Beet Sugar Manufacturing: 2002

Issued December 2004

EC02-31I-311313 (RV)

2002 Economic Census

Manufacturing

Industry Series

U S C E N S U S B U R E A U

Helping You Make Informed Decisions

U.S. Department of Commerce
Economics and Statistics Administration
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ACKNOWLEDGMENTS

This report was prepared in the Manufacturing and Construction Division under the direction of **Judy M. Dodds**, Assistant Division Chief for Census and Related Programs who was responsible for the overall planning, management, and coordination. **Robert Reinard**, Chief, Consumer Goods Industries Branch, assisted by **Suzanne Conard**, **Susan DiCola**, and **James Hinckley**, and **Raphael Corrado**, **Tom Flood**, **Robert Miller**, and **Robert Rosati**, Special Assistants, performed the planning and implementation. **Bill Baldwin**, **Phillip Brown**, **Chris Cunningham**, **Karen Harshbarger**, **Tom Ickes**, **Evelyn Jordan**, **Cathy Knudsen**, **Robert Lee**, **Jennifer Leotta**, **Michael Perkinson**, **LaTanya Steele**, **Aronda Stovall**, **Susan Sundermann**, **Dora Thomas**, and **Ronanne Vinson**, provided primary staff assistance. **Mendel D. Gayle**, Chief, Census and Related Programs Support Branch, assisted by **Kimberly DePhillip**, Section Chief, performed overall coordination of the publication process. **Patrick Duck**, **Michael Flaherty**, **Taylor C. Murph**, **Wanda Sledd**, and **Veronica White** provided primary staff assistance.

Mathematical and statistical techniques, as well as the coverage operations, were provided by **Paul Hsen**, Assistant Division Chief for Research and Methodology Programs, assisted by **Stacey Cole**, Chief, Manufacturing Methodology Branch, and **Robert Struble**, Section Chief. **Jeffrey Dalzell** and **Cathy Gregor** provided primary staff assistance.

Eddie J. Salyers, Assistant Division Chief of Economic Planning and Coordination Division, was responsible for overseeing the editing and tabulation procedures and the interactive analytical software. **Dennis Shoemaker** and **Kim Wortman**, Special Assistants, **John D. Ward**, Chief, Analytical Branch, and **Brandy L. Yarbrough**, Chief, Edit Branch, were responsible for developing the systems and procedures for data collection, editing, review, and correction. **Donna L. Hambric**, Chief of the Economic Planning Staff, was responsible for overseeing the systems and information for dissemination. **Douglas J. Miller**, Chief, Tables and Dissemination Branch, assisted by **Lisa Aispuro**, **Jamie Fleming**, **Keith Fuller**, **Andrew W. Hait**, and **Kathy G. Padgett** were responsible for developing the data dissemination systems and procedures.

The Geography Division staff, **Robert LaMacchia**, Chief, developed geographic coding procedures and associated computer programs.

The Economic Statistical Methods and Programming Division, **Howard R. Hogan**, Chief, developed and coordinated the computer processing systems. **Barry F. Sessamen**, Assistant Division Chief for Post Collection, was responsible for design and implementation of the processing system and computer programs. **Gary T. Sheridan**, Chief, Macro Analytical Branch, assisted by **Apparao V. Katikineni** and **Edward F. Johnson** provided computer programming and implementation.

The Systems Support Division provided the table composition system. **Robert Joseph Brown**, Table Image Processing System (TIPS) Senior Software Engineer, was responsible for the design and development of the TIPS, under the supervision of **Robert J. Bateman**, Assistant Division Chief, Information Systems.

The staff of the National Processing Center performed mailout preparation and receipt operations, clerical and analytical review activities, and data entry.

Margaret A. Smith, **Bernadette J. Beasley**, **Michael T. Browne**, and **Alan R. Plisch** of the Administrative and Customer Services Division, **Walter C. Odom**, Chief, provided publication and printing management, graphics design and composition, and editorial review for print and electronic media. General direction and production management were provided by **James R. Clark**, Assistant Division Chief, and **Susan L. Rappa**, Chief, Publications Services Branch.

Special acknowledgment is also due the many businesses whose cooperation contributed to the publication of these data.

