. Excludes mines producing less than 10,000 short tons, which are not required to provide data and refuse recovery.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 17. Recoverable Coal Reserves and Average Recovery Percentage at Producing U.S. Mines by Mine Production Range and Mine Type, 2004

(Million Short Tons)

Mine Production Range (thousand short tons)	Underground		Surface		Total	
	Recoverable Coal Reserves	Average Recovery Percentage	Recoverable Coal Reserves	Average Recovery Percentage	Recoverable Coal Reserves	Average Recovery Percentage
Over 1,000	3,699	58.86	12,074	91.93	15,773	84.18
500 to 1,000	408	55.50	234	78.93	642	64.05
200 to 500	634	51.71	223	83.54	857	59.98
100 to 200	335	57.63	107	82.88	442	63.75
50 to 100	107	53.25	84	88.29	191	68.58
10 to 50	155	58.07	61	80.27	217	64.36
U.S. Total	**5,339**	**57.54**	**12,783**	**91.39**	**18,122**	**81.42**

Note: • Recoverable coal reserves at producing mines represent the quantity of coal that can be recovered (i.e. mined) from existing coal reserves at reporting mines. Average recovery percentage represents the percentage of coal that can be recovered from coal reserves at reporting mines, weighted for all mines in the reported geographic area. Excludes mines producing less than 10,000 short tons, which are not required to provide data and refuse recovery.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Employment

Table 18. Average Number of Employees by State and Mine Type, 2004, 2003

Coal-Producing State and Region[1]	2004			2003			Percent Change		
	Underground	Surface	Total	Underground	Surface	Total	Underground	Surface	Total
Alabama	2,649	984	3,633	2,615	800	3,415	1.3	23.0	6.4
Alaska	-	92	92	-	81	81	-	13.6	13.6
Arizona	-	598	598	-	661	661	-	-9.5	-9.5
Arkansas	9	3	12	19	3	22	-52.6	-	-45.5
Colorado	1,488	604	2,092	1,521	597	2,118	-2.2	1.2	-1.2
Illinois	3,188	385	3,573	3,188	467	3,655	-	-17.6	-2.2
Indiana	1,122	1,708	2,830	1,060	1,712	2,772	5.8	-0.2	2.1
Kansas	-	15	15	-	8	8	-	87.5	87.5
Kentucky Total	10,251	5,271	15,522	9,916	5,339[R]	15,255[R]	3.4	-1.3	1.8
Eastern	8,371	4,901	13,272	8,143	4,896[R]	13,039[R]	2.8	0.1	1.8
Western	1,880	370	2,250	1,773	443	2,216	6.0	-16.5	1.5
Louisiana	-	231	231	-	214	214	-	7.9	7.9
Maryland	264	233	497	229	222	451	15.3	5.0	10.2
Mississippi	-	211	211	-	195	195	-	8.2	8.2
Missouri	-	25	25	-	19	19	-	31.6	31.6
Montana	39	683	722	15	742	757	160.0	-8.0	-4.6
New Mexico	334	1,054	1,388	252	1,163	1,415	32.5	-9.4	-1.9
North Dakota	-	918	918	-	917	917	-	0.1	0.1
Ohio	1,312	1,198	2,510	1,203	1,203	2,406	9.1	-0.4	4.3
Oklahoma	44	132	176	36	111	147	22.2	18.9	19.7
Pennsylvania Total	5,003	2,521	7,524	4,607	2,313[R]	6,920[R]	8.6	9.0	8.7
Anthracite	230	660	890	243	571[R]	814[R]	-5.3	15.6	9.3
Bituminous	4,773	1,861	6,634	4,364	1,742	6,106	9.4	6.8	8.6
Tennessee	244	402	646	223	344	567	9.4	16.9	13.9
Texas	-	2,274	2,274	-	2,369	2,369	-	-4.0	-4.0
Utah	1,522	11	1,533	1,515	37	1,552	0.5	-70.3	-1.2
Virginia	3,374	1,468	4,842	3,350	1,370	4,720	0.7	7.2	2.6
Washington	-	581	581	-	577	577	-	0.7	0.7
West Virginia Total	11,136	5,267	16,403	10,374	4,531	14,905	7.3	16.2	10.1
Northern	3,805	458	4,263	3,440	474	3,914	10.6	-3.4	8.9
Southern	7,331	4,809	12,140	6,934	4,057	10,991	5.7	18.5	10.5
Wyoming	37	4,916	4,953	-	4,800	4,800	-	2.4	3.2
Appalachian Total	**32,353**	**16,974**	**49,327**	**30,744**	**15,679[R]**	**46,423[R]**	**5.2**	**8.3**	**6.3**
Northern	10,384	4,410	14,794	9,479	4,212[R]	13,691[R]	9.5	4.7	8.1
Central	19,320	11,580	30,900	18,650	10,667[R]	29,317[R]	3.6	8.6	5.4
Southern	2,649	984	3,633	2,615	800	3,415	1.3	23.0	6.4
Interior Total	**6,243**	**5,354**	**11,597**	**6,076**	**5,541**	**11,617**	**2.7**	**-3.4**	**-0.2**
Illinois Basin	6,190	2,463	8,653	6,021	2,622	8,643	2.8	-6.1	0.1
Western Total	**3,420**	**9,457**	**12,877**	**3,303**	**9,575**	**12,878**	**3.5**	**-1.2**	*****
Powder River Basin	-	4,771	4,771	-	4,741	4,741	-	0.6	0.6
Uinta Region	2,951	589	3,540	2,979	608	3,587	-0.9	-3.1	-1.3
East of Miss. River	**38,543**	**19,648**	**58,191**	**36,765**	**18,496[R]**	**55,261[R]**	**4.8**	**6.2**	**5.3**
West of Miss. River	**3,473**	**12,137**	**15,610**	**3,358**	**12,299**	**15,657**	**3.4**	**-1.3**	**-0.3**
U.S. Subtotal	**42,016**	**31,785**	**73,801**	**40,123**	**30,795[R]**	**70,918[R]**	**4.7**	**3.2**	**4.1**
Refuse Recovery	**-**	**-**	**111**	**-**	**-**	**105[R]**	**-**	**-**	**5.7**
U.S. Total	**42,016**	**31,785**	**73,912**	**40,123**	**30,795[R]**	**71,023**	**4.7**	**3.2**	**4.1**

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

* = The unit of measure is less than 0.5 or percent change is less than 0.1%.

[R] = Revised data.

Note: • Includes all employees engaged in production, preparation, processing, development, maintenance, repair shop, or yard work at mining operations, including office workers. Excludes preparation plants with less than 5,000 employee hours per year, which are not required to provide data.

Source: • U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 19. Average Number of Employees at Underground and Surface Mines by State and Mine Production Range, 2004

Coal-Producing State, Region[1], and Mine Type	Mine Production Range (thousand short tons)								Total Number of Employees
	1,000 and Greater	500 to 1,000	200 to 500	100 to 200	50 to 100	10 to 50	Less Than 10	Zero[2]	
Alabama	**2,525**	**194**	**244**	**286**	**145**	**97**	**32**	**110**	**3,633**
Underground	2,522	-	-	44	25	-	-	58	2,649
Surface	3	194	244	242	120	97	32	52	984
Alaska	**92**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**92**
Surface	92	-	-	-	-	-	-	-	92
Arizona	**562**	**-**	**-**	**-**	**-**	**-**	**-**	**36**	**598**
Surface	562	-	-	-	-	-	-	36	598
Arkansas	**-**	**-**	**-**	**-**	**-**	**-**	**12**	**-**	**12**
Underground	-	-	-	-	-	-	9	-	9
Surface	-	-	-	-	-	-	3	-	3
Colorado	**1,932**	**46**	**109**	**-**	**-**	**-**	**-**	**5**	**2,092**
Underground	1,354	46	83	-	-	-	-	5	1,488
Surface	578	-	26	-	-	-	-	-	604
Illinois	**3,198**	**223**	**-**	**-**	**24**	**22**	**-**	**106**	**3,573**
Underground	2,927	203	-	-	-	-	-	58	3,188
Surface	271	20	-	-	24	22	-	48	385
Indiana	**1,956**	**514**	**193**	**-**	**35**	**3**	**-**	**129**	**2,830**
Underground	773	269	49	-	-	-	-	31	1,122
Surface	1,183	245	144	-	35	3	-	98	1,708
Kansas	**-**	**-**	**-**	**-**	**15**	**-**	**-**	**-**	**15**
Surface	-	-	-	-	15	-	-	-	15
Kentucky Total	**3,747**	**2,749**	**3,089**	**1,519**	**1,125**	**1,072**	**421**	**1,800**	**15,522**
Underground	2,848	1,616	2,084	977	758	624	218	1,126	10,251
Surface	899	1,133	1,005	542	367	448	203	674	5,271
Eastern	**2,000**	**2,648**	**2,957**	**1,401**	**1,120**	**1,072**	**418**	**1,656**	**13,272**
Underground	1,174	1,616	2,029	916	758	624	218	1,036	8,371
Surface	826	1,032	928	485	362	448	200	620	4,901
Western	**1,747**	**101**	**132**	**118**	**5**	**-**	**3**	**144**	**2,250**
Underground	1,674	-	55	61	-	-	-	90	1,880
Surface	73	101	77	57	5	-	3	54	370
Louisiana	**198**	**33**	**-**	**-**	**-**	**-**	**-**	**-**	**231**
Surface	198	33	-	-	-	-	-	-	231
Maryland	**186**	**58**	**48**	**34**	**54**	**66**	**14**	**37**	**497**
Underground	186	-	-	20	22	-	-	36	264
Surface	-	58	48	14	32	66	14	1	233
Mississippi	**211**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**211**
Surface	211	-	-	-	-	-	-	-	211
Missouri	**-**	**-**	**10**	**15**	**-**	**-**	**-**	**-**	**25**
Surface	-	-	10	15	-	-	-	-	25
Montana	**671**	**-**	**12**	**39**	**-**	**-**	**-**	**-**	**722**
Underground	-	-	-	39	-	-	-	-	39
Surface	671	-	12	-	-	-	-	-	683
New Mexico	**1,233**	**-**	**-**	**-**	**-**	**-**	**-**	**155**	**1,388**
Underground	294	-	-	-	-	-	-	40	334
Surface	939	-	-	-	-	-	-	115	1,054
North Dakota	**918**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**918**
Surface	918	-	-	-	-	-	-	-	918
Ohio	**1,101**	**321**	**475**	**201**	**105**	**85**	**23**	**199**	**2,510**
Underground	1,101	1	87	30	-	-	-	93	1,312
Surface	-	320	388	171	105	85	23	106	1,198
Oklahoma	**-**	**-**	**139**	**20**	**15**	**-**	**2**	**-**	**176**
Underground	-	-	44	-	-	-	-	-	44
Surface	-	-	95	20	15	-	2	-	132
Pennsylvania Total	**3,523**	**670**	**913**	**496**	**267**	**541**	**251**	**863**	**7,524**
Underground	3,523	458	346	110	19	109	60	378	5,003
Surface	-	212	567	386	248	432	191	485	2,521
Anthracite	**-**	**-**	**51**	**116**	**42**	**181**	**122**	**378**	**890**
Underground	-	-	-	44	-	43	43	100	230
Surface	-	-	51	72	42	138	79	278	660
Bituminous	**3,523**	**670**	**862**	**380**	**225**	**360**	**129**	**485**	**6,634**
Underground	3,523	458	346	66	19	66	17	278	4,773
Surface	-	212	516	314	206	294	112	207	1,861
Tennessee	**-**	**89**	**101**	**138**	**138**	**111**	**8**	**61**	**646**
Underground	-	-	28	61	44	68	4	39	244
Surface	-	89	73	77	94	43	4	22	402
Texas	**2,243**	**-**	**-**	**-**	**-**	**31**	**-**	**-**	**2,274**
Surface	2,243	-	-	-	-	31	-	-	2,274
Utah	**1,067**	**119**	**209**	**44**	**-**	**-**	**-**	**94**	**1,533**
Underground	1,067	119	209	44	-	-	-	83	1,522

See footnotes at end of table.

