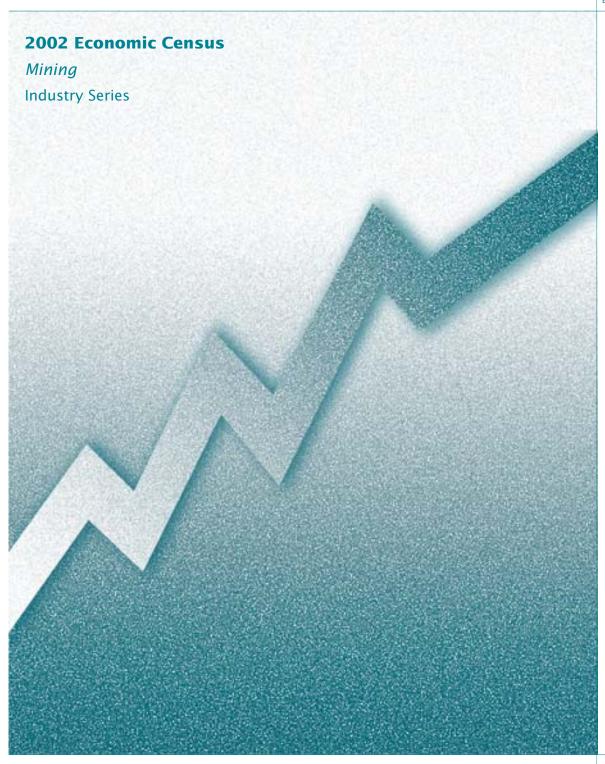
# Bituminous Coal and Lignite Surface Mining: 2002

Issued December 2004

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#### **2002 Economic Census**

Mining Industry Series





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-- Not applicable for this report.

#### Introduction to the Economic Census

#### PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in "2" and "7."

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the federal government use the data to monitor economic activity and to assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

#### INDUSTRY CLASSIFICATIONS

Data from the 2002 Economic Census are published primarily according to the 2002 North American Industry Classification System (NAICS). NAICS was first adopted in the United States, Canada, and Mexico in 1997. The 2002 Economic Census covers the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information
52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Food Services
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), largely covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 100 subsectors (three-digit codes), 317 industry groups (four-digit codes), and, as implemented in the United States, 1,179 industries (six-digit codes).

#### RELATIONSHIP TO HISTORICAL INDUSTRY CLASSIFICATIONS

Prior to the 1997 Economic Census, data were published according to the Standard Industrial Classification (SIC) system. While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The 1997 Economic Census *Bridge Between NAICS and SIC* demonstrates the relationships between NAICS and SIC industries. Where changes are significant, it may not be possible to construct time series that include data for points both before and after 1997.

Most industry classifications remained unchanged between 1997 and 2002, but NAICS 2002 includes substantial revisions within the construction and wholesale trade sectors, and a number of revisions for the retail trade and information sectors. These changes are noted in industry definitions and will be demonstrated in the *Bridge Between NAICS 2002 and NAICS 1997*.

For 2002, data for enterprise support establishments (those functioning primarily to support the activities of their company's operating establishments, such as a warehouse or a research and development laboratory) are included in the industry that reflects their activities (such as warehousing). For 1997, such establishments were termed auxiliaries and were excluded from industry totals.

#### **BASIS OF REPORTING**

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company. (For selected industries, only payroll, employment, and classification are collected for individual establishments, while other data are collected on a consolidated basis.)

#### **GEOGRAPHIC AREA CODING**

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for states, metropolitan and micropolitan statistical areas, counties, and corporate municipalities (places) including cities, towns, townships, villages, and boroughs. Respondents were required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from administrative sources is used as a basis for coding.

#### **AVAILABILITY OF ADDITIONAL DATA**

All results of the 2002 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on digital versatile discs (DVD-ROMs) for sale by the Census Bureau. The American FactFinder system at the Internet site allows selective retrieval and downloading of the data. For more information, including a description of reports being issued, see the Internet site, write to the U.S. Census Bureau, Washington, DC 20233-6100, or call Customer Services at 301-763-4100.

#### HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart

from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some service trades in 1933. Censuses of construction, manufacturing, and the other business censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated, providing comparable census data across economic sectors and using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census report forms.

The range of industries covered in the economic census expanded between 1967 and 2002. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity. New for 2002 is coverage of four industries classified in the agriculture, forestry, and fishing sector under the SIC system: landscape architectural services, landscaping services, veterinary services, and pet care services.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. Reports for 1997 were published primarily on the Internet and copies of 1992 reports are also available there. CD-ROMs issued from the 1987, 1992, and 1997 Economic Censuses contain databases that include all or nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

#### **SOURCES FOR MORE INFORMATION**

More information about the scope, coverage, classification system, data items, and publications for the 2002 Economic Census and related surveys is published in the *Guide to the 2002 Economic Census* at www.census.gov/econ/census02/guide. More information on the methodology, procedures, and history of the census will be published in the *History of the 2002 Economic Census* at www.census.gov/econ/www/history.html.

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### Mining

#### **SCOPE**

The Mining sector (sector 21) comprises establishments that extract naturally occurring mineral solids, such as coal and ores; liquid minerals, such as crude petroleum; and gases, such as natural gas. The term mining is used in the broad sense to include quarrying, well operations, beneficiating (e.g., crushing, screening, washing, and flotation), and other preparation customarily performed at the mine site, or as a part of mining activity.

The mining sector distinguishes two basic activities: mine operation and mining support activities. Mine operation includes establishments operating mines, quarries, or oil and gas wells on their own account or for others on a contract or fee basis. Mining support activities include establishments that perform exploration (except geophysical surveying) and/or other mining services on a contract or fee basis (except mine site preparation and construction of oil/gas pipelines).

Establishments in the mining sector are grouped and classified according to the natural resource mined or to be mined. Industries include establishments that develop the mine site, extract the natural resources, and/or those that beneficiate (i.e., prepare) the mineral mined. Beneficiation is the process whereby the extracted material is reduced to particles that can be separated into mineral and waste, the former suitable for further processing or direct use. The operations that take place in beneficiation are primarily mechanical, such as grinding, washing, magnetic separation, and centrifugal separation. In contrast, manufacturing operations primarily use chemical and electrochemical processes, such as electrolysis and distillation. However, some treatments, such as heat treatments, take place in both the beneficiation and the manufacturing (i.e., smelting/refining) stages. The range of preparation activities varies by mineral and the purity of any given ore deposit. While some minerals, such as petroleum and natural gas, require little or no preparation, others are washed and screened, while yet others, such as gold and silver, can be transformed into bullion before leaving the mine site.

Mining, beneficiating, and manufacturing activities often occur in a single location. Separate receipts will be collected for these activities whenever possible. When receipts cannot be broken out between mining and manufacturing, establishments that mine or quarry nonmetallic minerals, beneficiate the nonmetallic minerals into more finished manufactured products are classified based on the primary activity of the establishment. A mine that manufactures a small amount of finished products will be classified in Sector 21, Mining. An establishment that mines whose primary output is a more finished manufactured product will be classified in Sector 31-33, Manufacturing.

**Exclusions.** Hauling and other transportation beyond the mine property and contract hauling (except out of open pits in conjunction with mining).

The tabulations for this sector do not include central administrative offices, warehouses, or other establishments that serve mining establishments within the same organization. Data for such establishments are classified according to the nature of the service they provide. For example, separate headquarters establishments are reported in NAICS Sector 55, Management of Companies and Enterprises.