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U.S. Department of Commerce
Donald L. Evans,
Secretary

Theodore W. Kassinger,
Deputy Secretary

Economics and Statistics Administration
Kathleen B. Cooper,
Under Secretary for
Economic Affairs

U.S. CENSUS BUREAU
Charles Louis Kincannon,
Director

ECONOMICS
AND STATISTICS
ADMINISTRATION

Economics and Statistics Administration

Kathleen B. Cooper,
Under Secretary
for Economic Affairs

U.S. CENSUS BUREAU

Charles Louis Kincannon,
Director

Hermann Habermann,
Deputy Director and
Chief Operating Officer

Vacant,
Principal Associate
Director for Programs

Frederick T. Knickerbocker,
Associate Director
for Economic Programs

Thomas L. Mesenbourg,
Assistant Director
for Economic Programs

William G. Bostic, Jr.,
Chief, Manufacturing
and Construction Division

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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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Manufacturing

SCOPE

The Manufacturing sector (sector 31-33) comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products. The assembling of component parts of manufactured products is considered manufacturing, except in cases where the activity is appropriately classified in Sector 23, Construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and characteristically use power-driven machines and materials-handling equipment. However, establishments that transform materials or substances into new products by hand or in the worker's home and those engaged in selling to the general public products made on the same premises from which they are sold, such as bakeries, candy stores, and custom tailors, may also be included in this sector. Manufacturing establishments may process materials or may contract with other establishments to process their materials for them. Both types of establishments are included in manufacturing.

The materials, substances, or components transformed by manufacturing establishments are raw materials that are products of agriculture, forestry, fishing, mining, or quarrying, as well as products of other manufacturing establishments. The materials used may be purchased directly from producers, obtained through customary trade channels, or secured without recourse to the market by transferring the product from one establishment to another, under the same ownership. The new product of a manufacturing establishment may be finished in the sense that it is ready for utilization or consumption, or it may be semifinished to become an input for an establishment engaged in further manufacturing. For example, the product of the alumina refinery is the input used in the primary production of aluminum; primary aluminum is the input to an aluminum wire drawing plant; and aluminum wire is the input for a fabricated wire product manufacturing establishment.

The subsectors in the manufacturing sector generally reflect distinct production processes related to material inputs, production equipment, and employee skills. In the machinery area, where assembling is a key activity, parts and accessories for manufactured products are classified in the industry of the finished manufactured item when they are made for separate sale. For example, a replacement refrigerator door would be classified with refrigerators and an attachment for a piece of metal working machinery would be classified with metal working machinery. However, components, input from other manufacturing establishments, are classified based on the production function of the component manufacturer. For example, electronic components are classified in Subsector 334, Computer and Electronic Product Manufacturing; and stampings are classified in Subsector 332, Fabricated Metal Product Manufacturing.

Manufacturing establishments often perform one or more activities that are classified outside the manufacturing sector of NAICS. For instance, almost all manufacturing has some captive research and development or administrative operations, such as accounting, payroll, or management. These captive services are treated the same as captive manufacturing activities. When the services are provided by separate establishments, they are classified to the NAICS sector where such services are primary, not in manufacturing.

The boundaries of manufacturing and the other sectors of the classification system can be somewhat blurry. The establishments in the manufacturing sector are engaged in the transformation of materials into new products. Their output is a new product. However, the definition of what constitutes a new product can be somewhat subjective. As clarification, the following activities are

U.S. Census Bureau, 2002 Economic Census

considered manufacturing in NAICS: milk bottling and pasteurizing; water bottling and processing; fresh fish packaging (oyster shucking, fish filleting); apparel jobbing (assigning of materials to contract factories or shops for fabrication or other contract operations); as well as contracting on materials owned by others; printing and related activities; ready-mixed concrete production; leather converting; grinding of lenses to prescription; wood preserving; electroplating, plating, metal heat treating, and polishing for the trade; lapidary work for the trade; fabricating signs and advertising displays; rebuilding or remanufacturing machinery (i.e., automotive parts); ship repair and renovation; machine shops; and tire retreading.