Table 19. Average Number of Employees at Underground and Surface Mines by State and Mine Production Range, 2004 (Continued)

Coal-Producing State, Region [1], and Mine Type	Mine Production Range (thousand short tons)								Total Number of Employees
	1,000 and Greater	500 to 1,000	200 to 500	100 to 200	50 to 100	10 to 50	Less Than 10	Zero [2]	
Utah (continued)									
Surface	-	-	-	-	-	-	-	11	11
Virginia	**1,054**	**450**	**1,378**	**637**	**376**	**293**	**51**	**603**	**4,842**
Underground	785	258	887	517	263	199	13	452	3,374
Surface	269	192	491	120	113	94	38	151	1,468
Washington	**581**	-	-	-	-	-	-	-	**581**
Surface	581	-	-	-	-	-	-	-	581
West Virginia Total	**7,892**	**1,793**	**2,541**	**736**	**666**	**436**	**201**	**2,138**	**16,403**
Underground	5,493	1,070	1,747	555	499	239	99	1,434	11,136
Surface	2,399	723	794	181	167	197	102	704	5,267
Northern	**2,999**	**377**	**299**	**102**	**86**	**60**	**50**	**290**	**4,263**
Underground	2,810	322	279	93	50	21	34	196	3,805
Surface	189	55	20	9	36	39	16	94	458
Southern	**4,893**	**1,416**	**2,242**	**634**	**580**	**376**	**151**	**1,848**	**12,140**
Underground	2,683	748	1,468	462	449	218	65	1,238	7,331
Surface	2,210	668	774	172	131	158	86	610	4,809
Wyoming	**4,855**	**22**	**-**	**-**	**-**	**50**	**26**	**-**	**4,953**
Underground	-	-	-	-	-	37	-	-	37
Surface	4,855	22	-	-	-	13	26	-	4,916
Appalachian Total	**18,281**	**6,223**	**8,657**	**3,929**	**2,871**	**2,701**	**998**	**5,667**	**49,327**
Underground	14,784	3,403	5,124	2,253	1,630	1,239	394	3,526	32,353
Surface	3,497	2,820	3,533	1,676	1,241	1,462	604	2,141	16,974
Northern	**7,809**	**1,426**	**1,735**	**833**	**512**	**752**	**338**	**1,389**	**14,794**
Underground	7,620	781	712	253	91	130	94	703	10,384
Surface	189	645	1,023	580	421	622	244	686	4,410
Central	**7,947**	**4,603**	**6,678**	**2,810**	**2,214**	**1,852**	**628**	**4,168**	**30,900**
Underground	4,642	2,622	4,412	1,956	1,514	1,109	300	2,765	19,320
Surface	3,305	1,981	2,266	854	700	743	328	1,403	11,580
Southern	**2,525**	**194**	**244**	**286**	**145**	**97**	**32**	**110**	**3,633**
Underground	2,522	-	-	44	25	-	-	58	2,649
Surface	3	194	244	242	120	97	32	52	984
Interior Total	**9,553**	**871**	**474**	**153**	**94**	**56**	**17**	**379**	**11,597**
Underground	5,374	472	148	61	-	-	9	179	6,243
Surface	4,179	399	326	92	94	56	8	200	5,354
Illinois Basin	**6,901**	**838**	**325**	**118**	**64**	**25**	**3**	**379**	**8,653**
Underground	5,374	472	104	61	-	-	-	179	6,190
Surface	1,527	366	221	57	64	25	3	200	2,463
Western Total	**11,911**	**187**	**330**	**83**	**-**	**50**	**26**	**290**	**12,877**
Underground	2,715	165	292	83	-	37	-	128	3,420
Surface	9,196	22	38	-	-	13	26	162	9,457
Powder River Basin	**4,771**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**4,771**
Surface	4,771	-	-	-	-	-	-	-	4,771
Uinta Region	**2,999**	**165**	**233**	**44**	**-**	**-**	**-**	**99**	**3,540**
Underground	2,421	165	233	44	-	-	-	88	2,951
Surface	578	-	-	-	-	-	-	11	589
East of Miss. River	**25,393**	**7,061**	**8,982**	**4,047**	**2,935**	**2,726**	**1,001**	**6,046**	**58,191**
Underground	20,158	3,875	5,228	2,314	1,630	1,239	394	3,705	38,543
Surface	5,235	3,186	3,754	1,733	1,305	1,487	607	2,341	19,648
West of Miss. River	**14,352**	**220**	**479**	**118**	**30**	**81**	**40**	**290**	**15,610**
Underground	2,715	165	336	83	-	37	9	128	3,473
Surface	11,637	55	143	35	30	44	31	162	12,137
Subtotal	**39,745**	**7,281**	**9,461**	**4,165**	**2,965**	**2,807**	**1,041**	**6,336**	**73,801**
Underground	22,873	4,040	5,564	2,397	1,630	1,276	403	3,833	42,016
Surface	16,872	3,241	3,897	1,768	1,335	1,531	638	2,503	31,785
Refuse Recovery	**-**	**-**	**12**	**6**	**38**	**32**	**15**	**8**	**111**
U.S. Total	**39,745**	**7,281**	**9,473**	**4,171**	**3,003**	**2,839**	**1,056**	**6,344**	**73,912**

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

[2] Includes all employees at preparation plants and tipples not co-located with a mine.

Note: • Includes all employees engaged in production, preparation, processing, development, maintenance, repair shop, or yard work at mining operations, including office workers. Excludes preparation plants with less than 5,000 employee hours per year, which are not required to provide data.

Source: • U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 20. Average Number of Employees at Underground and Surface Mines by State and Union Status, 2004

Coal-Producing State and Region[1]	Union[2]		Nonunion[2]	
	Underground	Surface	Underground	Surface
Alabama	2,560	3	89	955
Alaska	-	92	-	-
Arizona	-	598	-	-
Colorado	163	291	1,325	313
Illinois	1,722	33	1,466	361
Indiana	21	265	1,101	1,449
Kansas	-	-	-	15
Kentucky Total	628	185	9,405	4,926
Eastern	107	164	8,046	4,574
Western	521	21	1,359	352
Louisiana	-	-	-	231
Maryland	-	-	264	219
Mississippi	-	-	-	211
Missouri	-	-	-	25
Montana	-	558	39	125
New Mexico	334	807	-	247
North Dakota	-	271	-	647
Ohio	438	100	874	1,075
Oklahoma	-	-	44	130
Pennsylvania Total	2,601	200	2,342	2,137
Anthracite	14	141	173	447
Bituminous	2,587	59	2,169	1,690
Tennessee	-	-	240	398
Texas	-	1,403	-	871
Utah	472	-	1,050	13
Virginia	584	87	2,777	1,355
Washington	-	581	-	-
West Virginia Total	4,498	936	6,539	4,240
Northern	2,510	-	1,261	442
Southern	1,988	936	5,278	3,798
Wyoming	37	588	-	4,302
Appalachian Total	**10,788**	**1,490**	**21,171**	**14,953**
Northern	5,549	300	4,741	3,873
Central	2,679	1,187	16,341	10,125
Southern	2,560	3	89	955
Interior Total	**2,264**	**1,722**	**3,970**	**3,645**
Illinois Basin	2,264	319	3,926	2,162
Western Total	**1,006**	**3,786**	**2,414**	**5,647**
Powder River Basin	-	546	-	4,225
Uinta Region	635	265	2,316	326
East of Miss. River	**13,052**	**1,809**	**25,097**	**17,326**
West of Miss. River	**1,006**	**5,189**	**2,458**	**6,919**
U.S. Total	**14,058**	**6,998**	**27,555**	**24,245**

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

[2] Includes all employees at preparation plants and tipples not co-located with a mine.

Note: • Includes all employees engaged in production, preparation, processing, development, maintenance, repair shop, or yard work at mining operations, including office workers. Excludes mines producing less than 10,000 short tons and preparation plants with less than 5,000 employee hours per year, which are not required to provide data.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Productivity

Table 21. Coal Mining Productivity by State and Mine Type, 2004, 2003

Coal-Producing State, Region[1], and Mine Type	Number of Mining Operations[2]			Number of Employees[3]			Average Production per Employee per Hour (short tons)[4]		
	2004	2003	Percent Change	2004	2003	Percent Change	2004	2003	Percent Change
Alabama	**58**	**50**	**16.0**	**3,633**	**3,415**	**6.4**	**2.70**	**2.66**	**1.3**
Underground	13	13	-	2,649	2,615	1.3	2.62	2.58	1.6
Surface	45	37	21.6	984	800	23.0	2.93	2.98	-1.8
Alaska	**1**	**1**	**-**	**92**	**81**	**13.6**	**7.27**	**6.08**	**19.4**
Surface	1	1	-	92	81	13.6	7.27	6.08	19.4
Arizona	**3**	**3**	**-**	**598**	**661**	**-9.5**	**8.03**	**8.16**	**-1.5**
Surface	3	3	-	598	661	-9.5	8.03	8.16	-1.5
Arkansas	**2**	**2**	**-**	**12**	**22**	**-45.5**	*****	*****	**59.3**
Underground	1	1	-	9	19	-52.6	*	*	58.2
Surface	1	1	-	3	3	-	1.55	1.08	43.3
Colorado	**15**	**13**	**15.4**	**2,092**	**2,118**	**-1.2**	**9.10**	**8.60**	**5.8**
Underground	9	9	-	1,488	1,521	-2.2	9.52	9.14	4.1
Surface	6	4	50.0	604	597	1.2	8.09	7.25	11.5
Illinois	**29**	**34**	**-14.7**	**3,573**	**3,655**	**-2.2**	**3.97**	**3.91**	**1.5**
Underground	17	21	-19.0	3,188	3,188	-	3.74	3.72	0.7
Surface	12	13	-7.7	385	467	-17.6	5.84	5.08	14.9
Indiana	**49**	**45**	**8.9**	**2,830**	**2,772**	**2.1**	**5.05**	**5.25**	**-3.8**
Underground	19	15	26.7	1,122	1,060	5.8	3.68	3.58	2.9
Surface	30	30	-	1,708	1,712	-0.2	5.95	6.19	-3.9
Kansas	**1**	**1**	**-**	**15**	**8**	**87.5**	**2.42**	**8.70**	**-72.2**
Surface	1	1	-	15	8	87.5	2.42	8.70	-72.2
Kentucky Total	**547**	**519**[R]	**5.4**	**15,522**	**15,255**[R]	**1.8**	**3.32**	**3.46**	**-4.1**
Underground	288	274	5.1	10,251	9,916	3.4	3.17	3.26	-2.7
Surface	259	245[R]	5.7	5,271	5,339[R]	-1.3	3.60	3.84[R]	-6.1
Eastern	**512**	**485**[R]	**5.6**	**13,272**	**13,039**[R]	**1.8**	**3.13**	**3.32**	**-5.8**
Underground	271	257	5.4	8,371	8,143	2.8	2.90	3.04	-4.6
Surface	241	228[R]	5.7	4,901	4,896[R]	0.1	3.50	3.78	-7.5
Western	**35**	**34**	**2.9**	**2,250**	**2,216**	**1.5**	**4.38**	**4.23**	**3.5**
Underground	17	17	-	1,880	1,773	6.0	4.27	4.19	1.8
Surface	18	17	5.9	370	443	-16.5	5.02	4.42	13.6
Louisiana	**2**	**2**	**-**	**231**	**214**	**7.9**	**7.74**	**8.78**	**-11.8**
Surface	2	2	-	231	214	7.9	7.74	8.78	-11.8
Maryland	**22**	**18**	**22.2**	**497**	**451**	**10.2**	**5.11**	**5.42**	**-5.7**
Underground	5	3	66.7	264	229	15.3	5.98	6.92	-13.6
Surface	17	15	13.3	233	222	5.0	4.06	3.84	5.6
Mississippi	**1**	**1**	**-**	**211**	**195**	**8.2**	**8.49**	**8.77**	**-3.2**
Surface	1	1	-	211	195	8.2	8.49	8.77	-3.2
Missouri	**3**	**2**	**50.0**	**25**	**19**	**31.6**	**11.10**	**12.57**	**-11.7**
Surface	3	2	50.0	25	19	31.6	11.10	12.57	-11.7
Montana	**6**	**7**	**-14.3**	**722**	**757**	**-4.6**	**25.72**	**24.10**	**6.7**
Underground	1	1	-	39	15	160.0	1.57	0.85	84.6
Surface	5	6	-16.7	683	742	-8.0	27.38	24.68	10.9
New Mexico	**5**	**7**	**-28.6**	**1,388**	**1,415**	**-1.9**	**9.74**	**9.10**	**7.0**
Underground	2	2	-	334	252	32.5	11.19	11.59	-3.4
Surface	3	5	-40.0	1,054	1,163	-9.4	9.27	8.57	8.1
North Dakota	**4**	**4**	**-**	**918**	**917**	**0.1**	**17.06**	**17.69**	**-3.6**
Surface	4	4	-	918	917	0.1	17.06	17.69	-3.6
Ohio	**73**	**71**	**2.8**	**2,510**	**2,406**	**4.3**	**3.78**	**3.90**	**-3.0**
Underground	19	16	18.8	1,312	1,203	9.1	4.53	4.50	0.6
Surface	54	55	-1.8	1,198	1,203	-0.4	2.99	3.28	-8.8
Oklahoma	**8**	**7**	**14.3**	**176**	**147**	**19.7**	**3.83**	**4.54**	**-15.6**
Underground	1	1	-	44	36	22.2	3.26	4.68	-30.4
Surface	7	6	16.7	132	111	18.9	4.04	4.50	-10.1
Pennsylvania Total	**346**	**324**[R]	**6.8**	**7,524**	**6,920**[R]	**8.7**	**3.99**	**4.18**	**-4.6**
Underground	94	91	3.3	5,003	4,607	8.6	4.72	4.96	-4.9
Surface	252	233[R]	8.2	2,521	2,313[R]	9.0	2.43	2.44	-0.6
Anthracite	**114**	**108**[R]	**5.6**	**890**	**814**[R]	**9.3**	**0.97**	**0.82**	**19.2**
Underground	37	38	-2.6	230	243	-5.3	0.67	0.70	-4.5
Surface	77	70[R]	10.0	660	571[R]	15.6	1.07	0.86	24.3
Bituminous	**232**	**216**	**7.4**	**6,634**	**6,106**	**8.6**	**4.34**	**4.56**	**-4.7**
Underground	57	53	7.5	4,773	4,364	9.4	4.87	5.13	-5.1
Surface	175	163	7.4	1,861	1,742	6.8	2.89	2.94	-1.8
Tennessee	**41**	**31**	**32.3**	**646**	**567**	**13.9**	**2.36**	**2.42**	**-2.5**
Underground	17	14	21.4	244	223	9.4	2.29	1.92	19.2
Surface	24	17	41.2	402	344	16.9	2.39	2.66	-10.2
Texas	**13**	**13**	**-**	**2,274**	**2,369**	**-4.0**	**9.34**	**9.50**	**-1.6**
Surface	13	13	-	2,274	2,369	-4.0	9.34	9.50	-1.6
Utah	**19**	**20**	**-5.0**	**1,533**	**1,552**	**-1.2**	**6.75**	**7.22**	**-6.6**
Underground	17	17	-	1,522	1,515	0.5	6.81	7.32	-7.1

See footnotes at end of table.