The reports described below exclude establishments of firms with no paid employees. These "nonemployers," typically self-employed individuals or partnerships operating businesses that they have not chosen to incorporate, are reported separately in Nonemployer Statistics. The contribution of nonemployers, relatively moderate for this sector, may be examined at www.census.gov/nonemployerimpact.

2002 Economic Census

The reports described below cover all mining establishments with one or more paid employees.

**Definitions.** Industry categories are defined in Appendix B, NAICS Codes, Titles, and Descriptions. Other terms are defined in Appendix A, Explanation of Terms.

#### REPORTS

The following reports provide statistics on this sector.

**Industry Series.** There are 29 reports, each covering a single NAICS industry (six-digit code). These reports include such statistics as number of establishments, employment, payroll, value added by mining, cost of supplies, value of shipments and receipts for services, capital expenditures, etc. The industry reports also include data for states with 100 employees or more in the industry. The data in industry reports are preliminary and subject to change in the following reports.

**Geographic Area Series.** There are 52 separate reports, one for each state, the District of Columbia, and offshore areas. Each state report presents similar statistics at the "all mining" level for each state. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

#### **Subject Series:**

- Industry-Product Analysis Summary. This report presents company, establishments, value of shipments and receipts for services, value of product shipments or receipts for services, percentage of product shipments of the total value of shipments and receipts for services, and percentage of distribution of value of product shipments or receipts for services on the NAICS six-digit industry level and by the six- and seven-digit product code levels. It also includes miscellaneous receipts at the six- and seven-digit product code levels by NAICS six-digit industry levels.
- **General Summary.** This report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.
- Product Summary. This report summarizes the products data published in the industry reports.
- **Materials Summary.** This report summarizes the materials and fuels data published in the industry reports.
- Location of Mines Summary. This report contains statistics on the number of establishments for the three- and six-digit NAICS industry by state and offshore area by employment-size of the establishment.

**Other reports.** Data for this sector are also included in reports with multisector coverage, including *Nonemployer Statistics, Comparative Statistics, Bridge Between 2002 NAICS and 1997 NAICS, Business Expenses*, and the Survey of Business Owners reports.

#### **GEOGRAPHIC AREAS COVERED**

- 1. The United States as a whole.
- 2. States and the District of Columbia.
- 3. Offshore Areas. Data for offshore areas that are part of Alaska, California, Louisiana, and Texas are included in their respective state area reports and represent offshore operations on these state offshore leases and all federal offshore leases defined by their state plane coordinate systems. State offshore includes the areas extending from the coastline up to 3 geographical miles distance, except for Texas and Florida, which extend 3 marine leagues from the coastline in the Gulf of Mexico. Data for offshore areas not associated with a state are in an Offshore Areas geographic report that includes the following areas:

- a. Atlantic Offshore: Atlantic Federal Area, New Hampshire state offshore, Maine state offshore, Massachusetts state offshore, Connecticut state offshore, New York state offshore, New Jersey state offshore, Delaware state offshore, Maryland state offshore, Virginia state offshore, North Carolina state offshore, South Carolina state offshore, Georgia state offshore, and Florida state Atlantic offshore.
- b. Northern Gulf of Mexico Offshore: Northern Gulf of Mexico Federal Areas defined by the Universal Transverse Mercator Coordinate System (including areas generally south of the state plane coordinate systems of Louisiana and Texas), Mississippi state offshore, Alabama state offshore, and Florida state Gulf offshore.
- c. Pacific Offshore: Pacific Federal areas defined by Universal Transverse Mercator Coordinate System, Oregon state offshore, and Washington state offshore.

#### **DOLLAR VALUES**

All dollar values presented are expressed in current dollars; i.e., 2002 data are expressed in 2002 dollars, and 1997 data, in 1997 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

#### COMPARABILITY OF THE 1997 AND 2002 ECONOMIC CENSUSES

Both the 2002 Economic Census and the 1997 Economic Census present data based on the North American Industry Classification System (NAICS). There were several revisions to selected industries in the mining sector, for 2002. These changes were due to industries that are now being classified in the construction sector. These changes are:

- 213112 Construction of field gathering lines on a contract basis
- 213112 Site preparation and related construction activities on a contract basis
- 213113 Site preparation and related construction activities on a contract basis
- 213114 Site preparation and related construction activities on a contract basis
- 213115 Site preparation and related construction activities on a contract basis

More detailed information of NAICS changes from 1997 to 2002, may be examined at http://www.census.gov/epcd/naics02/n02ton97.htm.

In addition, there have been several additional data tables added, which did not exist in 1997. These tables for 2002 include industry-product analysis, e-commerce value of shipments and receipts for services, and leased and nonleased detail employment statistics by subsectors.

#### **RELIABILITY OF DATA**

All data compiled for this sector are subject to nonsampling errors. Nonsampling errors can be attributed to many sources: inability to identify all cases in the actual universe; definition and classification difficulties; differences in the interpretation of questions; errors in recording or coding the data obtained; and other errors of collection, response, coverage, processing, and estimation for missing or misreported data.

No direct measurement of these effects has been obtained except for estimation for missing or misreported data, as by the percentages shown in the tables. Precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize the effects of nonsampling errors. More information on the reliability of the data is included in Appendix C, Methodology.

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#### **DISCLOSURE**

In accordance with federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments in a specific industry or geographic area is not considered a disclosure; therefore, this information may be released even though other information is withheld. Techniques employed to limit disclosure are discussed at www.census.gov/epcd/ec02/disclosure.htm.

The disclosure analysis for "industry statistics" files is based on the total value of shipments and receipts. When the total value of shipments and receipts cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. If capital expenditures alone is a disclosure, only capital expenditures and cost of supplies statistics are suppressed. Nonetheless, the suppressed data are included in higher-level totals.

#### AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The County Business Patterns program offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county, and Statistics of U.S. Businesses provides annual statistics classified by the employment size of the enterprise, further classified by industry for the United States, and by broader categories for states and metropolitan areas.

#### **CONTACTS FOR DATA USERS**

Questions about these data may be directed to the U.S. Census Bureau, Manufacturing & Construction Division, Information Services Center, 301-763-4673 or ask.census.gov.

#### ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with these data:

- A Standard error of 100 percent or more
- D Withheld to avoid disclosing data of individual companies; data are included in higher level totals
- F Exceeds 100 percent because data include establishments with payroll exceeding revenue
- N Not available or not comparable
- S Withheld because estimates did not meet publication standards
- X Not applicable
- Z Less than half the unit shown
- a 0 to 19 employees
- b 20 to 99 employees
- c 100 to 249 employees
- e 250 to 499 employees
- f 500 to 999 employees
- g 1,000 to 2,499 employees
- h 2,500 to 4,999 employees
- i 5,000 to 9,999 employees
- j 10,000 to 24,999 employees k 25,000 to 49,999 employees
- l 50,000 to 49,999 employees
- m 100,000 employees or more
- p 10 to 19 percent estimated
- q 20 to 29 percent estimated
- r Revised
- s Sampling error exceeds 40 percent
- nsk Not specified by kind
- Represents zero (page image/print only)
- (CC) Consolidated city
- (IC) Independent city

#### Table 1. Historical Statistics for the Industry: 2002 and 1997

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

			All em	ployees		ion, developn oloration worl				
Industry and year	Com- panies <sup>1</sup>	All estab- lish- ments <sup>2</sup>	For pay period including March 12	Annual payroll (\$1,000)	For pay period including March 12		Annual wages (\$1,000)	Value added (\$1,000)	Total cost of supplies (\$1,000)	Capital expendi- tures (\$1,000)
212111, Bituminous coal and lignite surface mining	486 607	642 829	32 755 36 632	1 616 814 1 652 355		58 224 64 952	1 346 416 1 323 722	7 556 741 7 289 615	4 392 593 5 927 643	812 939 766 191