Exclusions. There are activities that are sometimes considered manufacturing, but for NAICS are classified in another sector. These activities include logging, classified in Sector 11, Agriculture, Forestry, Fishing and Hunting is considered a harvesting operation; the beneficiating of ores and other minerals, classified in Sector 21, Mining, is considered part of the activity of mining; the construction of structures and fabricating operations performed at the site of construction by contractors, is classified in Sector 23, Construction; establishments engaged in breaking of bulk and redistribution in smaller lots, including packaging, repackaging, or bottling products, such as liquors or chemicals; the customized assembly of computers; sorting of scrap; mixing paints to customer order; and cutting metals to customer order, classified in Sector 42, Wholesale Trade or Sector 44-45, Retail Trade, produce a modified version of the same product, not a new product; and publishing and the combined activity of publishing and printing, classified in Sector 51, Information, perform the transformation of information into a product where as the value of the product to the consumer lies in the information content, not in the format in which it is distributed (i.e., the book or software diskette).

The tabulations for this sector do not include central administrative offices, warehouses, or other establishments that serve manufacturing 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 small for this sector, may be examined at www.census.gov/nonemployerimpact.

The reports described below cover all manufacturing 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 473 reports, each covering a single NAICS industry (six-digit code). These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, 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 51 separate reports, one for each state and the District of Columbia. Each state report presents similar statistics at the "all manufacturing" level for each state and its metropolitan and micropolitan areas with 250 employees or more, and for counties, consolidated cities, and places with 500 employees or more. 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 value of shipments, value of product shipments, percentage of product shipments of the total value of shipments, and percentage of distribution of value of product shipments 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. This report also includes a table with data for products that are primary to more than one industry, which are not in the industry reports.
- **Materials Summary.** This report summarizes the materials data published in the industry reports.
- **Concentration Ratio Summary.** This report publishes data on the percentage of value of shipments and value added accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Herfindahl-Herschmann indexes for each industry.
- **Location of Manufacturing Plants Summary.** This report contains statistics on the number of establishments for the three-and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

ZIP Code Statistics. This report contain statistics on the number of establishments for the three- and six-digit NAICS industry by employment-size of the establishment by ZIP Code.

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

The level of geographic detail varies by report. Maps are available at www.census.gov/econ2002maps. Notes specific to areas in the state are included in Appendix D, Geographic Notes.

1. The United States as a whole.
2. States and the District of Columbia.
3. Metropolitan and micropolitan statistical areas with 250 employees or more. A core based statistical areas (CBSA) contains a core area with a substantial population nucleus, together with adjacent communities having a high degree of social and economic integration with that core. CBSAs are differentiated into metropolitan and micropolitan statistical areas based on size criteria. Both metropolitan and micropolitan areas are defined in terms of entire counties, and are listed in Appendix E, Metropolitan and Micropolitan Statistical Areas.

   a. Metropolitan Statistical Areas (metro areas). Metro areas have at least one urbanized area of 50,000 or more population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties.

   b. Micropolitan Statistical Areas (micro areas). Micro areas have at least one urban cluster of at least 10,000 but less than 50,000 population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties.

   c. Metropolitan Divisions (metro divisions). If specified criteria are met, a metro area containing a single core with a population of 2.5 million or more may be subdivided to form smaller groupings of counties referred to as Metropolitan Divisions.

U.S. Census Bureau, 2002 Economic Census

d. Combined Statistical Areas (combined areas). If specified criteria are met, adjacent metro and micro areas, in various combinations, may become the components of a new set of areas called Combined Statistical Areas. The areas that combine retain their own designations as metro or micro areas within the larger combined area.

4. Counties and county equivalents defined as of January 1, 2002, with 500 employees or more. Counties are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs, census areas, and city and boroughs. Maryland, Missouri, Nevada, and Virginia have one place or more that is independent of any county organization and constitutes primary divisions of their states. These places are treated as counties and as places.

5. Economic places with 500 employees or more.

   a. Municipalities of 2,500 inhabitants or more defined as of January 1, 2002. These are areas of significant population incorporated as cities, boroughs, villages, or towns according to the 2000 Census of Population. For the economic census, boroughs and census areas in Alaska and boroughs in New York are not included in this category.

   b. Consolidated cities defined as of January 1, 2002. Consolidated cities are consolidated governments that consist of separately incorporated municipalities.

   c. Townships in Michigan, New Jersey, and Pennsylvania, and towns in New York, Wisconsin, and the six New England states with 10,000 inhabitants or more (according to the 2000 Census of Population).

   d. Balance of county. Areas outside the entities listed above, including incorporated municipalities with populations of fewer than 2,500, town and townships not qualifying as noted above, and the remainders of counties outside places are categorized as "Balance of county."