Table 21. Coal Mining Productivity by State and Mine Type, 2004, 2003 (Continued)

Coal-Producing State, Region [1], and Mine Type	Number of Mining Operations [2]			Number of Employees [3]			Average Production per Employee per Hour (short tons) [4]		
	2004	2003	Percent Change	2004	2003	Percent Change	2004	2003	Percent Change
Utah (continued)									
Surface	2	3	-33.3	11	37	-70.3	-	0.53	-100.0
Virginia	**171**	**170**	**0.6**	**4,842**	**4,720**	**2.6**	**2.95**	**3.17**	**-6.8**
Underground	104	105	-1.0	3,374	3,350	0.7	2.83	3.07	-7.8
Surface	67	65	3.1	1,468	1,370	7.2	3.22	3.41	-5.5
Washington	**1**	**1**	**-**	**581**	**577**	**0.7**	**4.30**	**4.92**	**-12.6**
Surface	1	1	-	581	577	0.7	4.30	4.92	-12.6
West Virginia Total	**376**	**367**	**2.5**	**16,403**	**14,905**	**10.1**	**4.03**	**4.16**	**-3.0**
Underground	214	220	-2.7	11,136	10,374	7.3	3.72	3.79	-1.8
Surface	162	147	10.2	5,267	4,531	16.2	4.65	4.95	-6.0
Northern	**69**	**77**	**-10.4**	**4,263**	**3,914**	**8.9**	**4.39**	**4.13**	**6.5**
Underground	36	41	-12.2	3,805	3,440	10.6	4.40	4.05	8.8
Surface	33	36	-8.3	458	474	-3.4	4.35	4.70	-7.5
Southern	**307**	**290**	**5.9**	**12,140**	**10,991**	**10.5**	**3.91**	**4.17**	**-6.2**
Underground	178	179	-0.6	7,331	6,934	5.7	3.38	3.67	-7.9
Surface	129	111	16.2	4,809	4,057	18.5	4.68	4.97	-5.9
Wyoming	**20**	**19**	**5.3**	**4,953**	**4,800**	**3.2**	**38.83**	**37.99**	**2.2**
Underground	1	-	-	37	-	-	2.87	-	-
Surface	19	19	-	4,916	4,800	2.4	38.88	37.99	2.4
Appalachian Total	**1,599**	**1,516**	**5.5**	**49,327**	**46,423**[R]	**6.3**	**3.56**	**3.71**	**-4.0**
Underground	737	719	2.5	32,353	30,744	5.2	3.53	3.64	-3.1
Surface	862	797	8.2	16,974	15,679[R]	8.3	3.61	3.83[R]	-5.8
Northern	**510**	**490**[R]	**4.1**	**14,794**	**13,691**[R]	**8.1**	**4.10**	**4.15**	**-1.3**
Underground	154	151	2.0	10,384	9,479	9.5	4.61	4.62	-0.3
Surface	356	339[R]	5.0	4,410	4,212[R]	4.7	2.89	3.04	-5.0
Central	**1,031**	**976**[R]	**5.6**	**30,900**	**29,317**[R]	**5.4**	**3.40**	**3.62**	**-6.0**
Underground	570	555	2.7	19,320	18,650	3.6	3.07	3.28	-6.4
Surface	461	421[R]	9.5	11,580	10,667[R]	8.6	3.93	4.18	-6.1
Southern	**58**	**50**	**16.0**	**3,633**	**3,415**	**6.4**	**2.70**	**2.66**	**1.3**
Underground	13	13	-	2,649	2,615	1.3	2.62	2.58	1.6
Surface	45	37	21.6	984	800	23.0	2.93	2.98	-1.8
Interior Total	**143**	**141**	**1.4**	**11,597**	**11,617**	**-0.2**	**5.47**	**5.56**	**-1.7**
Underground	55	55	-	6,243	6,076	2.7	3.88	3.83	1.4
Surface	88	86	2.3	5,354	5,541	-3.4	7.37	7.43	-0.8
Illinois Basin	**113**	**113**	**-**	**8,653**	**8,643**	**0.1**	**4.45**	**4.44**	*****
Underground	53	53	-	6,190	6,021	2.8	3.90	3.84	1.6
Surface	60	60	-	2,463	2,622	-6.1	5.80	5.73	1.4
Western Total	**74**	**75**	**-1.3**	**12,877**	**12,878**	*****	**21.28**	**20.82**	**2.2**
Underground	30	29	3.4	3,420	3,303	3.5	8.33	8.42	-1.1
Surface	44	46	-4.3	9,457	9,575	-1.2	25.90	25.01	3.6
Powder River Basin	**17**	**19**	**-10.5**	**4,771**	**4,741**	**0.6**	**42.09**	**40.62**	**3.6**
Underground	-	-	-	-	-	-	-	-	-
Surface	17	19	-10.5	4,771	4,741	0.6	42.09	40.62	3.6
Uinta Region	**32**	**31**	**3.2**	**3,540**	**3,587**	**-1.3**	**8.19**	**8.09**	**1.3**
Underground	25	25	-	2,951	2,979	-0.9	8.24	8.31	-0.8
Surface	7	6	16.7	589	608	-3.1	7.93	6.97	13.9
East of Miss. River	**1,713**	**1,630**	**5.1**	**58,191**	**55,261**[R]	**5.3**	**3.71**	**3.84**	**-3.4**
Underground	790	772	2.3	38,543	36,765	4.8	3.59	3.68	-2.2
Surface	923	858	7.6	19,648	18,496[R]	6.2	3.94	4.17	-5.5
West of Miss. River	**103**	**102**	**1.0**	**15,610**	**15,657**	**-0.3**	**19.01**	**18.67**	**1.8**
Underground	32	31	3.2	3,473	3,358	3.4	8.22	8.33	-1.3
Surface	71	71	-	12,137	12,299	-1.3	22.05	21.42	2.9
Subtotal	**1,816**	**1,732**	**4.8**	**73,801**	**70,918**[R]	**4.1**	**6.80**	**6.95**	**-2.1**
Underground	822	803	2.4	42,016	40,123	4.7	3.96	4.04	-2.0
Surface	994	929	7.0	31,785	30,795[R]	3.2	10.57	10.76	-1.8
Refuse Recovery	**26**	**25**	**4.0**	**111**	**105**[R]	**5.7**	**5.73**	**5.07**[R]	**13.1**
U.S. Total	**1,842**	**1,757**	**4.8**	**73,912**	**71,023**	**4.1**	**6.80**	**6.95**	**-2.1**

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

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

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

* = The unit of measure is less than 0.5 or percent change is less than 0.1%.

[R] = Revised data.

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

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 22. Underground Coal Mining Productivity by State and Mining Method, 2004

(Short Tons Produced per Employee per Hour)

Coal-Producing State and Region[1]	Continuous[2]	Conventional[3]	Longwall[4]	Other[5]	Total
Alabama	1.21	-	2.66	-	2.63
Colorado	7.77	-	10.02	-	9.52
Illinois	3.81	-	3.64	-	3.74
Indiana	3.77	-	-	-	3.77
Kentucky Total	3.22	2.39	4.36	2.22	3.19
Eastern	2.91	2.41	4.36	2.22	2.91
Western	4.35	2.25	-	-	4.32
Maryland	2.72	-	6.46	-	5.98
Montana	1.57	-	-	-	1.57
New Mexico	-	-	11.19	-	11.19
Ohio	3.88	-	4.85	-	4.54
Oklahoma	3.26	-	-	-	3.26
Pennsylvania Total	4.13	2.04	5.03	0.85	4.74
Anthracite	0.70	*	-	0.85	0.66
Bituminous	4.60	2.40	5.03	-	4.88
Tennessee	2.30	-	-	-	2.30
Utah	3.39	-	7.22	-	6.81
Virginia	2.55	7.43	4.07	-	2.87
West Virginia Total	3.18	2.09	4.55	1.53	3.74
Northern	3.22	2.09	4.96	-	4.43
Southern	3.17	-	4.01	1.53	3.39
Wyoming	2.87	-	-	-	2.87
Appalachian Total	**3.04**	**2.32**	**4.33**	**2.15**	**3.55**
Northern	3.69	2.04	5.03	0.85	4.63
Central	2.94	2.59	4.05	2.18	3.09
Southern	1.21	-	2.66	-	2.63
Interior Total	**3.12**	**1.36**	**3.64**	**-**	**3.19**
Illinois Basin	4.00	2.25	3.64	-	3.93
Western Total	**5.88**	**-**	**8.81**	**-**	**8.33**
Powder River Basin	-	-	-	-	-
Uinta Region	6.76	-	8.50	-	8.24
East of Miss. River	**3.26**	**2.31**	**4.27**	**2.15**	**3.61**
West of Miss. River	**5.62**	**-**	**8.81**	**-**	**8.25**
U.S. Total	**3.31**	**2.31**	**4.99**	**2.15**	**3.98**

[1] For a definition of coal producing regions, see Glossary.
[2] Mines that produce greater than 50 percent of their coal by continuous mining methods.
[3] Mines that produce greater than 50 percent of their coal by conventional mining methods.
[4] Mines that have any production from longwall mining method. A typical longwall mining operation uses 80 percent longwall mining and 20 percent continuous mining.
[5] Mines that produce coal using shortwall, scoop loading, hand loading, or other mining methods, or a 50/50 percent conventional/conventional split in mining method.
* = The unit of measure is less than 0.5 or percent change is less than 0.1%.

Note: • For each State, stand alone preparation plant hours are distributed across mining methods by the proportion of production for all stand alone mines. Productivity is calculated by dividing total coal production by the total direct labor hours worked by all employees engaged in production, preparation, processing, development, maintenance, repair shop, or yard work at mining operations, including office workers. Excludes mines producing less than 10,000 short tons of coal and preparation plants with less than 5,000 employee hours during the year, which are not required to provide data.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 23. Coal Mining Productivity by State, Mine Type, and Mine Production Range, 2004

(Short Tons Coal Produced per Employee per Hour)

Coal-Producing State, Region[1], and Mine Type	Mine Production Range							Total[2]
	1,000 and Greater	500 to 1,000	200 to 500	100 to 200	50 to 100	10 to 50	Less Than 10	
Alabama	**2.70**	**3.50**	**3.36**	**2.37**	**2.51**	**3.03**	*****	**2.70**
Underground	2.70	-	-	1.07	1.63	-	-	2.62
Surface	-	3.50	3.36	2.60	2.71	3.03	*	2.93
Alaska	**7.27**	**-**	**-**	**-**	**-**	**-**	**-**	**7.27**
Surface	7.27	-	-	-	-	-	-	7.27
Arizona	**8.40**	**-**	**-**	**-**	**-**	**-**	**-**	**8.03**
Surface	8.40	-	-	-	-	-	-	8.03
Arkansas	-	-	-	-	-	-	*****	*****
Underground	-	-	-	-	-	-	*	*
Surface	-	-	-	-	-	-	1.55	1.55
Colorado	**9.45**	**6.26**	**4.83**	**-**	**-**	**-**	**-**	**9.10**
Underground	10.02	6.26	4.03	-	-	-	-	9.52
Surface	8.11	-	7.62	-	-	-	-	8.09
Illinois	**4.08**	**4.01**	**-**	**-**	**6.13**	**1.86**	**-**	**3.97**
Underground	3.85	3.37	-	-	-	-	-	3.74
Surface	6.51	10.58	-	-	6.13	1.86	-	5.84
Indiana	**5.26**	**5.21**	**5.45**	**-**	**3.63**	**14.48**	**-**	**5.05**
Underground	3.55	4.56	3.86	-	-	-	-	3.68
Surface	6.37	5.87	5.98	-	3.63	14.48	-	5.95
Kansas	**-**	**-**	**-**	**-**	**2.42**	**-**	**-**	**2.42**
Surface	-	-	-	-	2.42	-	-	2.42
Kentucky Total	**4.45**	**4.21**	**3.52**	**2.82**	**2.49**	**2.36**	*****	**3.32**
Underground	4.28	3.91	3.22	2.77	2.34	2.09	*	3.17
Surface	4.97	4.63	4.12	2.91	2.78	2.66	*	3.60
Eastern	**4.26**	**4.16**	**3.51**	**2.74**	**2.47**	**2.36**	*****	**3.13**
Underground	3.86	3.91	3.25	2.74	2.34	2.09	*	2.90
Surface	4.81	4.53	4.05	2.74	2.73	2.66	*	3.50
Western	**4.69**	**5.71**	**3.70**	**3.95**	**5.92**	**-**	*****	**4.38**
Underground	4.59	-	1.77	3.22	-	-	-	4.27
Surface	6.89	5.71	4.99	4.72	5.92	-	*	5.02
Louisiana	**7.66**	**8.28**	**-**	**-**	**-**	**-**	**-**	**7.74**
Surface	7.66	8.28	-	-	-	-	-	7.74
Maryland	**7.54**	**6.00**	**4.54**	**4.75**	**2.84**	**1.30**	*****	**5.11**
Underground	7.54	-	-	3.41	2.80	-	-	5.98
Surface	-	6.00	4.54	6.73	2.85	1.30	1.38	4.06
Mississippi	**8.49**	**-**	**-**	**-**	**-**	**-**	**-**	**8.49**
Surface	8.49	-	-	-	-	-	-	8.49
Missouri	**-**	**-**	**10.88**	**11.28**	**-**	**-**	**-**	**11.10**
Surface	-	-	10.88	11.28	-	-	-	11.10
Montana	**27.56**	**-**	**16.45**	**1.57**	**-**	**-**	**-**	**25.72**
Underground	-	-	-	1.57	-	-	-	1.57
Surface	27.56	-	16.45	-	-	-	-	27.38
New Mexico	**10.85**	**-**	**-**	**-**	**-**	**-**	**-**	**9.74**
Underground	12.56	-	-	-	-	-	-	11.19
Surface	10.30	-	-	-	-	-	-	9.27
North Dakota	**17.06**	**-**	**-**	**-**	**-**	**-**	**-**	**17.06**
Surface	17.06	-	-	-	-	-	-	17.06
Ohio	**4.93**	**3.97**	**3.90**	**2.37**	**1.15**	**1.85**	*****	**3.78**
Underground	4.93	-	4.70	1.51	-	-	-	4.53
Surface	-	3.99	3.74	2.52	1.15	1.85	*	2.99
Oklahoma	**-**	**-**	**3.79**	**4.00**	**4.89**	**-**	**0.77**	**3.83**
Underground	-	-	3.26	-	-	-	-	3.26
Surface	-	-	4.04	4.00	4.89	-	0.77	4.04
Pennsylvania Total	**5.21**	**4.34**	**4.26**	**2.69**	**2.67**	**2.49**	*****	**3.99**
Underground	5.21	5.23	5.33	1.89	3.85	1.04	*	4.72
Surface	-	2.63	3.66	2.90	2.64	2.77	*	2.43
Anthracite	**-**	**-**	**2.38**	**1.83**	**2.06**	**1.98**	*****	**0.97**
Underground	-	-	-	1.63	-	0.95	*	0.67
Surface	-	-	2.38	1.96	2.06	2.28	*	1.07
Bituminous	**5.21**	**4.34**	**4.37**	**2.93**	**2.79**	**2.81**	*****	**4.34**
Underground	5.21	5.23	5.33	2.07	3.85	1.14	*	4.87
Surface	-	2.63	3.77	3.08	2.76	3.06	*	2.89
Tennessee	**-**	**2.51**	**2.82**	**3.11**	**2.12**	**2.44**	*****	**2.36**
Underground	-	-	3.63	3.22	2.81	2.11	*	2.29
Surface	-	2.51	2.56	3.04	1.87	2.83	*	2.39
Texas	**9.45**	**-**	**-**	**-**	**-**	**0.65**	**-**	**9.34**
Surface	9.45	-	-	-	-	0.65	-	9.34
Utah	**8.45**	**3.28**	**3.76**	**2.69**	**-**	**-**	**-**	**6.75**
Underground	8.45	3.28	3.76	2.69	-	-	-	6.81

See footnotes at end of table.