<sup>&</sup>lt;sup>1</sup>For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control. <sup>2</sup>Includes establishments with payroll at any time during the year.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

#### Table 2. Industry Statistics for Selected States and Offshore Areas: 2002

[Offshore areas refer to those areas not associated with a state. States that are disclosures or with less than 100 employees are not shown. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

		All establishments <sup>2</sup>		All employees		Production, development, and exploration workers						
Industry and geographic area	E¹	Total	With 20 em- ploy- ees or more	For pay period including March 12	Annual payroll (\$1,000)	For pay period including March 12	Annual hours (1,000)	Annual wages (\$1,000)	Value added (\$1,000)	Total cost of supplies (\$1,000)	services	Capital expendi- tures (\$1,000)
212111, Bituminous coal and lignite surface mining												
United States. Alabama. Colorado Kentucky Montana. North Dakota	1 - 1	642 28 8 126 6	303 12 5 68 4 4	32 755 567 674 5 628 752 931	1 616 814 24 489 38 320 246 377 40 746 61 383	27 748 474 551 4 809 667 731	58 224 1 009 1 177 9 793 1 436 1 516	1 346 416 19 760 32 468 209 332 34 945 47 077	7 556 741 94 888 150 979 1 167 352 245 015 218 838	4 392 593 62 189 62 774 731 069 98 127 83 374	138 884 204 527 1 657 595 332 325	812 939 12 553 5 710 170 122 10 817 41 140
Pennsylvania Virginia West Virginia Wyoming	3	119 62 107 17	23 29 59 17	1 718 1 599 5 937 5 135	70 384 70 971 255 154 275 776	1 362 1 404 5 169 4 398	2 830 2 781 10 589 9 357	52 699 61 063 215 545 233 470	271 185 347 157 1 389 175 1 606 442	144 944 373 854 772 916 887 363	616 898 1 900 926	22 974 29 834 161 248 132 694

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

2Includes establishments with payroll at any time during the year.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

#### Table 3. Detailed Statistics by Industry: 2002

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

	Value
212111, Bituminous coal and lignite surface mining	
Companies <sup>1</sup> number.	486
All establishments <sup>2</sup> . number.  Establishments with 0 to 19 employees number.  Establishments with 20 to 99 employees number.  Establishments with 100 employees or more number.	642 339 216 87
All employees for pay period including March 12       number.         Total compensation       \$1,000         Annual payroll       \$1,000         Annual fringe benefits not included in payroll       \$1,000	32 755 2 141 260 1 616 814 524 446
Production, development, and exploration workers for pay period including March 12number	27 748
Production, development, and exploration worker annual hours	58 224 1 346 416
Total cost of supplies         \$1,000.           Supplies used, minerals received, and purchased machinery installed         \$1,000.           Resales         \$1,000.           Purchased fuels consumed         \$1,000.           Purchased electricity         \$1,000.           Contract work         \$1,000.	4 392 593 3 243 260 125 486 339 235 161 594 523 018
Quantity of electricity purchased     1,000 kWh.       Quantity of electricity generated less sold     1,000 kWh.	3 698 491 D
Total other expenses         \$1,000           Response coverage ratio³         percent.           Communications services         \$1,000           Legal services         \$1,000           Accounting, auditing, and bookkeeping services         \$1,000           Advertising and promotional services         \$1,000           All other expenses (not included above)         \$1,000	606 217 79 11 843 15 083 4 964 4 344 569 983
Total value of shipments and receipts for services \$1,000.  Primary products value of shipments \$1,000.  Secondary products value of shipments and receipts for services \$1,000.  Value of resales \$1,000.	10 600 120 D D D 171 417
Value of primary products shipments or services produced in all industries       \$1,000.         Value of primary products shipments or services produced in this industry.       \$1,000.         Value of primary products shipments or services produced in other industries       \$1,000.	10 399 121 D D
Value added\$1,000	7 556 741
Total inventories, end of 2001 \$1,000.  Mineral products, crude petroleum, and natural gas liquids inventories \$1,000.  Supplies, parts, fuels, etc., inventories \$1,000.	467 224 215 437 251 787
Total inventories, end of 2002 \$1,000.  Mineral products, crude petroleum, and natural gas liquids inventories \$1,000.  Supplies, parts, fuels, etc., inventories \$1,000.	492 332 246 462 245 870
Gross book value of depreciable/depletable assets at beginning of year. \$1,000. Capital expenditures (except land and mineral rights). \$1,000. Capital expenditures for buildings, structures, machinery, and equipment (new and used) \$1,000. Capital expenditures for mineral exploration and development \$1,000. Capital expenditures for mineral land and rights \$1,000. Deductions from depreciable/depletable assets during year \$1,000. Gross book value of depreciable/depletable assets at end of year \$1,000.	12 376 888 812 939 702 277 110 662 61 225 673 593 12 577 459
Total depreciation/depletion charges during year\$1,000	750 851
Total rental payments during year \$1,000.  Buildings and other structures \$1,000.  Machinery and equipment. \$1,000.	351 332 9 415 341 917
Lease rents\$1,000	122 515
Expensed mineral exploration, development, land, and rights	467 003

<sup>&</sup>lt;sup>1</sup>For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

<sup>2</sup>Includes establishments with payroll at any time during the year.

<sup>3</sup>A response coverage ratio is derived for this item by calculating the ratio of the employment for those establishments that reported this item to the total employment for all establishments classified in this industry.

Note 1: The amounts shown for other expenses reflect only those services that establishments purchase from other companies.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

#### Table 4. Industry Statistics by Employment Size: 2002

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

			All employees			evelopment, ar workers	nd exploration				
Employment size class	E¹	All estab- lish- ments <sup>2</sup>	For pay period including March 12	Annual payroll (\$1,000)	For pay period including March 12	Annual hours (1,000)	Annual wages (\$1,000)	Value added (\$1,000)	Total cost of supplies (\$1,000)	Total value of shipments and receipts for services (\$1,000)	Capital expendi- tures (\$1,000)
212111, Bituminous coal and lignite surface mining											
All establishments  Establishments with — 0 to 4 employees. 5 to 9 employees. 10 to 19 employees 20 to 49 employees 100 to 249 employees 250 to 499 employees 500 to 999 employees 1,000 to 2,499 employees 2,500 employees	8 7 3 2 - - -	642 192 66 81 144 72 57 24 6	32 755 365 441 1 165 4 779 5 008 8 908 8 302 3 787	1 616 814 15 779 21 139 52 802 208 232 233 752 432 516 451 008 201 586	27 748  284 316 929 4 075 4 323 7 553 7 229 3 039 —	58 224 564 686 1 907 8 563 9 224 15 138 15 470 6 672	1 346 416 11 411 14 464 40 924 174 074 199 374 359 209 387 681 159 279	7 556 741 78 226 123 573 251 357 1 170 460 946 282 1 979 71 1 941 931 1 065 195	4 392 593 28 906 182 553 133 025 615 248 793 556 1 257 360 916 630 465 315	77 435 273 684 314 029 1 511 376 1 547 454 3 000 706 2 524 972 1 350 464	812 939 3 974 5 387 20 047 129 510 154 814 198 288 227 133 73 786
Administrative records <sup>3</sup>	9	202	756	35 795	606	1 283	26 815	169 045	62 464	151 518	9 352

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Includes establishments with payroll at any time during the year.

³Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

#### Table 5. Industry Statistics by Type of Operation: 2002

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

	All establi	All establishments <sup>1</sup>		All employees		Production, development, and exploration workers			
Industry and type of operation	Total	With 20 employees or more	For pay period including March 12	Annual payroll (\$1,000)	For pay period including March 12	Annual hours (1,000)	Annual wages (\$1,000)	Value added (\$1,000)	Total value of shipments and receipts for services (\$1,000)
212111, Bituminous coal and lignite surface mining									
All establishments Producing establishments Mines or wells only Underground mines Open-pit mines	642 637 366 - 355	303 302 99 – 89	32 755 32 697 7 648 - 7 206	1 616 814 1 614 816 355 980 - 336 430	27 748 27 712 6 174 - 5 775	58 224 58 145 13 264 - 12 420	1 346 416 1 345 004 278 707 - 260 487	7 556 741 7 556 734 1 616 558 - 1 514 374	10 600 120 10 600 120 1 845 184 - 1 659 339
Combination mines, well operations, or other types of mines.	11	10	442	19 550	399	844	18 220	102 184	185 845
Mines with preparation plants	216	172	23 132	1 185 621	20 005	42 084	1 007 076	5 578 652	7 758 936
Open-pit mines Combination mines or other types of mines	190 26	151 21	21 168 1 964	1 100 888 84 733	18 347 1 658	38 611 3 473	935 216 71 860	5 092 706 485 946	7 097 166 661 770
Separately operated preparation plants	35 20	25 6	1 666 251	62 533 10 682	1 369 164	2 445 352	52 027 7 194	324 616 36 908	944 036 51 964
Nonproducing establishments	5	1	58	1 998	36	79	1 412	7	_

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

<sup>&</sup>lt;sup>1</sup>Includes establishments with payroll at any time during the year. <sup>2</sup>Includes data for establishments that were not possible to classify based on information available.

#### Table 6a. Products or Services Statistics: 2002 and 1997

[Includes quantity and value of products or receipts for services of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Product or			Product shipments or receipts for services		
service code	Product or service	Quantity of production for all purposes	Quantity	Value (\$1,000)	
212111	Bituminous coal and lignite surface mining	X	X	10 399 121 12 333 441	
2121111	Run-of-mine (raw) bituminous coal and lignite shipped from surface mining operations	X	X	1 541 494 1 637 862	
21211111	Run-of-mine (raw) bituminous coal and lignite shipped from surface mining operations, for use without processing	X	X	489 427 531 756	
2121111111	Run-of-mine (raw) bituminous coal and lignite shipped from surface mining operations, for use without processing	x	S	489 427	
21211112	Run-of-mine (raw) bituminous coal and lignite shipped from surface mining operations, for processing at other establishments	X X	25.0 X	531 756 1 052 067	
2121111221	Run-of-mine (raw) bituminous coal and lignite shipped from surface mining operations, for processing at other establishments	X X	Х 949.1	1 106 106 1 052 067	
2121113	1997  Processed bituminous coal and lignite shipped from surface operations	X X	67.9 X	1 106 106 8 326 844	
21211131	Processed bituminous coal and lignite shipped from surface operations, washed by wet-washing, pneumatic, or other methods	X X	X X	10 222 212 2 648 693	
2121113111	Processed bituminous coal and lignite shipped from surface operations, washed by wet-washing, pneumatic, or other methods	X X	P113.1	4 811 211 2 648 693	
21211132	Processed bituminous coal shipped from surface operations (mechanically crushed, screened, or sized only)	X	182.2 X	4 811 211 1 902 861	
2121113221	Processed bituminous coal shipped from surface operations (mechanically crushed, screened, or sized only) mil s tons2002.	x x	X 80.3	2 675 786 1 902 861	
21211133	Processed subbituminous coal shipped from surface operations (mechanically crushed, screened, or sized only).	x x	114.2	2 675 786 2 944 733	
2121113331	Processed subbituminous coal shipped from surface operations (mechanically crushed, screened, or sized only) mil s tons2002.	Х	X X	1 888 198	
21211134	Processed lignite coal shipped from surface operations (mechanically crushed.	X	399.2 308.1	2 944 733 1 888 198	
2121113441	screened, or sized only)	X	X	830 557 847 017	
	crushed, screened, or sized only)mil s tons2002	X	74.3 80.9	830 557 847 017	
212111W	Bituminous coal and lignite surface mining, nsk	X	X X	530 783 473 367	
212111WY 212111WYWT	Bituminous coal and lignite surface mining, nsk	X X X	X X X	530 783 473 367 530 783 473 367	

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p-10 to 19 percent estimated; q-20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

#### Product Class Shipments or Receipts for Services for Selected States and Offshore Areas: 2002 and 1997

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 2002. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographic definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

Product or service class code	Product or service class and geographic area	Value of product shipments or receipts for services (\$1,000)
2121111	Run-of-mine (raw) bituminous coal and lignite shipped from surface mining operations	
	United States. 2002. Alabama 2202. Colorado 2002. Colorado 2002. 1997.	1 541 494 1 637 862 49 606 22 981 82 064 78 153
	Indiana     2002.       1997.     2002.       Kentucky     1997.       Maryland     1997.       2002.     2002.	40 462 N 473 611 330 137 16 825
	Ohio 1997 2002 Pennsylvania 2002. 1997 2002. 1997	N 56 694 55 344 64 294 161 514
	Virginia       2002 .         1997 .       1997 .         West Virginia       2002 .         1997 .       1997 .	110 222 164 978 473 500 585 830
2121113	Processed bituminous coal and lignite shipped from surface operations	
	United States	8 326 844 10 222 212 76 540 223 177 178 666 305 464
	Indiana     2002.       Kentucky     1997.       Montana     1997.	562 269 308 929 987 437 1 918 713 339 042
	New Mexico	402 748 447 625 N 257 461 235 898
	Ohio       2002 .         Pennsylvania       1997 .         Tennessee       1997 .         Zeoo2 .       2002 .	143 924 288 258 188 240 708 729 19 638
	Virginia	58 573 356 481 552 965 1 373 908 1 802 093 2 252 244 1 672 771

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

## Table 7. Selected Supplies, Minerals Received for Preparation, Purchased Machinery, and Fuels Consumed by Type: 2002 and 1997

[Includes quantity and cost of supplies and fuels consumed or put into production by establishments classified only in this industry. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Supply or fuel code	Supply or fuel consumed	Quantity	Delivered cost (\$1,000)
212111	Bituminous coal and lignite surface mining		
	Supplies consumed by type		
21211005	Run-of-mine (raw) coal, received for washing (wet-washing, pneumatic, etc.) mil s tons 2002	42.1	463 341
21211007	Run-of-mine (raw) coal, mined and processed at same establishment by washing (wet-washing, pneumatic, etc.) mil s tons, .2002.	180.4 118.1	2 368 122 X
21211009	Run-of-mine (raw) coal, received for processing by other methods (including mechanical	98.2	X X
21211011	crushing, screening, or sizing)	S 9.8	224 526 184 043
33300007	mechanically crushing, screening and sizing)	555.8 490.6	X
3330007	installed at the operation	×	592 542 488 185
33300009	Parts and attachments for mining, mineral preparation, construction, and conveying machinery and equipment		653 460
31320029	1997   1997   2002   2002   2003   2004   2005	X X X X X X X X X X X X X X X X X X X	549 976 10 763
11300000	Wood products and stumpage, round and hewn	XX	3 271 1 740
32592003	Explosive materials, excluding ammonium nitrate	XX	1 070 124 468
32592005	1997	X	88 255 160 633
32592007	1997.   Blasting accessories		164 934 45 097
	1997	ĵ (	43 460
32419100	Lubricating oils and greases (including hydraulic oils)	X X	55 909 42 663
32621001	Tires and inner tubes	XX	71 713 70 231
32600009	Rubber and plastics products (hose, conveyor belting, etc.) excluding tires, tubes, and gaskets	XX	16 995 7 486
32700037	Concrete products	X	3 149 1 782
32799217	Nonmetallic mineral products (rock dust, other prepared nonmetallic minerals and earths, etc.)		9 001
33120049	Steel shapes and forms (excluding castings, forgings, and wire products)	ŝ	5 871 25 699
33100085	Nonferrous metal wire including trolley wire	XX	13 273 2 847
33272200	1997 2002.	XX	1 049 7 048
33290007	Wire rope, cable, springs, and other fabricated wire products (excluding wire)	X	1 940 21 828
33300005	1997.     Drill bits and reamers   2002.		22 681 16 905
	1997	ĵ	11 458
00970098	All other supplies	X X	348 368 351 324
00973000	Undistributed minerals, purchased machinery, parts, attachments, and supplies used	××	387 228 272 034
	Fuels consumed by type		
21211003	Coal (bituminous, subbituminous, lignite, and anthracite) consumed as a fuel	D D	D D
21211013	Coal (bituminous, subbituminous, lignite, and anthracite) produced and used in the same plant as a fuel 1,000 s tons, .2002.	1.1	x
32411017	1997  Distillate (light) grade numbers 1, 2, 4, and light diesel fuel used as a fuel	31.5 P7 126.8	X 260 168
32411019	Residual (heavy) grade numbers 5 and 6 and heavy diesel fuel used as a fuel	7 420.4 973.9	219 512 37 498
21111015	Gas (natural, manufactured, and mixed) used as a fuel	721.2	20 461 2 099
32411015	Gasoline used as a fuel	S .7 P11.8	2 011 12 962
00960018	Other fuels (liquefied petroleum gas, coke, wood, etc.)	29.4	24 031 D
	1997	X X X X	D
00974000	Undistributed fuels	X	23 608 89 002

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p-10 to 19 percent estimated; q-20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

## Appendix A. Explanation of Terms

#### **PAYROLL**

This item includes the gross earnings of all employees on the payrolls of operating mining establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick-leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of mining establishments.

The census definition of payrolls is identical to that recommended to all federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

Also collected, but not included in payroll, are employers' total supplemental labor costs (those required by federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

#### **BEGINNING- AND END-OF-YEAR INVENTORIES**

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and, then, to report the LIFO reserve and the LIFO value after adjustment for the reserve.

#### Inventory data by type

Total inventories and two detailed components (1) mined or quarried products, crude petroleum, and natural gas liquids and (2) supplies, parts, fuels, etc., were collected.

#### **CAPITAL EXPENDITURES**

This item includes permanent additions and major alterations as well as new and used machinery and equipment used for replacement and additions to plant capacity for which depreciation, depletion, or Office of Minerals Exploration accounts are ordinarily maintained. Reported capital expenditures include work done on contract, as well as by the mine forces. Totals for expenditures include the costs of assets leased from other concerns through capital leases. In addition, these data include expenditures made during the year for development and exploration of mineral properties. Excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses and capital expenditures for mineral land and rights. For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

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#### Capital expenditures for mineral land and rights

This item includes all capital expenditures for acquiring either undeveloped or developed acreage. Included are all capitalized lease bonuses and any other outlays necessary to acquire leases, mineral rights, fee lands incident to mineral exploration, development, or production.

#### **PURCHASED SERVICES**

Included in the cost of purchased services for communication is the actual expense incurred or payable during the year for any type of communication. Such types of communication include telephone, data transmission, telegraph, Internet, connectivity, FAX, telex, photo transmission, paging, cellular telephone, online access and related services, etc.

Included in the cost of selected purchased services for legal services are payments made to other companies for these services that were paid directly by the establishment. Excluded are the salaries paid to employees of the establishment for these services.

Included in the cost of selected accounting, auditing, and bookkeeping services are payments made to other companies for these services that were paid directly by the establishment. Excluded are the salaries paid to employees of this establishment for these services.

Included in the cost of selected advertising and promotional services are payments made to other companies for these services that were paid directly by the establishment. These include payments for printing, media coverage, and other advertising services and materials. Excluded are the salaries paid to employees of this establishment for these services.

Included in the all other expenses are payments made to other companies for services not included in communication, legal, accounting, auditing, bookkeeping, and advertising and promotional services previously mentioned that were paid directly by the establishment. Excluded are the salaries paid to employees of this establishment for these services.

#### Response coverage ratio

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is derived by calculating the ratio of the employment for those establishments that reported this item to the total employment for all establishments classified in this industry.

#### **COST OF SUPPLIES**

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these items. It includes the cost of these items whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year. Included are items charged to both current and capital accounts.

Included in this item are:

- Costs of supplies used, minerals received for preparation, and purchased machinery installed. Includes all major supplies that were important parts of the cost of production, exploration, and development of a particular industry. Also included are all new and used machinery, equipment, and parts installed whether purchased or received from other establishments of the same company.
- 2. Cost of products bought and sold in the same condition.
- 3. Cost of purchased fuels consumed for heat, power, or the generation of electricity. Includes the cost of fuels consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

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- 4. Cost of purchased electricity. The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy purchased and also the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other establishments of the same company.
- 5. Cost of contract work. This term applies to the cost of all work done for an establishment by others. It includes payments for supplies and equipment furnished by the contractor incidental to the contract work, and cost of services performed by others in the operation or development of the establishment. The term "Contract Work" refers to the fee a company pays to another company to perform a service. It excludes payments to miners paid on a per ton, car, yard, or footage basis. Also excluded are payments to suppliers who mined for their own account on property owned or leased by them and who paid royalties either directly or indirectly on the minerals mined.

### Specific supplies used, minerals received for preparation, and purchased machinery installed

In addition to the total cost of supplies, purchased machinery installed, etc., which every establishment was required to report, information also was collected on the consumption of the major supplies used in mining. The inquiries were restricted to those supplies which were important parts of the cost of production, exploration, and development in a particular industry and for which cost information was available from the establishment's records. Except for the crude petroleum and natural gas and the support activities for mining industries, figures were also obtained on crude minerals mined at the establishment, received from other establishments of the company or purchased from others, and received for preparation on a custom or toll basis. If less than \$25,000 of a listed supply was consumed by an establishment, the cost data could be reported in the "All other supplies," census supply code 00970098. Also, the cost of supplies for small establishments for which administrative records or short forms were used was imputed into the "Undistributed – minerals, purchased machinery, parts.....," census supply code 00973000.

#### Specific fuels consumed

For most industries, separate quantity and cost figures are shown for purchased coal, distillate fuel oil, residual fuel oil, gas, gasoline, and a cost figure for other fuels. Data also were obtained on the quantity of crude petroleum, natural gas, and coal produced and consumed at the same establishment for heat and power. The cost of fuels for small establishments for which administrative records or short forms were used was imputed into the "Undistributed fuels", census fuel code 00974000.

#### EXPENSED MINERAL EXPLORATION, DEVELOPMENT, LAND AND RIGHTS

This item includes all expenses for mineral properties, exploration, and development charged to current accounts. Included are all supplies, machinery, equipment, parts, fuels, power, etc., used for development or exploration and charged to current operating expenses. Also included are royalty payments, acquisition costs for mineral land and rights that were not associated with exploration or development activity, and the cost of maintenance and repairs associated with exploration or development activity and charged to current accounts.

#### **DEPRECIATION AND/OR DEPLETION CHARGES**

This item includes depreciation, depletion, and amortization charged during the year against assets. Depreciation charged against assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation or depletion.