Table 23. Coal Mining Productivity by State, Mine Type, and Mine Production Range, 2004 (Continued)
(Short Tons Coal Produced per Employee per Hour)

Coal-Producing State, Region [1], and Mine Type	Mine Production Range							Total [2]
	1,000 and Greater	500 to 1,000	200 to 500	100 to 200	50 to 100	10 to 50	Less Than 10	
Utah (continued)								
Surface	-	-	-	-	-	-	-	-
Virginia	**4.12**	**3.88**	**3.36**	**2.67**	**2.36**	**1.85**	*	**2.95**
Underground	4.13	3.74	3.21	2.62	2.46	1.50	*	2.83
Surface	4.10	4.05	3.60	2.88	2.16	2.69	*	3.22
Washington	**4.30**	-	-	-	-	-	-	**4.30**
Surface	4.30	-	-	-	-	-	-	4.30
West Virginia Total	**5.14**	**4.54**	**3.91**	**3.08**	**2.76**	**2.25**	*	**4.03**
Underground	4.76	3.84	3.78	2.85	2.61	2.19	*	3.72
Surface	5.96	5.46	4.20	3.76	3.32	2.31	*	4.65
Northern	**4.96**	**3.83**	**4.30**	**3.93**	**2.76**	**2.28**	*	**4.39**
Underground	4.89	3.14	4.26	3.66	2.36	*	*	4.40
Surface	5.88	7.01	4.70	5.81	3.05	3.29	*	4.35
Southern	**5.25**	**4.69**	**3.87**	**2.94**	**2.76**	**2.25**	*	**3.91**
Underground	4.63	4.07	3.70	2.69	2.63	2.49	*	3.38
Surface	5.97	5.34	4.19	3.60	3.49	2.00	*	4.68
Wyoming	**39.28**	**18.08**	-	-	-	**1.46**	*	**38.83**
Underground	-	-	-	-	-	2.87	-	2.87
Surface	39.28	18.08	-	-	-	0.64	*	38.88
Appalachian Total	**4.67**	**4.23**	**3.70**	**2.76**	**2.46**	**2.28**	*	**3.56**
Underground	4.45	4.05	3.58	2.65	2.44	1.87	*	3.53
Surface	5.53	4.43	3.84	2.88	2.48	2.55	*	3.61
Northern	**5.13**	**4.20**	**4.16**	**2.81**	**2.31**	**2.30**	*	**4.10**
Underground	5.11	4.44	4.87	2.54	2.68	0.93	*	4.61
Surface	5.88	3.96	3.75	2.91	2.27	2.54	*	2.89
Central	**4.84**	**4.26**	**3.59**	**2.79**	**2.50**	**2.24**	*	**3.40**
Underground	4.34	3.94	3.39	2.71	2.45	2.02	*	3.07
Surface	5.51	4.67	3.94	2.94	2.59	2.53	*	3.93
Southern	**2.70**	**3.50**	**3.36**	**2.37**	**2.51**	**3.03**	*	**2.70**
Underground	2.70	-	-	1.07	1.63	-	-	2.62
Surface	-	3.50	3.36	2.60	2.71	3.03	*	2.93
Interior Total	**5.79**	**5.04**	**4.57**	**4.73**	**4.54**	**1.39**	*	**5.47**
Underground	4.04	4.01	2.97	3.22	-	-	*	3.88
Surface	8.10	6.26	5.26	5.68	4.54	1.39	*	7.37
Illinois Basin	**4.60**	**4.93**	**4.78**	**3.95**	**5.16**	**4.05**	*	**4.45**
Underground	4.04	4.01	2.82	3.22	-	-	-	3.90
Surface	6.41	6.10	5.65	4.72	5.16	4.05	*	5.80
Western Total	**22.69**	**5.91**	**4.54**	**2.07**	-	**1.46**	*	**21.28**
Underground	9.67	4.07	3.84	2.07	-	2.87	-	8.33
Surface	26.49	18.08	10.27	-	-	0.64	*	25.90
Powder River Basin	**42.09**	-	-	-	-	-	-	**42.09**
Surface	42.09	-	-	-	-	-	-	42.09
Uinta Region	**9.09**	**4.07**	**3.94**	**2.69**	-	-	-	**8.19**
Underground	9.33	4.07	3.94	2.69	-	-	-	8.24
Surface	8.11	-	-	-	-	-	-	7.93
East of Miss. River	**4.68**	**4.30**	**3.73**	**2.79**	**2.50**	**2.29**	*	**3.71**
Underground	4.34	4.04	3.57	2.67	2.44	1.87	*	3.59
Surface	5.88	4.59	3.95	2.93	2.57	2.57	*	3.94
West of Miss. River	**20.36**	**6.23**	**4.41**	**3.45**	**3.64**	**0.97**	*	**19.01**
Underground	9.67	4.07	3.74	2.07	-	2.87	*	8.22
Surface	22.82	12.75	5.77	7.10	3.64	0.65	*	22.05
Subtotal	**9.90**	**4.35**	**3.77**	**2.81**	**2.52**	**2.25**	*	**6.80**
Underground	4.91	4.04	3.58	2.64	2.44	1.88	*	3.96
Surface	16.90	4.71	4.02	3.00	2.60	2.49	*	10.57
Refuse Recovery	-	-	**7.90**	**12.70**	**6.21**	**4.21**	**0.57**	**5.73**
U.S. Total	**9.90**	**4.35**	**3.77**	**2.82**	**2.56**	**2.28**	*	**6.80**

[1] For a definition of coal producing regions, see Glossary.
[2] Includes all employees at preparation plants and tipples not co-located with a mine.
* = The unit of measure is less than 0.5 or percent change is less than 0.1%.

Note: • Productivity is calculated by dividing total coal production by the total labor hours worked by all employees engaged in production, preparation, processing, development, maintenance, repair shop, or yard work at mining operations, including office workers. Excludes preparation plants with less than 5,000 employee hours during the year, which are not required to provide data.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 24. Coal Mining Productivity by State, Mine Type, and Union Status, 2004

(Short Tons Produced per Employee per Hour)

Coal-Producing State and Region[1]	Union		Nonunion	
	Underground	Surface	Underground	Surface
Alabama	2.67	-	1.04	2.96
Alaska	-	7.27	-	-
Arizona	-	8.03	-	-
Colorado	7.83	6.15	9.71	9.89
Illinois	3.73	-	3.76	6.39
Indiana	-	4.66	3.74	6.09
Kansas	-	-	-	2.42
Kentucky Total	3.05	3.50	3.20	3.63
Eastern	0.58	3.86	2.95	3.51
Western	3.55	-	4.52	5.26
Louisiana	-	-	-	7.74
Maryland	-	-	5.98	4.15
Mississippi	-	-	-	8.49
Missouri	-	-	-	11.10
Montana	-	23.22	1.57	46.58
New Mexico	11.19	8.62	-	11.31
North Dakota	-	14.82	-	17.92
Ohio	3.63	3.36	5.12	2.97
Oklahoma	-	-	3.26	4.11
Pennsylvania Total	3.80	1.18	5.79	2.64
Anthracite	-	0.68	0.72	1.29
Bituminous	3.80	2.31	6.13	2.97
Tennessee	-	-	2.30	2.39
Texas	-	9.63	-	8.85
Utah	4.21	-	7.85	-
Virginia	2.26	3.66	2.96	3.20
Washington	-	4.30	-	-
West Virginia Total	3.93	3.97	3.59	4.82
Northern	4.96	-	3.17	4.41
Southern	2.69	3.97	3.68	4.87
Wyoming	2.87	8.74	-	42.96
Appalachian Total	**3.46**	**3.52**	**3.59**	**3.65**
Northern	4.30	1.91	5.04	3.02
Central	2.52	3.94	3.18	3.95
Southern	2.67	-	1.04	2.96
Interior Total	**3.66**	**8.76**	**4.01**	**6.78**
Illinois Basin	3.66	3.72	4.02	6.02
Western Total	**7.28**	**10.12**	**8.73**	**36.99**
Powder River Basin	-	23.36	-	44.58
Uinta Region	5.16	6.00	9.02	9.50
East of Miss. River	**3.49**	**3.55**	**3.66**	**4.02**
West of Miss. River	**7.28**	**9.98**	**8.60**	**31.57**
U.S. Total	**3.72**	**8.35**	**4.09**	**11.28**

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

Note: • Productivity is calculated by dividing total coal production by the total direct labor hours worked by all employees engaged in production, preparation, processing, development, maintenance, repair shop, or yard work at mining operations, including office workers. Excludes mines producing less than 10,000 short tons of coal and preparation plants with less than 5,000 employee hours during the year, which are not required to provide data.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Domestic Markets

Table 25. Coal Consumers in the Manufacturing and Coke Sectors, 2004

Company Name	Plant Location
Top Ten Manufacturers	
Alcoa Inc (Aluminum Company of America)	(IN)(TX)
Archer Daniels Midland	(IA)(IL)(MN)(ND)
Dakota Coal Company	(ND)
Dakota Gasification Company	(ND)
Eastman Chemical Company	(AR)(NY)(SC)(TN)
Eastman Kodak Company	(AR)(NY)(SC)(TN)
Georgia-Pacific Corp	(AL)(GA)(OK)(VA)(WI)
International Paper Co	(AL)(FL)(GA)(IN)(LA)(MI)(MN)(NC)(SC)(VA)(WI)
Lafarge North America	(AL)(GA)(IA)(IL)(KS)(MI)(MO)(NY)(OK)(PA)(SC)(WA)
Mead Westvaco Corporation	(MD)(MI)(OH)(SC)(VA)
Other Major Manufacturers	
Abitibi Consolidated Sales Corp	(AZ)
Aluminum Co of America	(IN)(TX)
Amalgamated Sugar Co, LLC	(ID)
American Crystal Sugar Co	(MN)(ND)
Ash Grove Cement Co	(AR)(KS)(MT)(NE)(UT)
Blue Ridge Paper Prod Inc	(NC)
Bowater Newsprint	(AL)(TN)
California Portland Cement Co	(AZ)(CA)
Cargill Incorporated	(AL)(GA)(IA)(MI)(NC)(NY)(OH)(TN)
Carmeuse North American Group	(AL)(IL)(IN)(KY)(MI)(OH)(PA)
Celanese Ltd	(TX)
Cemex, Inc	(AL)(CO)(GA)(KY)(MI)(OH)(PA)(TN)(TX)
Central Power & Lime Inc	(FL)
Cinergy Solutions	(VA)
Corn Products International	(IL)(NC)
E I DuPont DE Nemours & Co	(DE)(MS)(NC)(SC)(TN)(WV)
ESSROC Materials Inc	(IN)(MD)(PA)
FMC Corporation	(WY)
General Chemical Corporation	(WY)
Holcim Inc	(AL)(CO)(IA)(MI)(MS)(SC)(UT)
IMC Chemical Co	(CA)
Ispat US Holdings BV	(IN)
Kennecott Utah Copper	(UT)
Lehigh Cement Co	(AL)(IA)(IN)(MD)(PA)
PPG Industries Inc	(WV)
Silver Bay Power Company	(MN)
Smurfit Stone Container Corp	(FL)(MI)(SC)(VA)
Stora Enso North America	(WI)
TXI Operations, LP	(TX)
Weyerhaeuser Inc	(AL)(NC)(PA)(WA)
Top Ten Coke Producers	
AK Steel Corp	(KY)(OH)
Bethlehem Steel Corp	(IN)
DTE Energy Services	(IN)(MI)
Drummond Company Inc	(AL)
Indiana Harbor Coke Co LP	(IN)
Jewell Coke Company LP	(VA)
National Steel Corp	(IL)(MI)
U S Steel Mining Company LLC	(IN)(PA)
United States Steel Corporation	(IL)(IN)(PA)
Wheeling-Pittsburgh Steel Corp	(WV)

Note: • Major manufactures are the top 40 coal consumers in the manufacturing sector. Major coke producers are the top 10 coal consumers in the coke plant sector. Manufacturers and coke producers are listed in alphabetical order.

Source: • Energy Information Administration, Manufacturers: Form EIA-3, "Quarterly Coal Consumption Report, Manufacturing Plants;" and, Coke Plants: Form EIA-5, "Coke Plant Report - Quarterly."