#### **NUMBER OF EMPLOYEES**

These individuals comprise of all full-time and part-time employees on the payrolls of establishments during any part of the pay period that were the 12th of March. Included are all persons on paid sick leave, paid holidays, and paid vacations during this pay period. A distribution of those

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employees who work in units that serve manufacturing, distribution, or construction operations also carried on at the mining establishment in addition to the minerals operation is also included. Officers of corporations are included as employees; not included are proprietors and partners of unincorporated firms.

The (all employees) number is the number of production, development, and exploration workers plus the number of all other employees on the payrolls of establishments during any part of the pay period that were the 12th of March.

The (production, development, and exploration workers) number includes workers (up through the working-supervisor level) engaged in manual work (using tools, operating machines, hauling materials, loading and hauling products out of the mine, and caring for mines, plants, mills, shops, or yards). Included are exploration work, mine development, storage, shipping, maintenance, repair, janitorial and guard services, auxiliary production for use at establishments (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Gang and straw bosses and supervisors who performed manual labor are included, as are employees paid on either a time- or piece-rate basis. Also included are miners paid on a per ton, car, or yard basis and persons engaged by them and paid out of the total amount received by these miners. Employees above the working-supervisor level and those of contractors are excluded from this item.

The (other employees) number covers nonproduction employees of the mining establishment including those engaged in the following activities: supervision above the working-supervisor level, sales, highway trucking or other transportation (by employees not entering mines or pits), advertising, credit, collection, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), and professional (engineers, geologists, etc.) and technical work. Also included are employees on the payroll of the mining establishment engaged in the construction of major additions or alterations utilized as a separate work force. Workers engaged in regular maintenance and repair operations are not included here but are classified as production, development, and exploration workers. Employees of contractors are excluded from this item.

#### **TOTAL FRINGE BENEFITS**

This item is the employer's costs for social security tax, unemployment tax, workmen's compensation insurance, state disability insurance pension plans, stock purchase plans, union-negotiated benefits, life insurance premiums, and insurance premiums on hospital and medical plans for employees.

Fringe benefits include both legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation, whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans, and payments made directly to retired employees or their survivors that do not pass through a fund. They exclude such items as losses on company-operated cafeterias and snack bars, cost of in-plant medical services, cost of free parking lots, discounts on employee purchases, cost of uniforms and other work clothing supplied to employees and similar expenditures, and wages and salaries reported in payroll (holidays, vacations, sick pay, bonuses, jury pay, costs for training, and partially subsidized housing and safety).

## GROSS BOOK VALUE OF DEPRECIABLE AND/OR DEPLETABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable and/or depletable assets is collected on all census forms except for the crude petroleum and natural gas form.

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It shows the value of depreciable and/or depletable assets for the beginning of year (BOY) and end of year (EOY). The data encompass all depreciable and/or depletable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, equipment (production, office, and transportation equipment), capitalized mineral exploration and development, and mineral land and rights for which depreciation, amortization, or depletion reserves are maintained.

The definition of depreciable and/or depletable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year.

Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

#### **LEASE RENTS**

This item represents the lease rents paid by the establishment for mineral properties. It was not collected on the short form or for the crude petroleum and natural gas, natural gas liquids, and the support activities for mining industries.

#### **ESTABLISHMENT**

An establishment is a single physical location where business is conducted or where services or industrial operations are performed. Data in this sector includes those establishments where mineral operations are performed. A separate report was required for each mining establishment of firms with one employee or more that were in operation at any time during the year.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

For the crude petroleum and support activities for mining industries, the basis for reporting is different from the establishments basis used for other types of mining. Firms operating oil and gas wells, drilling wells, or exploring for oil and gas for their own account were required to submit a separate report for each state or offshore area adjacent to a state in which it conducted such activities. Firms that performed contract services for oil and gas field operation or for mining establishments were required to submit one report covering all such activities in the United States and to include information on receipts for services and production-worker wages and hours by state. These consolidated reports were then allocated to state establishments based on the data reported at the state level.

#### Company

A company or ("enterprise") is comprised of all the establishments that operate under the owner-ship or control of a single organization. A company may be a business, service, or membership organization; consist of one or several establishments; and operate at one or several locations. It includes all subsidiary organizations, all establishments that are majority-owned by the company or any subsidiary, and all the establishments that can be directed or managed by the company or any subsidiary.

A company may have one or many establishments. Examples include product and service sales offices (retail and wholesale), industrial production plants, processing or assembly operations, mines or well sites, and support operations (such as an administrative office, warehouse, customer service center, or regional headquarters). Each establishment should receive, complete, and return a separate census form.

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If the company operated at different physical locations, even if the individual locations were producing the same mineral product, a separate report was requested for each location. If the company operated in two or more distinct lines of mining at the same location, a separate report was requested for each activity.

#### PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits.

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. Since the 1997 census programs, information is collected on the output of almost 10,000 individual product items.

In the mining sector for 2002, there are 3 subsectors (three-digit NAICS), 5 industry groups (four-digit NAICS), 10 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 29 U.S. industries (six-digit NAICS). Product classes and products of the mining industries have been assigned codes based on the industry from which they originate. There are 63 product classes (seven-digit codes) and 136 ten-digit product codes. The ten-digit products are considered the primary products of the industry with the same first six digits.

For the 2002 Economic Census — Mining, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by mining, value of shipments and receipts for services, etc.) reflect the activities of the establishments that may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments and receipts for services, to the product statistics, the composition of the industry's output should be considered.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories, so that comparable 1997 information is presented for most products.

Typically, both quantity and value of shipments and receipts for services information were collected. However, if quantity was not significant or could not be reported by mining establishments, only value of shipments and receipts for services was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company.

#### PRODUCTION, DEVELOPMENT, AND EXPLORATION WORKER HOURS

This item covers all hours worked or paid for at the establishment, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave when the employee was not at the establishment. Excluded are hours worked by employees of contractors and hours of proprietors or partners.

#### **OUANTITY OF ELECTRICITY PURCHASED FOR HEAT AND POWER**

Data on the quantity and cost of purchased electric energy were collected on all census forms, except for the short forms. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

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#### RENTAL PAYMENTS

Total rental payments are collected on all census forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained, if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments.

However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

#### RETIREMENTS OF DEPRECIABLE AND/OR DEPLETABLE ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, abandoned, etc., during the calendar year at their acquisition cost. It also includes the value of assets transferred to other establishments from a company at their acquisition cost, rather than current market value. Excluded are the charges to depreciation or amortization reserves. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

#### **VALUE ADDED**

This measure of mining activity is derived by subtracting the cost of supplies, minerals received for preparation, purchased machinery installed, purchased fuel, purchased electricity, and contract work from the sum of the value of shipments and receipts for services (mining products plus receipts for services rendered) and capital expenditures. The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of products sold without further processing).

"Value added" avoids the duplication in the figure for value of shipments and receipts for services that results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added not only in mineral production but also in the development of mineral properties. Value added is considered to be the best value measure available for comparing the relative economic importance of mining among industries and geographic areas.

#### **VALUE OF SHIPMENTS AND RECEIPTS FOR SERVICES**

This item covers the net selling values, f.o.b. mine or plant after discounts and allowances (exclusive of freight and excise taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all products physically shipped by the establishments, whether sold, transferred to other plants of the same company, or shipped on consignment. For products transferred to other establishments of the same company, or prepared on a custom or toll basis, companies were requested to report the estimated value, not merely the cost of producing the product.

In the case of multiunit companies, the mineral operation was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

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In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment's value of shipments and receipts for services:

- 1. Receipts for services receipts for work or services that an establishment performed for others.
- 2. Value of resales sales of products brought and sold without further processing.
- 3. Other miscellaneous receipts such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments and receipts for services represents one of the three components of value of shipments and receipts for services. These components are:

- 1. Primary products value of shipments and receipts for services.
- 2. Secondary products value of shipments and receipts for services.
- 3. Value of resales.