Table 26. U.S. Coal Consumption by End Use Sector, by Census Division and State, 2004, 2003

(Thousand Short Tons)

Census Division and State	2004				2003				Total		
	Electric Power[1]	Other Industrial	Coke	Residential and Commercial	Electric Power [1]	Other Industrial	Coke	Residential and Commercial	2004	2003	Percent Change
New England	**8,316**	**171**	**-**	**65**	**8,200**	**176**	**-**	**65**	**8,552**	**8,440**	**1.3**
Connecticut	2,132	-	-	W	2,051	-	-	W	W	W	3.9
Maine	168	W	-	W	164	W	-	W	286	285	0.5
Massachusetts	4,357	W	-	W	4,390	W	-	W	4,463	4,498	-0.8
New Hampshire	1,660	-	-	W	1,595	-	-	W	W	W	4.0
Rhode Island	-	-	-	W	-	-	-	W	W	W	-
Vermont	-	-	-	W	-	-	-	W	W	W	-
Middle Atlantic	**65,829**	**W**	**W**	**W**	**64,752**	**W**	**W**	**W**	**78,275**	**77,496**	**1.0**
New Jersey	4,429	W	-	W	4,180	W	-	W	4,440	4,191	5.9
New York	9,702	1,165	W	84	9,646	1,100	W	84	W	W	1.1
Pennsylvania	51,698	3,100	W	700	50,926	3,046	W	700	W	W	0.7
East North Central	**228,619**	**14,948**	**11,322**	**1,013**	**224,317**	**14,401**	**11,410**	**1,013**	**255,902**	**251,141**	**1.9**
Illinois	54,078	3,503	W	266	50,180	3,444	W	266	W	W	7.2
Indiana	59,459	5,766	7,989	357	58,493	5,298	8,008	357	73,571	72,156	2.0
Michigan	35,312	1,949	W	32	34,101	1,834	W	32	W	W	3.4
Ohio	54,994	1,963	W	203	57,224	2,101	W	203	W	W	-3.9
Wisconsin	24,777	1,766	-	155	24,319	1,723	-	155	26,698	26,197	1.9
West North Central	**147,353**	**12,161**	**-**	**659**	**148,897**	**12,705**	**-**	**659**	**160,173**	**162,261**	**-1.3**
Iowa	21,873	2,984	-	289	21,680	2,898	-	289	25,147	24,867	1.1
Kansas	22,139	203	-	*	22,580	158	-	*	22,342	22,738	-1.7
Minnesota	20,070	1,312	-	1	20,729	1,268	-	1	21,383	21,999	-2.8
Missouri	44,379	1,060	-	192	43,835	1,001	-	192	45,632	45,028	1.3
Nebraska	12,650	371	-	5	12,725	385	-	5	13,025	13,115	-0.7
North Dakota	23,915	W	-	W	25,173	W	-	W	29,997	31,970	-6.2
South Dakota	2,328	W	-	W	2,174	W	-	W	2,646	2,543	4.1
South Atlantic	**173,685**	**W**	**W**	**W**	**172,034**	**W**	**W**	**W**	**187,466**	**186,247**	**0.7**
Delaware	2,055	W	-	W	1,787	W	-	W	2,174	1,887	15.2
District of Columbia	-	-	-	W	-	-	-	W	W	W	-
Florida	27,644	1,062	-	8	28,331	1,111	-	8	28,714	29,450	-2.5
Georgia	36,094	1,770	-	-	33,350	1,761	-	-	37,863	35,111	7.8
Maryland	11,576	1,357	-	6	11,780	1,254	-	6	12,938	13,039	-0.8
North Carolina	29,922	1,437	-	130	29,403	1,590	-	130	31,489	31,124	1.2
South Carolina	15,557	1,794	-	-	14,714	1,983	-	-	17,351	16,697	3.9
Virginia	14,882	2,178	W	105	15,201	2,221	W	105	W	W	-1.9
West Virginia	35,956	1,448	W	43	37,468	1,402	W	43	W	W	-4.1
East South Central	**109,208**	**W**	**2,644**	**W**	**106,855**	**W**	**2,541**	**W**	**118,921**	**116,502**	**2.1**
Alabama	35,083	2,115	W	3	35,600	2,055	W	3	W	W	-1.5
Kentucky	39,342	1,222	W	203	38,521	1,210	W	203	W	W	2.6
Mississippi	9,950	W	-	W	9,545	W	-	W	10,110	9,691	4.3
Tennessee	24,832	3,233	-	134	23,189	3,354	-	134	28,198	26,677	5.7
West South Central	**153,350**	**W**	**-**	**W**	**151,622**	**5,380**	**-**	**141**	**158,899**	**157,143**	**1.1**
Arkansas	15,318	415	-	-	14,310	417	-	-	15,733	14,726	6.8
Louisiana	15,975	W	-	W	15,462	W	-	W	16,116	15,592	3.4
Oklahoma	20,294	714	-	1	21,580	W	-	W	21,008	22,283	-5.7
Texas	101,763	4,138	-	140	100,269	4,132	-	140	106,042	104,542	1.4
Mountain	**118,830**	**4,244**	**-**	**458**	**116,579**	**4,075**	**-**	**458**	**123,531**	**121,112**	**2.0**
Arizona	20,060	738	-	1	19,378	681	-	1	20,799	20,059	3.7
Colorado	19,251	W	-	W	19,596	W	-	W	19,817	20,153	-1.7
Idaho	-	583	-	14	-	490	-	14	596	503	18.5
Montana	11,322	W	-	W	11,032	W	-	W	11,416	11,127	2.6
Nevada	8,502	W	-	W	7,869	W	-	W	8,728	8,095	7.8
New Mexico	16,661	W	-	W	16,542	W	-	W	16,744	16,625	0.7
Utah	16,606	583	-	61	16,302	611	-	61	17,251	16,975	1.6
Wyoming	26,428	1,653	-	100	25,861	1,614	-	100	28,181	27,575	2.2
Pacific	**11,077**	**2,139**	**-**	**474**	**11,860**	**2,185**	**-**	**474**	**13,690**	**14,519**	**-5.7**
Alaska	393	W	-	W	342	W	-	W	842	790	6.5
California	924	1,936	-	*	890	1,976	-	*	2,860	2,866	-0.2
Hawaii	804	W	-	W	785	W	-	W	857	837	2.4
Oregon	2,077	W	-	W	2,533	W	-	W	2,141	2,598	-17.6
Washington	6,879	W	-	W	7,311	W	-	W	6,989	7,427	-5.9
U.S. Total	**1,016,268**	**61,235**	**23,670**	**4,236**	**1,005,116**	**61,261**	**24,248**	**4,236**	**1,105,409**	**1,094,861**	**1.0**

[1] The electric power sector (electric utilities and independent power producers) comprises electricity-only and combined-heat-and-power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public -- i.e. NAICS 22 plants

* = The unit of measure is less than 0.5 or percent change is less than 0.1%.

W = Withheld to avoid disclosure of individual company data.

Note: • Totals may not equal sum of components because of independent rounding. Other industrial and residential and commercial sector data for 2004 are preliminary.

Source: • Energy Information Administration, Form EIA-906, "Power Plant Report," Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants," Form EIA-5, "Coke Plant Report - Quarterly," Form EIA-6A, "Coal Distribution Report," Form EIA-7A, "Coal Production Report," and, Form EIA-920, "Combined Heat and Power Plant Report."

Table 27. Year-End Coal Stocks by Sector, by Census Division, 2004, 2003
(Thousand Short Tons)

Census Division	2004				2003				Total		
	Electric Power[1]	Other Industrial	Coke	Producer and Distributor[P]	Electric Power [1]	Other Industrial	Coke	Producer and Distributor	2004	2003	Percent Change
New England	807	42	-	-	786	42	-	-	849	828	2.5
Middle Atlantic	5,709	447	W	3,003	5,297	377	W	2,502	W	W	12.7
East North Central	28,734	1,285	681	1,600	32,740	1,346	382	1,839	32,300	36,307	-11.0
West North Central	19,417	1,047	-	2,832	20,804	1,183	-	2,441	23,296	24,428	-4.6
South Atlantic	17,211	920	W	11,131	19,094	614	W	8,893	W	W	2.3
East South Central	8,126	365	182	4,596	12,901	353	143	4,854	13,269	18,251	-27.3
West South Central	14,882	285	-	1,870	17,800	257	-	2,326	17,037	20,382	-16.4
Mountain	10,627	267	-	16,077	10,799	344	-	15,355	26,971	26,498	1.8
Pacific	1,155	186	-	89	1,347	202	-	67	1,430	1,616	-11.5
U.S. Total	106,669	4,842	1,344	41,198	121,567	4,718	905	38,277	154,053	165,468	-6.9

[1] The electric power sector (electric utilities and independent power producers) comprises electricity-only and combined-heat-and-power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public -- i.e. NAICS 22 plants.

W = Withheld to avoid disclosure of individual company data.

[P] = Preliminary data.

Note: • Stocks data for residential and commercial sector are not collected by EIA. Electric power sector data is preliminary. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration, Form EIA-906, "Power Plant Report," Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants," Form EIA-5, "Coke Plants Report - Quarterly," and Form EIA-6, "Coal Distribution Report."

Average Mine Sales Price

Table 28. Average Open Market Sales Price of Coal by State and Mine Type, 2004, 2003

(Dollars per Short Ton)

Coal-Producing State	2004			2003			Percent Change		
	Underground	Surface	Total	Underground	Surface	Total	Underground	Surface	Total
Alabama	41.69	41.84	41.73	33.36	35.03	33.75	25.0	19.4	23.7
Alaska	-	W	W	-	W	W	-	W	W
Arizona	-	W	W	-	W	W	-	W	W
Colorado	17.55	19.54	18.10	17.35	20.72	18.21	1.2	-5.7	-0.6
Illinois	26.07	23.84	25.72	23.98	24.81	24.13	8.7	-3.9	6.6
Indiana	27.03	21.96	23.27	26.74	21.25	22.48	1.1	3.3	3.5
Kansas	-	W	W	-	W	W	-	W	W
Kentucky Total	32.34	33.41	32.74	28.10	28.23	28.15	15.1	18.4	16.3
Eastern	35.56	34.60	35.15	29.83	29.03	29.49	19.2	19.2	19.2
Western	23.77	22.87	23.60	22.23	21.44	22.05	6.9	6.7	7.0
Louisiana	-	W	W	-	W	W	-	W	W
Maryland	W	W	24.58	W	W	22.66	W	W	8.5
Mississippi	-	W	W	-	W	W	-	W	W
Missouri	-	W	W	-	W	W	-	W	W
Montana	W	W	10.09	W	W	9.42	W	W	7.0
New Mexico	W	W	24.09	W	W	23.18	W	W	3.9
North Dakota	-	9.67	9.67	-	8.76	8.76	-	10.4	10.4
Ohio	23.64	24.12	23.82	21.58	22.90	22.10	9.5	5.3	7.8
Oklahoma	W	W	28.36	W	W	28.32	W	W	0.2
Pennsylvania Total	29.93	34.27	30.77	26.43	28.23	26.75	13.3	21.4	15.0
Anthracite	52.52	37.96	39.77	45.66	50.73	49.87	15.0	-25.2	-20.3
Bituminous	29.85	33.80	30.54	26.35	25.98	26.29	13.3	30.1	16.2
Tennessee	43.54	31.79	34.70	32.92	27.80	29.09	32.3	14.3	19.3
Texas	-	15.39	15.39	-	14.76	14.76	-	4.3	4.3
Utah	17.39	-	17.39	W	W	17.08	W	W	1.8
Virginia	38.85	37.93	38.51	30.32	30.28	30.30	28.1	25.3	27.1
West Virginia Total	35.63	35.09	35.41	30.72	29.00	30.02	16.0	21.0	18.0
Northern	27.98	31.25	28.39	25.61	26.36	25.74	9.2	18.6	10.3
Southern	40.13	35.41	37.76	32.96	29.25	31.19	21.8	21.1	21.1
Wyoming	-	7.12	7.12	-	6.74	6.74	-	5.5	5.5
U.S. Total	**30.36**	**14.75**	**19.93**	**26.71**	**13.42**	**17.85**	**13.7**	**9.9**	**11.6**

W = Withheld to avoid disclosure of individual company data.

Note: • Open market includes all coal sold on the open market to other coal companies or consumers. An average open market sales price is calculated by dividing the total free on board (f.o.b) rail/barge value of the open market coal sold by the total open market coal sold. Excludes mines producing less than 10,000 short tons, which are not required to provide data. Excludes silt, culm, refuse bank, slurry dam, and dredge operations. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 29. Average Open Market Sales Price of Coal by State and Underground Mining Method, 2004

(Dollars per Short Ton)

Coal-Producing State	Continuous[1]	Conventional[2]	Longwall[3]	Other[4]	Total
Alabama	W	-	W	-	41.69
Colorado	W	-	W	-	17.55
Illinois	W	-	W	-	26.07
Indiana	27.03	-	-	-	27.03
Kentucky Total	W	33.46	W	41.08	32.34
Eastern	W	W	W	41.08	35.56
Western	W	W	-	-	23.77
Maryland	W	-	W	-	W
Montana	W	-	-	-	W
New Mexico	-	-	W	-	W
Ohio	W	-	W	-	23.64
Oklahoma	W	-	-	-	W
Pennsylvania Total	31.94	40.28	W	W	29.93
Anthracite	W	W	-	W	52.52
Bituminous	W	W	W	-	29.85
Tennessee	43.54	-	-	-	43.54
Utah	21.08	-	17.15	-	17.39
Virginia	38.29	W	W	-	38.85
West Virginia Total	37.86	W	33.69	W	35.63
Northern	21.80	W	28.47	-	27.98
Southern	38.81	-	43.04	W	40.13
Wyoming	-	-	-	-	-
U.S. Total	**31.90**	**36.03**	**28.88**	**42.04**	**30.36**

[1] Mines that produce greater than 50 percent of their coal by continuous mining methods.
[2] Mines that produce greater than 50 percent of their coal by conventional mining methods.
[3] Mines that have any production from longwall mining method. A typical longwall mining operation uses 80 percent longwall mining and 20 percent continuous mining.
[4] Mines that produce coal using shortwall, scoop loading, hand loading, or other mining methods, or a 50/50 percent conventional/conventional split in mining method.
W = Withheld to avoid disclosure of individual company data.

Note: • Open market includes all coal sold on the open market to other coal companies or consumers. An average open market sales price is calculated by dividing the total free on board (f.o.b) rail/barge value of the open market coal sold by the total open market coal sold. Excludes mines producing less than 10,000 short tons, which are not required to provide data. Excludes silt, culm, refuse bank, slurry dam, and dredge operations. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 30. Average Open Market Sales Price of Coal by State, County, and Number of Mines, 2004
(Thousand Short Tons, Dollars per Short Ton)

Coal-Producing State and County	Number of Mines	Open Market Sales	Average Open Market Sales Price
Alabama	**44**	**21,436**	**41.73**
Cullman	2	W	W
Franklin	1	W	W
Jackson	2	W	W
Jefferson	13	W	W
Marion	1	W	W
Shelby	1	W	W
Tuscaloosa	9	11,230	36.05
Walker	13	2,546	39.44
Winston	2	W	W
Alaska	**1**	**W**	**W**
Yukon-Koyukuk Division	1	W	W
Arizona	**2**	**W**	**W**
Navajo	2	W	W
Colorado	**13**	**36,566**	**18.10**
Delta	2	W	W
Garfield	1	W	W
Gunnison	2	W	W
La Plata	1	W	W
Moffat	3	W	W
Montrose	1	W	W
Rio Blanco	1	-	-
Routt	2	W	W
Illinois	**19**	**32,181**	**25.72**
Gallatin	1	W	W
Jackson	2	W	W
Macoupin	2	W	W
Montgomery	1	W	W
Perry	2	W	W
Randolph	1	W	W
Saline	3	W	W
Sangamon	1	W	W
Vermilion	2	W	W
Wabash	2	W	W
White	1	W	W
Williamson	1	W	W
Indiana	**29**	**32,700**	**23.27**
Clay	2	W	W
Daviess	2	W	W
Gibson	7	13,366	22.28
Greene	1	W	W
Jackson	1	W	W
Knox	6	3,312	28.41
Pike	4	W	W
Spencer	1	W	W
Sullivan	1	W	W
Vigo	2	W	W
Warrick	2	W	W
Kansas	**1**	**W**	**W**
Bourbon	1	W	W
Kentucky	**366**	**109,474**	**32.74**
Bell	11	1,206	36.31
Boyd	1	W	W
Breathitt	4	W	W
Carter	1	W	W
Clay	3	W	W
Floyd	25	2,976	31.62
Harlan	45	11,714	34.56
Henderson	3	W	W
Hopkins	7	W	W
Jackson	2	W	W
Johnson	5	278	39.95
Knott	37	11,011	33.55
Knox	11	752	38.02
Laurel	1	W	W
Lawrence	5	1,694	32.74
Lee	1	W	W
Leslie	11	4,413	35.19
Letcher	36	6,100	34.04

See footnotes at end of table.

Table 30. Average Open Market Sales Price of Coal by State, County, and Number of Mines, 2004 (Continued)
(Thousand Short Tons, Dollars per Short Ton)

Coal-Producing State and County	Number of Mines	Open Market Sales	Average Open Market Sales Price
Kentucky (continued)			
Magoffin	4	W	W
Martin	16	5,993	33.16
Morgan	1	W	W
Muhlenberg	6	W	W
Ohio	1	W	W
Owsley	2	W	W
Perry	28	11,885	35.49
Pike	93	26,613	37.07
Union	2	W	W
Webster	2	W	W
Whitley	2	W	W
Louisiana	**2**	**W**	**W**
De Soto	1	W	W
Red River	1	W	W
Maryland	**15**	**5,273**	**24.58**
Allegany	8	W	W
Garrett	7	W	W
Mississippi	**1**	**W**	**W**
Choctaw	1	W	W
Missouri	**3**	**W**	**W**
Bates	3	W	W
Montana	**6**	**39,399**	**10.09**
Big Horn	3	W	W
Musselshell	1	W	W
Richland	1	W	W
Rosebud	1	W	W
New Mexico	**4**	**27,017**	**24.09**
Mckinley	2	W	W
San Juan	2	W	W
North Dakota	**4**	**25,822**	**9.67**
Mclean	1	W	W
Mercer	2	W	W
Oliver	1	W	W
Ohio	**44**	**21,309**	**23.82**
Athens	1	W	W
Belmont	7	W	W
Carroll	1	W	W
Columbiana	3	W	W
Coshocton	1	W	W
Harrison	7	3,257	25.08
Jackson	2	W	W
Jefferson	7	789	21.72
Mahoning	1	W	W
Monroe	1	W	W
Muskingum	1	W	W
Noble	1	W	W
Perry	1	W	W
Stark	3	W	W
Tuscarawas	5	575	25.48
Vinton	2	W	W
Oklahoma	**7**	**1,789**	**28.36**
Craig	1	W	W
Haskell	1	W	W
Le Flore	4	W	W
Rogers	1	W	W
Pennsylvania	**186**	**62,686**	**30.77**
Armstrong	20	4,161	29.01
Beaver	1	W	W
Blair	1	W	W
Butler	2	W	W
Cambria	7	888	51.13
Centre	1	W	W
Clarion	2	W	W
Clearfield	31	3,132	39.58
Columbia	3	W	W
Elk	6	W	W
Fayette	6	W	W
Greene	11	37,146	28.31
Indiana	18	1,481	28.58
Jefferson	10	943	34.98

See footnotes at end of table.

Table 30. Average Open Market Sales Price of Coal by State, County, and Number of Mines, 2004 (Continued)
(Thousand Short Tons, Dollars per Short Ton)

Coal-Producing State and County	Number of Mines	Open Market Sales	Average Open Market Sales Price
Pennsylvania (continued)			
Lackawanna	1	W	W
Lawrence	1	W	W
Luzerne	4	W	W
Lycoming	1	W	W
Mercer	1	W	W
Northumberland	4	W	W
Schuylkill	25	607	31.53
Somerset	22	4,401	30.65
Washington	6	W	W
Westmoreland	2	W	W
Tennessee	**29**	**2,798**	**34.70**
Anderson	4	W	W
Campbell	6	W	W
Claiborne	16	2,074	32.88
Cumberland	1	W	W
Fentress	1	W	W
Scott	1	W	W
Texas	**13**	**12,964**	**15.39**
Atascosa	1	-	-
Freestone	1	-	-
Harrison	1	W	W
Hopkins	1	-	-
Leon	1	W	W
Milam	1	-	-
Panola	2	-	-
Robertson	1	W	W
Rusk	1	-	-
Titus	2	-	-
Webb	1	W	W
Utah	**13**	**18,832**	**17.39**
Carbon	6	9,647	19.95
Emery	6	W	W
Sevier	1	W	W
Virginia	**116**	**21,206**	**38.51**
Buchanan	30	7,071	40.07
Dickenson	17	735	42.86
Lee	3	W	W
Russell	8	284	49.73
Tazewell	6	1,108	49.49
Wise	52	11,473	36.57
Washington	**1**	-	-
Lewis	1	-	-
West Virginia	**235**	**136,070**	**35.41**
Barbour	6	W	W
Boone	38	31,754	36.20
Clay	3	W	W
Fayette	11	3,832	44.37
Grant	2	W	W
Greenbrier	2	W	W
Harrison	6	W	W
Kanawha	19	14,570	35.03
Lincoln	3	-	-
Logan	18	11,045	37.04
Marion	2	W	W
Marshall	2	W	W
Mcdowell	33	4,471	43.71
Mineral	2	W	W
Mingo	23	13,218	37.47
Monongalia	7	W	W
Nicholas	4	W	W
Preston	3	W	W
Raleigh	18	4,109	43.59
Upshur	6	W	W
Wayne	5	W	W
Webster	5	W	W
Wyoming	17	4,593	53.24
Wyoming	**19**	**378,123**	**7.12**
Campbell	12	340,562	6.87
Carbon	1	W	W
Converse	1	W	W

See footnotes at end of table.

Table 30. Average Open Market Sales Price of Coal by State, County, and Number of Mines, 2004 (Continued)
(Thousand Short Tons, Dollars per Short Ton)

Coal-Producing State and County	Number of Mines	Open Market Sales	Average Open Market Sales Price
Wyoming (continued)			
Lincoln	1	W	W
Sweetwater	4	W	W
U.S. Total	**1,173**	**1,006,807**	**19.93**

W = Withheld to avoid disclosure of individual company data.

Note: • Open market includes all coal sold on the open market to other coal companies or consumers. An average open market sales price is calculated by dividing the total free on board (f.o.b) rail/barge value of the open market coal sold by the total open market coal sold. Excludes mines producing less than 10,000 short tons, which are not required to provide data. Excludes silt, culm, refuse bank, slurry dam, and dredge operations. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 31. Average Open Market Sales Price of Coal by State and Coal Rank, 2004

(Dollars per Short Ton)

Coal-Producing State	Bituminous	Subbituminous	Lignite	Anthracite	Total
Alabama	41.73	-	-	-	41.73
Alaska	-	W	-	-	W
Arizona	W	-	-	-	W
Colorado	W	W	-	-	18.10
Illinois	25.72	-	-	-	25.72
Indiana	23.27	-	-	-	23.27
Kansas	W	-	-	-	W
Kentucky Total	32.74	-	-	-	32.74
Eastern	35.15	-	-	-	35.15
Western	23.60	-	-	-	23.60
Louisiana	-	-	W	-	W
Maryland	24.58	-	-	-	24.58
Mississippi	-	-	W	-	W
Missouri	W	-	-	-	W
Montana	-	W	W	-	10.09
New Mexico	W	W	-	-	24.09
North Dakota	-	-	9.67	-	9.67
Ohio	23.82	-	-	-	23.82
Oklahoma	28.36	-	-	-	28.36
Pennsylvania Total	30.54	-	-	39.77	30.77
Anthracite	-	-	-	39.77	39.77
Bituminous	30.54	-	-	-	30.54
Tennessee	34.70	-	-	-	34.70
Texas	W	-	W	-	15.39
Utah	17.39	-	-	-	17.39
Virginia	38.51	-	-	-	38.51
West Virginia Total	35.41	-	-	-	35.41
Northern	28.39	-	-	-	28.39
Southern	37.76	-	-	-	37.76
Wyoming	W	W	-	-	7.12
U.S. Total	**30.56**	**8.12**	**12.27**	**39.77**	**19.93**

W = Withheld to avoid disclosure of individual company data.

Note: • Open market includes all coal sold on the open market to other coal companies or consumers. An average open market sales price is calculated by dividing the total free on board (f.o.b) rail/barge value of the open market coal sold by the total open market coal sold. Excludes mines producing less than 10,000 short tons, which are not required to provide data. Excludes silt, culm, refuse bank, slurry dam, and dredge operations. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 32. Average Open Market Sales Price of Coal by Mine Production Range and Mine Type, 2004
(Dollars per Short Ton)

Mine Production Range (thousand short tons)	Underground	Surface	Total
Over 1,000	28.58	11.65	16.68
500 to 1,000	33.30	32.76	33.02
200 to 500	35.56	33.59	34.58
100 to 200	36.96	35.14	36.07
50 to 100	37.03	33.28	35.15
10 to 50	42.03	33.23	36.04
U.S. Total	**30.36**	**14.75**	**19.93**

Note: • Open market includes all coal sold on the open market to other coal companies or consumers. An average open market sales price is calculated by dividing the total free on board (f.o.b) rail/barge value of the open market coal sold by the total open market coal sold. Excludes mines producing less than 10,000 short tons, which are not required to provide data. Excludes silt, culm, refuse bank, slurry dam, and dredge operations. Totals may not equal sum of components because of independent rounding.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Table 33. Average Sales Price of U.S. Coal by State and Disposition, 2004

(Dollars per Short Ton)

Coal-Producing State	Open Market[1]	Captive[2]
Alabama	41.73	-
Alaska	W	-
Arizona	W	-
Colorado	18.10	26.17
Illinois	25.72	-
Indiana	23.27	22.75
Kansas	W	-
Kentucky Total	32.74	29.06
Eastern	35.15	29.82
Western	23.60	25.31
Louisiana	W	W
Maryland	24.58	41.74
Mississippi	W	-
Missouri	W	-
Montana	10.09	6.71
New Mexico	24.09	-
North Dakota	9.67	7.47
Ohio	23.82	18.66
Oklahoma	28.36	-
Pennsylvania Total	30.77	30.30
Anthracite	39.77	86.90
Bituminous	30.54	27.68
Tennessee	34.70	-
Texas	15.39	13.28
Utah	17.39	23.69
Virginia	38.51	41.51
Washington	-	W
West Virginia Total	35.41	38.25
Northern	28.39	36.91
Southern	37.76	39.77
Wyoming	7.12	12.46
U.S. Total	**19.93**	**21.46**

[1] Open market includes coal sold on the open market to other coal companies or consumers.

[2] Captive includes all coal used by the producing company or sold to affiliated or parent companies.

W = Withheld to avoid disclosure of individual company data.

Note: • An average open market sales price is calculated by dividing the total free on board (f.o.b.) rail/barge value of the open market coal sold, by the total open market coal sold. An average captive market sales price is calculated by dividing the total free on board (f.o.b.) rail/barge value of the captive market coal sold, by the total captive market coal sold. Excludes mines producing less than 10,000 short tons, which are not required to provide data. Excludes silt, culm, refuse bank, slurry dam, and dredge operations.

Source: • Energy Information Administration Form EIA-7A, "Coal Production Report," and U.S. Department of Labor, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production Report."