The term "Value of primary products shipments or services produced in this industry" is used in this publication and refers to the same data.

An establishment is classified in a particular NAICS industry, if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's value of shipments and receipts for services include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), receipts for services and miscellaneous activities, and the value of resales.

Value of product shipments represents the total value of all products shipped that are classified as primary to an industry and includes those that were shipped by all mining and manufacturing establishments regardless of their industry classification.

### Duplication in cost of supplies, etc., and value of shipments and receipts for services

The aggregate of the cost of supplies, etc., and value of shipments and receipts for services figures for industry groups and all mining industries includes some duplication since the products of some industries are used as supplies by others. Some duplication exists because of the inclusion of minerals transferred from one establishment to another for mineral preparation or resale. Duplication may also exist within the products of some individual industries where minerals shipped for preparation are also reported as the prepared product by another establishment.

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## Appendix B. NAICS Codes, Titles, and Descriptions

#### 212111 BITUMINOUS COAL AND LIGNITE SURFACE MINING

This U.S. industry comprises establishments primarily engaged in one or more of the following:

- 1. surface mining of bituminous coal and lignite;
- 2. developing bituminous coal and lignite surface mine sites;
- 3. surface mining and beneficiating (e.g., cleaning, washing, screening, and sizing coal) of bituminous coal; or
- 4. beneficiating (e.g., cleaning, washing, screening, and sizing coal), but not mining, bituminous coal.

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## Appendix C. Methodology

#### **SOURCES OF THE DATA**

The mining sector includes approximately 25,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of mining. The amount of information requested from mining establishments was dependent upon a number of factors. The more important consideration was the size of the company.

Establishments in the 2002 Economic Census are divided into those sent report forms and those not sent report forms. The coverage of and the method of obtaining census information from each are described below:

#### 1. Establishments sent a report form:

- a. Large and medium size establishments. Approximately 48 percent of all mining establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 15 economic census mining regular forms. The first seven pages, requesting establishment data for items, such as employment and payroll, costs, assets, and capital expenditures, were fairly standard although some variation occurred depending on the industries collected on the form. The remaining pages of the form contained product, supply, fuel, and special inquiries. The diversity of the mining activities necessitated the use of several forms to canvass the 29 mining industries.
- b. Small single-establishment companies. This group included approximately 12 percent of all mining establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. Establishments in the crushed stone, sand and gravel, and crude petroleum and natural gas industries with 5 to 19 employees received 1 of 2 versions of the short form. The form requested summary product and material data and totals, but no details on payrolls, cost of supplies and fuels, assets, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics, because the same data were collected on the short form as on the long form. However, detailed information on products, supplies, and fuels was not collected on the short form; thus, its use would increase the value of the "not specified by kind" (nsk) categories.

#### 2. Establishments not sent a report form:

a. Small single-establishment companies not sent a report form. Approximately 40 percent of the mining establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and the Census Bureau's ability to assign the correct six-digit NAICS industry classification to the establishment. For each six-digit NAICS industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments and receipts for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report that requested information for assigning NAICS industry codes. Establishments below the cutoff that could be

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directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and receipts, cost of supplies, etc., and cost of fuels were not distributed among specific products, supplies, and fuels for these establishments but were included in the product, supplies, and fuels "not specified by kind" (nsk) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between mining and nonmining activity.

Sometimes the administrative-record cases had only two- or three-digit NAICS group classification codes available in the files. For mining, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as "All other," a default within the given subsector

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

b. All nonemployers, i.e., all firms subject to federal income tax, with no paid employees, during 2002 are excluded as in previous censuses. Data for nonemployers are not included in this report, but are released in the annual *Nonemployer Statistics* series.

The report forms used to collect information for establishments in this sector are available at help.econ.census.gov/econhelp/resources/.

A more detailed examination of census methodology is presented in the *History of the Economic Census* at www.census.gov/econ/www/history.html.

#### INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

The classifications for all establishments covered in the 2002 Economic Census — Mining are classified in 1 of 29 industries in accordance with the industry definitions in the *North American Industry Classification System*, (NAICS), United States, 2002 manual. Changes between 1997 and 2002 affecting this sector are discussed in the text at the beginning of this report. Tables at www.census.gov/epcd/naics02/ identify those industries that changed between the 1997 North American Industry Classification System (NAICS) and 2002 NAICS. When applicable, Appendix F of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar processes used to produce the mineral products. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of its number, value added by mining, value of shipments and receipts, number of employees, and payroll.

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The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the mining sector for 2002, there are 3 subsectors (three-digit NAICS), 5 industry groups (four-digit NAICS), 10 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 29 U.S. industries (six-digit NAICS). Product classes and products of the mining industries have been assigned codes based on the industry from which they originate. There are 63 product classes (seven-digit codes) and 136 ten-digit product codes. The ten-digit products are considered the primary products of the industry with the same first six digits.

For the 2002 Economic Census — Mining, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by mining, value of shipments and receipts, etc.) reflect the activities of the establishments that may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments and receipts, to the product statistics, the composition of the industry's output should be considered.

#### **ESTABLISHMENT BASIS OF REPORTING**

The 2002 Economic Census — Mining covers each mining establishment of firms with one or more paid employees operating in the United States. A company operating at more than one establishment is required to file a separate report for each location. A mining establishment is defined as a single physical location where mineral operations are conducted. However, a company engaged in distinctly different lines of activity at one location is required to submit a separate report for each activity, if the plant records permit such a separation and, if the activities are substantial in size.

For oil and gas field operations and for contract services, the basis for reporting is different from the "establishment" basis used for other types of mining. Firms operating oil and gas wells, drilling wells, or exploring for oil and gas for their own account were required to submit a separate report for each state or offshore area adjacent to a state in which it conducted such activities. Firms that performed contract services for oil and gas field operations or for mining establishments were required to submit one report covering all such activities in the United States and to include information on receipts for services, production-worker wages, and hours, by state. These consolidated reports were then allocated to state establishments based on the data reported at the state level. The 2002 figures for establishments include the summation of operations for each state allocated from these nationwide reports.

In 2002, as in prior censuses since 1967, data for single-unit firms without paid employees were excluded. This exclusion had only a slight effect on industry aggregates for most industries. Data for firms without employees were included in the 1963, 1958, and 1954 censuses, if they reported more than \$500 in (1) value of shipments and receipts, (2) cost of supplies and purchased machinery, or (3) capital expenditures.

The 2002 Economic Census — Mining excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service mining establishments of the same company. These data are published in a separate report series.

#### **RELIABILITY OF DATA**

All data compiled in the economic census are subject to nonsampling errors. Nonsampling errors can be attributed to many sources during the development or execution of the census:

- inability to identify all cases in the actual universe;
- definition and classification difficulties;

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- differences in the interpretation of questions;
- errors in recording or coding the data obtained; and
- other errors of collection, response, coverage, processing, and estimation for missing or misreported data.

The Census Bureau obtains limited information extracted from administrative records of other federal agencies, such as gross receipts from federal income tax records and employment and payroll from payroll tax records. This information is used in conjunction with other information available to the Census Bureau to develop estimates for nonemployers, small employers, and other establishments for which responses were not received in time for publication.

#### **DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS**

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

#### **VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS**

The 2002 Economic Census — Mining shows value of shipments and receipts data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment. The value of products shipped also may include some products shipped from manufacturing establishments with mining operations.

#### **DISCLOSURE**

In accordance with federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments in a specific industry or geographic area is not considered a disclosure; therefore, this information may be released even though other information is withheld. Techniques employed to limit disclosure are discussed at www.census.gov/epcd/ec02/disclosure.htm.

The disclosure analysis for the industry statistics files is based on the total value of shipments and receipts. When the total value of shipments and receipts cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. If capital expenditures alone is a disclosure, only capital expenditures and cost of supplies statistics are suppressed. Nonetheless, the suppressed data are included in higher-level totals.

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## Appendix D. Geographic Notes

Not applicable for this report.

### Appendix E. Metropolitan Areas and Micropolitan Statistical Areas

Not applicable for this report.

# Appendix F. Comparability of Product Classes and Product Codes: 2002 to 1997

2002 published	2002 collected	1997 published	2002 published	2002 collected	1997 published	2002 published	2002 collected	1997 published
2121111111 2121111221 2121111YWV	2121111	2121111111 2121111221 2121111YWV	2122313111 2122313121 2122313YWV	2122313	2122313111 2122313121 2122313YWV	2123240 pt 2123240212 pt 2123240212 pt 2123240212 pt 2123240222	2123240111 3279920362 3279920368	2123240111 3279920361 pt 3279920361 pt
2121113111 2121113221	2121113 2121113111 2121113221 2121113331	2121113111 2121113221	212231WYWT	212231W 212231WYWT 2122341	212231WYWT 2122341	2123240YWT pt 2123240YWT pt 2123240YWT pt	2123240YWT 3279920YWW pt	2123240YWT 3279920YWW pt
2121113441 2121113YWV	2121113441 2121113YWV	2121113441 2121113YWV	2122341141 pt 2122341141 pt	2122341111	2122341121 2122341131	2123252 pt	2123251 3279920 pt 2123251100	3279920 pt
212111WYWT	212111W 212111WYWT	212111WYWT	2122343	2122343 2122343	2122343		3279920213 2123253	3279920211 pt
2121121111 2121121221	2121121 2121121111 2121121221 2121121YWV	2121121111 2121121221	2122345 2122345111 2122345121	2122345	2122345 2122345111 2122345121	2123254 pt 2123254100 pt 2123254100 pt	3279920 pt	3279920 pt 2123253100
2121123111 2121123221	2121123 2121123111 2121123221 2121123YWV	2121123111 2121123221	212234W 212234WYWT	212234W 212234WYWT	212234W 212234WYWT	2123256 pt 2123256100 pt	2123255 3279920 pt 2123255100	3279920 pt 2123255100
	212112W 212112WYWT		2122911100		2122911100	2123259	3279920214 2123259	2123259
2121131	2121131 2121131111	2121131	2122913111 2122913121	2122913	2122913111 2122913121	2123259100 212325A pt	2123259100 2123257	
2121131121 2121131YWV	2121131121 2121131YWV	2121131121 2121131YWV	2122913YWV	2122913YWV 212291W 212291WYWT	2122913YWV 212291W	212325A pt 212325A100 pt 212325A100 pt	3279920 pt	2123257100
2121133111 2121133121	2121133	2121133111 2121133121	2122991	2122991 2122991100	2122991	212325B pt	2123258 3279920 pt	
212113W	2121133YWV 212113W 212113WYWT	212113W	2122993 2122993111	2122993 2122993111 2122993121	2122993 2122993111	212325B111 212325B122 pt 212325B122 pt	2123258111 2123258121 3279920215 2123258YWV	2123258111 2123258121 3279920211 pt
2122101111	2122101 2122101111 2122101121	2122101111	2122993131	2122993131 2122993YWV	2122993131	212325W pt	212325W	212325W
2122101YWV 2122103	2122101YWV 2122103	2122101YWV 2122103	2122995100	2122995 2122995100	2122995100	212325W pt	3279920YWW pt	212325WYWT 3279920YWW pt
2122103121 2122103131	2122103111 2122103121 2122103131	2122103121 2122103131	212299WYWT	212299W 212299WYWT	212299WYWT	2123911	2123911	2123911
2122103YWV 212210W	2122103YWV 212210W 212210WYWT	2122103YWV 212210W	2123110111 2123110221 2123110391	2123110	2123110111 2123110221 2123110391	2123913111 2123913121	2123913 2123913111 2123913121 2123913YWV	2123913111 2123913121
2122211111 2122211141 pt 2122211141 pt	2122211 2122211111 2122211141 pt 2122211141 pt	2122211111 2122211121 2122211131	2123120100	2123120	2123120100	212391W 212391WYWT	212391W 212391WYWT 2123921	212391W 212391WYWT
2122211YWV 2122213	2122211YWV 2122213	2122211YWV 2122213	2123130100	2123130	2123130100	2123921100	2123921100 2123923	2123921100 2123923
2122215 2122215111	2122213100	2122215 2122215111	2123190 2123190111	2123190	2123190 2123190111	2123923131	2123923111	2123923131 2123923YWV
2122215YWV	2122215YWV	2122215YWV	2123190YWT	2123190YWT	2123190YWT	212392WYWT	212392W 212392WYWT 2123931	212392WYWT
212221WYWT	212221W 212221WYWT 2122221	212221WYWT	2123211111	2123211111	2123211111 2123211121	2123932 pt 2123932100 pt	3279920 pt	3279920 pt 2123931100
2122221111 2122221141 pt 2122221141 pt	2122221111 2122221141 pt 2122221141 pt 2122221YWV	2122221111 2122221121 2122221131	2123213 2123213111 2123213221	2123213 2123213111 2123213221	2123213 2123213111 2123213221	2123933	3279920365	2123933
2122223	2122223 2122223100	2122223	212321W	2123213YWV 212321W	212321W	2123935100	2123935	2123935100
2122225	2122225 2122225111	2122225	212321WYWT 2123221 2123221100	212321WYWT		2123939100	2123939	2123939100
2122225121	2122225121 2122225YWV	2122225121	2123223	2123223	2123223	212393W pt	212393W	3279920 pt
212222WYWT	212222W 212222WYWT	212222WYWT	2123229	2123223100	2123229	212393WYWT pt	212393WYWT	3279920YWW pt
2122311111 2122311141 pt	2122311 2122311111 2122311141 pt	2122311111 2122311121	212322W	212322W 212322WYWT	212322W	2123992 pt	2123991 3279920 pt	3279920 pt
2122311141 pt	2122311141 pt 2122311YWV	2122311131 2122311YWV	2123240 pt	2123240	2123240	2123992100 pt 2123992100 pt		

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2002 published	2002 collected	1997 published	2002 published	2002 collected	1997 published	2002 published	2002 collected	1997 published
2123994 pt	2123993	2123993	2123998 pt	2123999	2123999	2123998162 pt 2123998171		3279920111 pt 2123999171
2123994100 pt	3279920 pt	3279920 pt 2123993100 3279920341	2123998 pt 2123998112 pt 2123998112 pt	3279920 pt	3279920 pt 2123999111 3279920361 pt	2123998192 pt 2123998192 pt 2123998YWV	2123999191 3279920352	2123999191 3279920351 pt 2123999YWV
2123996 pt	2123995	2123995	2123998121 2123998132 pt	2123999121 2123999131	2123999121 2123999131	212399W pt		212399W
	3279920 pt	3279920 pt 2123995100 3279920361 pt	2123998151	3279920114 2123999141 2123999151 2123999161	3279920111 pt 2123999141 2123999151 2123999161	212399W pt 212399WYWT pt 212399WYWT pt 212399WYWT pt	212399WYWT 3279920YWW pt	3279920 pt 212399WYWT 3279920YWW pt 3279920YWY pt

F–2 Appendix F Mining