Average Consumer Prices

Table 34. Average Price of Coal Delivered to End Use Sector by Census Division and State, 2004, 2003

(Dollars per Short Ton)

Census Division and State	2004			2003			Annual Percent Change		
	Electric Utility Plants	Other Industrial Plants	Coke Plants	Electric Utility Plants	Other Industrial Plants	Coke Plants	Electric Utility Plants	Other Industrial Plants	Coke Plants
New England	**52.14**	**65.54**	**-**	**46.03**	**62.19**	**-**	**13.3**	**5.4**	**-**
Connecticut	-	W	-	-	W	-	-	-	-
Maine	-	W	-	-	W	-	-	0.8	-
Massachusetts	48.24	W	-	48.30	W	-	-0.1	13.3	-
New Hampshire	53.17	W	-	45.16	W	-	17.7	-	-
Rhode Island	-	W	-	-	W	-	-	-	-
Vermont	-	W	-	-	W	-	-	-	-
Middle Atlantic	**42.92**	**W**	**W**	**39.98**	**W**	**W**	**7.4**	**15.4**	**20.4**
New Jersey	59.88	W	-	54.21	W	-	10.5	7.1	-
New York	41.19	48.90	W	38.64	45.90	W	6.6	6.5	40.7
Pennsylvania	31.81	43.57	W	31.18	36.47	W	2.0	19.5	19.4
East North Central	**26.69**	**41.22**	**63.30**	**25.56**	**38.04**	**52.94**	**4.4**	**8.3**	**19.6**
Illinois	22.05	29.66	W	22.95	29.71	W	-3.9	-0.2	19.5
Indiana	25.70	40.00	64.75	24.95	36.95	54.33	3.0	8.2	19.2
Michigan	27.15	53.14	W	26.89	46.30	W	1.0	14.8	7.8
Ohio	31.99	47.40	W	29.03	41.32	W	10.2	14.7	34.5
Wisconsin	20.86	48.62	-	19.77	45.32	-	5.5	7.3	-
West North Central	**15.34**	**21.93**	**-**	**15.05**	**20.07**	**-**	**1.9**	**9.2**	**-**
Iowa	15.56	31.50	-	15.00	29.93	-	3.7	5.2	-
Kansas	17.74	38.19	-	17.49	36.84	-	1.4	3.7	-
Minnesota	18.78	33.27	-	18.96	31.93	-	-0.9	4.2	-
Missouri	16.31	37.76	-	16.23	33.83	-	0.5	11.6	-
Nebraska	11.30	24.39	-	10.39	22.82	-	8.8	6.9	-
North Dakota	10.20	W	-	9.72	W	-	4.9	4.4	-
South Dakota	23.61	W	-	23.00	W	-	2.7	-3.8	-
South Atlantic	**43.29**	**W**	**W**	**39.75**	**W**	**W**	**8.9**	**19.2**	**33.8**
Delaware	-	W	-	-	W	-	-	39.7	-
District of Columbia	-	W	-	-	W	-	-	-	-
Florida	46.16	57.26	-	42.29	47.28	-	9.2	21.1	-
Georgia	39.41	60.41	-	40.10	48.58	-	-1.7	24.3	-
Maryland	-	50.80	-	-	39.16	-	-	29.7	-
North Carolina	49.26	53.14	-	44.08	47.36	-	11.8	12.2	-
South Carolina	48.00	57.37	-	40.92	48.95	-	17.3	17.2	-
Virginia	48.07	51.38	W	39.86	45.32	W	20.6	13.4	24.8
West Virginia	34.13	47.21	W	31.26	38.69	W	9.2	22.0	41.0
East South Central	**32.22**	**W**	**59.16**	**30.34**	**W**	**48.20**	**6.2**	**18.5**	**22.7**
Alabama	32.89	47.91	W	32.15	42.83	W	2.3	11.9	15.9
Kentucky	32.22	51.47	W	28.91	45.52	W	11.4	13.1	35.1
Mississippi	39.61	W	-	37.41	W	-	5.9	4.5	-
Tennessee	30.27	49.25	-	28.55	39.10	-	6.0	25.9	-
West South Central	**20.72**	**W**	**-**	**19.61**	**25.63**	**-**	**5.6**	**W**	**-**
Arkansas	21.49	45.81	-	20.94	46.20	-	2.6	-0.8	-
Louisiana	21.41	W	-	20.52	W	-	4.3	23.7	-
Oklahoma	17.61	33.50	-	16.63	W	-	5.9	W	-
Texas	21.82	24.25	-	20.53	22.40	-	6.3	8.3	-
Mountain	**21.87**	**31.92**	**-**	**21.13**	**29.90**	**-**	**3.5**	**6.8**	**-**
Arizona	26.19	41.78	-	25.39	41.88	-	3.2	-0.2	-
Colorado	19.09	W	-	18.92	W	-	0.9	4.7	-
Idaho	-	35.65	-	-	35.50	-	-	0.4	-
Montana	10.67	W	-	10.56	W	-	1.0	11.6	-
Nevada	30.28	W	-	31.52	W	-	-3.9	16.8	-
New Mexico	27.25	W	-	26.12	W	-	4.3	3.3	-
Utah	24.94	33.32	-	23.54	26.90	-	5.9	23.9	-
Wyoming	15.28	25.23	-	14.53	24.66	-	5.2	2.3	-
Pacific	**19.91**	**42.94**	**-**	**21.33**	**41.18**	**-**	**-6.7**	**4.3**	**-**
Alaska	-	W	-	-	W	-	-	-	-
California	-	42.40	-	-	40.60	-	-	4.4	-
Hawaii	-	W	-	-	W	-	-	0.1	-
Oregon	19.91	W	-	21.33	W	-	-6.7	3.1	-
Washington	-	W	-	-	W	-	-	15.8	-
U.S. Total	**27.30**	**39.30**	**61.50**	**25.82**	**34.70**	**50.63**	**5.7**	**13.2**	**21.5**

W = Withheld to avoid disclosure of individual company data.

Note: • Includes manufacturing plants only.

Source: • Federal Energy Regulatory Commission, FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants, Energy Information Administration, Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants," and Form EIA-5, "Coke Plant Report - Quarterly."

Glossary

American Indian Coal Lease: A lease granted to a mining company to produce coal from American Indian lands in exchange for royalties and other revenues; obtained by direct negotiation with Indian tribal authorities, but subject to approval and administration by the U.S. Department of the Interior.

Anthracite: The highest rank of coal; used primarily for residential and commercial space heating. It is a hard, brittle, and black lustrous coal, often referred to as hard coal, containing a high percentage of fixed carbon and a low percentage of volatile matter. The moisture content of fresh-mined anthracite generally is less than 15 percent. The heat content of anthracite ranges from 22 to 28 million Btu per short ton on a moist, mineral-matter-free basis. The heat content of anthracite coal consumed in the United States averages 25 million Btu per short ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter). Note: Since the 1980's, anthracite refuse or mine waste has been used for steam electric power generation. This fuel typically has a heat content of 15 million Btu per short ton or less.

Appalachian Region: See Coal-Producing Regions.

Area (Surface) Mining: A method used on flat terrain to recover coal by mining long cuts or pits successively. The material excavated from the cut being mined is deposited in the cut previously mined.

Auger Mine: A surface mine where coal is recovered through the use of a large-diameter drill driven into a coalbed in a hillside. It usually follows contour surface mining, particularly when the overburden is too costly to excavate.

Average Number of Employees: The arithmetic mean number of employees working each day at a mining operation. Includes maintenance, office, as well as production-related employees.

Average Open Market Sales Price: The ratio of the total value of the open market sales of coal produced at the mine to the total open market sales tonnage.

Average Production per Miner per Hour: The ratio of the total production at a mining operation to the total direct labor hours worked at the operation.

Average Recovery Percentage: Average recovery percentage represents the percentage of coal that can be recovered from coal reserves at reporting mines, averaged for all mines in the reported geographic area.

Bed, Coalbed: All the coal and partings lying between a roof and floor.

Bituminous Coal: A dense coal, usually black, sometimes dark brown, often with well-defined bands of bright and dull material, used primarily as fuel in steam-electric power generation, with substantial quantities also used for heat and power applications in manufacturing and to make coke. Bituminous coal is the most abundant coal in active U.S. mining regions. Its moisture content usually is less than 20 percent. The heat content of bituminous coal ranges from 21 to 30 million Btu per ton on a moist, mineral-matter-free basis. The heat content of bituminous coal consumed in the United States averages 24 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

Capacity Utilization: Capacity utilization is computed by dividing production by productive capacity and multiplying by 100.

Captive Coal: Coal produced and consumed by the mine operator, a subsidiary, or parent company (for example, steel companies and electric utilities).

Census Divisions: The nine geographic divisions of the United States established by the Bureau of the Census, U.S. Department of Commerce for statistical analysis. The boundaries of Census divisions coincide with State boundaries. In some cases, the Pacific Division is subdivided into the Pacific Contiguous and Pacific Noncontiguous areas.

Central Appalachian Region: See Coal-Producing Regions.

CIF: See Cost, Insurance, Freight.

Coal: A readily combustible black or brownish-black rock whose composition, including inherent moisture, consists of more than 50 percent by weight and more than 70 percent by volume of carbonaceous material. It is formed from plant remains that have been compacted, hardened, chemically altered, and metamorphosed by heat and pressure over geologic time.

Coal Carbonized: The amount of coal decomposed into solid coke and gaseous products by heating in a coke oven in a limited air supply or in the absence of air.

Coal (coke): See Coke (coal).

Coal Mining Productivity: Coal mining productivity is calculated by dividing total coal production by the total direct labor hours worked by all mine employees.

Coal Preparation/Washing: The treatment of coal to reject waste. In its broadest sense, preparation is any processing of mined coal to prepare it for market, including crushing and screening or sieving the coal to reach a uniform size, which normally results in removal of some non-coal material. The term coal preparation most commonly refers to processing, including crushing and screening, passing the material through one or more processes to remove impurities, sizing the product, and loading for shipment. Many of the processes separate rock, clay, and other minerals from coal in a liquid medium; hence the term washing is widely used. In some cases coal passes through a drying step before loading.

Coal-Producing Regions: A geographic classification of areas where coal is produced.

Appalachian Region. Consists of Alabama, Eastern Kentucky, Maryland, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia.

Northern Appalachian Region. Consists of Maryland, Ohio, Pennsylvania, and Northern West Virginia.

Central Appalachian Region. Consists of Eastern Kentucky, Virginia, Southern West Virginia, and the Tennessee counties of: Anderson, Campbell, Claiborne, Cumberland, Fentress, Morgan, Overton, Pickett, Putnam, Roane, and Scott.

Southern Appalachian Region: Consists of Alabama, and the Tennessee counties of: Bledsoe, Coffee, Franklin, Grundy, Hamilton, Marion, Rhea, Sequatchie, Van Buren, Warren, and White.

Interior Region (with Gulf Coast). Consists of Arkansas, Illinois, Indiana, Kansas, Louisiana, Mississippi, Missouri, Oklahoma, Texas, and Western Kentucky.

Illinois Basin: Consists of Illinois, Indiana, and Western Kentucky.

Western Region. Consists of Alaska, Arizona, Colorado, Montana, New Mexico, North Dakota, Utah, Washington, and Wyoming.

Powder River Basin: Consists of the Montana counties of Big Horn, Custer, Powder River, Rosebud, and Treasure and the Wyoming counties of Campbell, Converse, Crook, Johnson, Natrona, Niobrara, Sheridan, and Weston.

Uinta Basin: Consists of the Colorado counties of Delta, Garfield, Gunnison, Mesa, Moffat, Pitkin, Rio Blanco, Routt and the Utah counties of Carbon, Duchesne, Emery, Grand, Sanpete, Sevier, Uintah, Utah, and Wasatch.

Coal-Producing States: The States where mined and/or purchased coal originates are defined as follows:
Alabama, Alaska, Arizona, Arkansas, Colorado, Illinois, Indiana, Kansas, Kentucky Eastern, Kentucky Western, Louisiana, Maryland, Mississippi, Missouri, Montana, New Mexico, North Dakota, Ohio, Oklahoma, Pennsylvania anthracite, Pennsylvania bituminous, Tennessee, Texas, Utah, Virginia, Washington, West Virginia Northern, West Virginia Southern, and Wyoming. The following Coal-Producing States are split in origin of coal, as defined by:

Kentucky, Eastern. All mines in the following counties in Eastern Kentucky: Bell, Boyd, Breathitt, Carter, Clay, Clinton, Elliot, Estill, Floyd, Greenup, Harlan, Jackson, Johnson, Knott, Knox, Laurel, Lawrence, Lee, Leslie, Letcher, Lewis, Magoffin, Martin, McCreary, Menifee, Morgan, Owsley, Perry, Pike, Powell, Pulaski, Rockcastle, Rowan, Wayne, Whitley, and Wolfe.

Kentucky, Western. All mines in the following counties in Western Kentucky: Breckinridge, Butler, Caldwell, Christian, Crittenden, Daviess, Edmonson, Grayson, Hancock, Hart, Henderson, Hopkins, Logan, McLean, Muhlenberg, Ohio, Todd, Union, Warren, and Webster.

Pennsylvania Anthracite. All mines in the following counties: Carbon, Columbia, Dauphin, Lackawanna, Lebanon, Luzerne, Northumberland, Schuylkill, Sullivan, and Susquehanna. All anthracite mines in Bradford County.

Pennsylvania Bituminous. All mines located in the following counties: Allegheny, Armstrong, Beaver, Bedford, Butler, Cambria, Clarion, Clearfield, Elk, Fayette, Greene, Indiana, Jefferson, Lawrence, Lycoming, Somerset, Venango, Washington, and Westmoreland, and all bituminous mines in Bradford County.

West Virginia, Northern. All mines in the following counties (formerly defined as Coal-Producing Districts 1, 3, & 6): Barbour, Brooke, Braxton, Calhoun, Doddridge, Gilmer, Grant, Hancock, Harrison, Jackson, Lewis, Marion, Marshall, Mineral, Monongalia, Ohio, Pleasants, Preston, Randolph, Ritchie, Roane, Taylor, Tucker, Tyler, Upshur, Webster, Wetzel, Wirt, and Wood.

West Virginia, Southern. All mines in the following counties (formerly defined as Coal-Producing Districts 7 & 8): Boone, Cabell, Clay, Fayette, Greenbrier, Kanawha, Lincoln, Logan, Mason, McDowell, Mercer,

Mingo, Nicholas, Pocahontas, Putnam, Raleigh, Summers, Wayne, and Wyoming.

Coal Rank: The classification of coals according to their degree of progressive alteration from lignite to anthracite. In the United States, the standard ranks of coal include lignite, subbituminous coal, bituminous coal, and anthracite and are based on fixed carbon, volatile matter, heating value, and agglomerating (or caking) properties.

Coal Stocks: Coal quantities that are held in storage for future use and disposition. Note: When coal data are collected for a particular reporting period (month, quarter, or year), coal stocks are commonly measured as of the last day of this period.

Coalbed: A bed or stratum of coal. Also called a coal seam.

Cogenerator: A generating facility that produces electricity and another form of useful thermal energy (such as heat or steam) used for industrial, commercial, heating, and cooling purposes. To receive status as a qualifying facility (QF) under the Public Utility Regulatory Policies Act (PURPA), the facility must produce electric energy and "another form of useful thermal energy through the sequential use of energy," and meet certain ownership, operating, and efficiency criteria established by the Federal Energy Regulatory Commission (FERC). (See the Code of Federal Regulation, Title 18, Part 292.)

Coke (coal): A solid carbonaceous residue derived from low-ash, low-sulfur bituminous coal from which the volatile constituents are driven off by baking in an oven at temperatures as high as 2,000 degrees Fahrenheit so that the fixed carbon and residual ash are fused together. Coke is used as a fuel and as a reducing agent in smelting iron ore in a blast furnace. Coke from coal is grey, hard, and porous and has a heating value of 24.8 million Btu per short ton.

Coke Plants: Plants where coal is carbonized in slot or beehive ovens for the manufacture of coke.

Coking Coal: Bituminous coal suitable for making coke. See Coke (coal).

Continuous Mining: A form of room-and-pillar mining in which a continuous mining machine extracts and removes coal from the working face in one operation; no blasting is required.

Conventional Mining: The oldest form of room-and-pillar mining which consists of a series of operations that involve cutting the coalbed so it breaks easily when blasted with explosives or high-pressure air, and then loading the broken coal.

Cost, Insurance, Freight (CIF): A type of sale in which the buyer of the product agrees to pay a unit price that includes the F.O.B. value of the product at the point of origin plus all costs of insurance and transportation. This type of transaction differs from a "delivered" purchase in that the buyer accepts the quantity as determined at the loading port (as certified by the Bill of Loading and Quality Report) rather than pay on the basis of the quantity and quality ascertained at the unloading port. It is similar to the terms of an F.O.B. sale, except that the seller, as a service for which he is compensated, arranges for transportation and insurance.

Culm: Waste from Pennsylvania anthracite preparation plants, consisting of coarse rock fragments containing as much as 30 percent small-sized coal; sometimes defined as including very fine coal particles called silt. Its heat value ranges from 8 to 17 million Btu per short ton.

Demonstrated Reserve Base: A collective term for the sum of coal in both measured and indicated resource categories of reliability which represents 100 percent of the coal in these categories in place as of a certain date. Includes beds of bituminous coal and anthracite 28 inches or more thick and beds of subbituminous coal 60 inches or more thick that occur at depths to 1 thousand feet. Includes beds of lignite 60 inches or more thick that can be surface mined. Includes also thinner and/or deeper beds that presently are being mined or for which there is evidence that they could be mined commercially at this time. Represents that portion of identified coal resources from which reserves are calculated.

Direct Labor Hours: Direct labor hours worked by all mining employees at a mining operation during the year. Includes hours worked by those employees engaged in production, preparation, development, maintenance, repair, shop or yard work, management, office workers, and technical or engineering work.

Dredge Mining: A method of recovering coal from rivers or streams.

Drift Mine: An underground mine that has a horizontal or nearly horizontal entry driven along to a coalbed exposed in a hillside.

Electric Power Sector: The electric power sector (electric utilities and independent power producers) comprises electricity-only and combined-heat-and-power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public.

Estimated Recoverable Reserves: See recoverable reserves.

F.O.B. Rail/Barge Price: The free on board price of coal at the point of first sale. It excludes freight or shipping and insurance costs.

Federal Coal Lease: A lease granted to a mining company to produce coal from land owned and administered by the Federal Government in exchange for royalties and other revenues.

Hand Loading: An underground loading method by which coal is removed from the working face by manual labor through the use of a shovel for conveyance to the surface.

Illinois Basin: See Coal-Producing Regions.

Indicated Resources: Coal for which estimates of the rank, quality, and quantity have been computed partly from sample analyses and measurements and partly from reasonable geologic projections. Indicated resources are computed partly from specified measurements and partly from projection of visible data for a reasonable distance on the basis of geologic evidence. The points of observation are 0.5 to 1.5 miles apart. Indicated coal is projected to extend as a 0.5-mile-wide belt that lies more than 0.25 miles from the outcrop or points of observation or measurement.

Industrial Sector: The industrial sector is comprised of manufacturing industries which make up the largest part of the sector, along with mining, construction, agriculture, fisheries, and forestry. Establishments in the sector range from steel mills, to small farms, to companies assembling electronic components.

Interior Region: See Coal-Producing Regions.

Lignite: The lowest rank of coal, often referred to as brown coal, used almost exclusively as fuel for steam-electric power generation. It is brownish-black and has a high inherent moisture content, sometimes as high as 45 percent The heat content of lignite ranges from 9 to 17 million Btu per ton on a moist, mineral-matter-free basis. The heat content of lignite consumed in the United States averages 13 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

Longwall Mining: An automated form of underground coal mining characterized by high recovery and extraction rates, feasible only in relatively flat-lying, thick, and uniform coalbeds. A high-powered cutting machine is passed across the exposed face of coal, shearing away broken coal, which is continuously hauled away by a floor-level conveyor system. Longwall mining extracts all machine-minable coal between the floor and ceiling within a contiguous block of coal, known as a panel, leaving no support pillars within the panel area. Panel dimensions vary over time and with mining conditions but currently average about 900 feet wide (coal face width) and more than 8,000 feet long (the minable extent of the panel, measured in direction of mining). Longwall mining is done under movable roof supports that are advanced as the bed is cut. The roof in the mined-out area is allowed to fall as the mining advances.

Manufacturing (except coke plants): Those industrial users/plants, not including coke plants, that are engaged in the mechanical or chemical transformation of materials or substances into new (i.e., finished or semifinished) products. Includes coal used for gasification/liquifaction and coal used for coal synfuels.

Minable: Capable of being mined under current mining technology and environmental and legal restrictions, rules, and regulations.

Mine Type: See Surface Mine and Underground Mine.

Northern Appalachian: See Coal-Producing Regions.

Number of Mines: The number of mines, or mines collocated with preparation plants or tipples, located in a particular geographic area (State or region).

Number of Mining Operations: The number of mining operations includes preparation plants. Mining operations that consist of a mine and preparation plant, or a preparation plant only, will be counted as two operations if the preparation plant processes both underground and surface coal.

Open Market Coal: Coal sold in the open market, i.e., coal sold to companies other than the reporting company's parent company or an operating subsidiary of the parent company.

Operating Subsidiary: A company which is controlled through the ownership of voting stock, or a corporate joint venture in which a corporation is owned by a small group of businesses as a separate and specific business or project for the mutual benefit of the members of the group.

Other Industrial Plant: Industrial users, not including coke plants, engaged in the mechanical or chemical transformation of materials or substances into new products (manufacturing); and companies engaged in the agriculture, mining, or construction industries.

Parent Company: A company which solely or jointly owns the reporting company and which is not itself a subsidiary of, or owned by, another company.

Percent Utilization: The ratio of total production to productive capacity, times 100.

Powder River Basin: See Coal-Producing Regions.

Preparation Plant: A facility at which coal is crushed, screened, and mechanically cleaned.

Productive Capacity: The maximum amount of coal that a mining operation can produce or process during a period with the existing mining equipment and/or preparation plant in place, assuming that the labor and materials sufficient to utilize the plant and equipment are available, and that the market exists for the maximum production.

Recoverability: In reference to accessible coal resources, the condition of being physically, technologically, and economically minable. Recovery rates and recovery factors may be determined or estimated for coal resources without certain knowledge of their economic minability; therefore, the availability of recovery rates or factors does not predict recoverability.

Recoverable Coal: Coal that is, or can be, extracted from a coal bed during mining.

Recoverable Reserves at Producing Mines: The amount of in situ coal that can be recovered by mining existing reserves at mines reporting on Form EIA-7A.

Recoverable Reserves, Estimated Recoverable Reserves: Reserve estimates (broad meaning) based on a demonstrated reserve base adjusted for assumed accessibility factors and recovery factors. The term is used by EIA to distinguish estimated recoverable reserves, which are derived without specific economic feasibility criteria by factoring (downward) from a demonstrated reserve base for one or more study areas or regions, from recoverable reserves at active mines, which are aggregated (upward) from reserve estimates reported by currently active, economically viable mines on Form EIA-7A.

Recoverable Reserves of Coal: An estimate of the amount of coal that can be recovered (mined) from the accessible reserves of the demonstrated reserve base.

Recovery Factor: The percentage of total tons of coal estimated to be recoverable from a given area in relation to the total tonnage estimated to be in the demonstrated reserve base. For the purpose of calculating depletion factors only, the estimated recovery factors for the demonstrated reserve base generally are 50 percent for underground mining methods and 80 percent for surface mining methods. More precise recovery factors can be computed by determining the total coal in place and the total coal recoverable in any specific locale.

Recovery Percentage: The percentage of coal that can be recovered from the coal deposits at existing mines.

Refuse Bank: A repository for waste material generated by the coal cleaning process.

Refuse Recovery: A surface mine where coal is recovered from previously mined coal. It may also be known as a silt bank, culm bank, refuse bank, slurry dam, or dredge operation.

Remaining (Resources/Reserves): The amount of coal in the ground after some mining, excluding coal in the ground spoiled or left in place for which later recovery is not feasible.

Reserve(s): Root meaning: The amount of in-situ coal in a defined area that can be recovered by mining at a sustainable profit at the time of determination. Broad meaning: That portion of the demonstrated reserve base that is estimated to be recoverable at the time of determination. The reserve is derived by applying a recovery factor to that component of the identified resources of coal designated as the demonstrated reserve base.

Residential and Commercial Sector: Housing units; wholesale and retail businesses (except coal wholesale dealers); health institutions (hospitals); social and educational institutions (schools and universities); and Federal, State, and local governments (military installations, prisons, office buildings).

Royalties: Payments, in money or kind, of a stated share of production from mineral deposits, by the lessee to the lessor. Royalties may be an established minimum, a sliding-scale, or a step-scale. A step-scale royalty rate increases by steps as the average production on the lease increases. A sliding-scale royalty rate is based on average production and applies to all production from the lease.

Run-of-mine: The raw coal recovered from a mine, prior to any treatment.

Salable Coal: The shippable product of a coal mine or preparation plant. Depending on customer specifications, salable coal may be run-of-mine, crushed-and-screened (sized) coal, or the clean coal yield from a preparation plant.

Sales Volume: The reported output from Federal and/or Indian lands, the basis of royalties. It is approximately equivalent to production, which includes coal sold, and coal added to stockpiles.

Scoop Loading: An underground loading method by which coal is removed from the working face by a tractor unit equipped with a hydraulically operated bucket attached to the front; also called a front-end loader.

Seam: A bed of coal lying between a roof and floor. Equivalent term to bed, commonly used by industry.

Shaft Mine: An underground mine that reaches the coalbed by means of a vertical shaft. In addition to the passages providing entry to the coalbed, a network of other passages are also dug, some to provide access to various parts of the mine and some for ventilation.

Short Ton: A unit of weight equal to 2,000 pounds.

Shortwall Mining: A form of underground mining that involves the use of a continuous mining machine and movable roof supports to shear coal panels 150 to 200 feet wide and more than half a mile long. Although similar to longwall mining, shortwall mining is generally more flexible because of the smaller working area. Productivity is lower than with longwall mining because the coal is hauled to the mine face by shuttle cars as opposed to conveyors.

Silt: Waste from Pennsylvania anthracite preparation plants, consisting of coarse rock fragments containing as much as 30 percent small-sized coal; sometimes defined as including very fine coal particles called silt. Its heat value ranges from 8 to 17 million Btu per short ton. Synonymous with culm.

Silt, Culm Refuse Bank, or Slurry Dam Mining: A mining operation producing coal from these sources of coal. (See refuse recovery.)

Slope Mine: An underground mine in which the entry is driven at an angle to reach the coal deposit.

Slurry Dam: A repository for the silt or culm from a preparation plant.

Southern Appalachian: See Coal-Producing Regions.

Stocks: The supply of coal or coke at a mine, plant, or utility at the end of the reporting period.

Subbituminous Coal: A coal whose properties range from those of lignite to those of bituminous coal and used primarily as fuel for steam-electric power generation. It may be dull, dark brown to black, soft and crumbly, at the lower end of the range, to bright, jet black, hard, and relatively strong, at the upper end. Subbituminous coal contains 20 to 30 percent inherent moisture by weight. The heat content of subbituminous coal ranges from 17 to 24 million Btu per ton on a moist, mineral-matter-free basis. The heat content of subbituminous coal consumed in the United States averages 17 to 18 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

Surface Mine: A coal mine that is usually within a few hundred feet of the surface. Earth and rock above or around the coal (overburden) is removed to expose the coalbed, which is then mined with surface excavation equipment such as draglines, power shovels, bulldozers, loaders, and augers. Surface mines include: area, contour, open-pit, strip, or auger mine.

Tipple: A central facility used in loading coal for transportation by rail or truck.

Uinta Region: See Coal-Producing Regions.

Underground Mine: A mine where coal is produced by tunneling into the earth to the coalbed, which is then mined with underground mining equipment such as cutting machines and continuous, longwall, and shortwall mining machines. Underground mines are classified according to the type of opening used to reach the coal, i.e., drift (level tunnel), slope (inclined tunnel), or shaft (vertical tunnel).

Underground Mining: The extraction of coal or its products from between enclosing rock strata by underground mining methods, such as room and pillar, longwall, and shortwall, or through in-situ gasification.

Western Region: See Coal-Producing Regions.