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). While there were revisions to selected industries for 2002, this sector is not affected by those revisions.

For 2002, there have been several additional data tables added, which did not exist in 1997. These tables for 2002 include products primary to more than one industry, industry-product analysis, e-commerce value of shipments, 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. Selected data in tables titled "Detailed Statistics" are based on the Annual Survey of Manufactures and are subject to sampling errors as well as nonsampling errors.

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.

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. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. Nonetheless, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures, which can be suppressed even though value of shipments data are published.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 55,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data. In addition to the ASM, the Census Bureau conducts the Current Industrial Reports (CIR) program. The CIR program publishes selected detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) Program, which publishes detailed statistics for manufacturing industries at the U.S. level.

In addition, 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 99,999 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 Earlier Years**

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

Industry and year[1]	Companies[2]	All establishments[3]	All employees		Production workers			Value added ($1,000)	Total cost of materials ($1,000)	Total value of shipments ($1,000)	Total capital expenditures ($1,000)
			Number[4]	Payroll ($1,000)	Number[4]	Hours (1,000)	Wages ($1,000)				
311313, Beet sugar manufacturing ..... 2002..	11	35	5 697	220 394	4 903	10 493	174 444	1 006 494	1 280 532	2 256 399	r46 806
2001..	N	N	6 723	253 584	5 852	12 915	203 528	1 028 778	1 457 956	2 542 801	74 491
2000..	N	N	7 557	268 623	6 561	13 964	217 786	965 466	1 618 121	2 535 079	107 128
1999..	N	N	7 494	258 497	6 486	14 304	209 383	1 042 216	1 700 189	2 691 227	198 616
1998..	N	N	7 828	267 945	6 853	15 207	218 212	947 765	1 708 687	2 672 796	244 467
1997..	8	36	7 718	252 236	6 684	14 333	203 040	968 482	1 768 320	2 732 503	167 511

[1]Statistics presented for years ending in 2 and 7 are census data. Interim census years are derived in a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures (ASM).

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Includes establishments with payroll at any time during the year.

[4]Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and 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: 2002**

[States that are a disclosure 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]

Industry and geographic area	E[1]	All establishments[2]		All employees		Production workers			Value added ($1,000)	Total cost of materials ($1,000)	Total value of shipments ($1,000)	Total capital expenditures ($1,000)
		Total	With 20 employees or more	Number[3]	Payroll ($1,000)	Number[3]	Hours (1,000)	Wages ($1,000)				
311313, Beet sugar manufacturing												
United States	1	35	27	5 697	220 394	4 903	10 493	174 444	1 006 494	1 280 532	2 256 399	r46 806
Michigan	2	6	2	453	16 703	366	787	11 483	63 584	82 956	145 680	r6 915

[1]Some 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.

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

[3]Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

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 and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Item		Value
311313, Beet sugar manufacturing		
Companies[1]	number	11
All establishments[2]	number	35
Establishments with 1 to 19 employees	number	8
Establishments with 20 to 99 employees	number	9
Establishments with 100 employees or more	number	18
All employees[3]	number	5 697
Total compensation	$1,000	283 293
Annual payroll	$1,000	220 394
Total fringe benefits	$1,000	62 899
Production workers, average for year	number	4 903
Production workers on March 12	number	5 084
Production workers on May 12	number	4 466
Production workers on August 12	number	4 246
Production workers on November 12	number	5 801
Production worker hours	1,000	10 493
Production worker wages	$1,000	174 444
Total cost of materials	$1,000	1 280 532
Materials, parts, containers, packaging, etc., used	$1,000	1 137 434
Resales	$1,000	23 212
Purchased fuels	$1,000	94 285
Purchased electricity	$1,000	22 700
Contract work	$1,000	2 901
Quantity of electricity purchased for heat and power	1,000 kWh	462 494
Quantity of electricity generated less sold for heat and power	1,000 kWh	192 613
Total value of shipments	$1,000	2 256 399
Primary products value of shipments	$1,000	2 201 782
Secondary products value of shipments	$1,000	25 268
Total miscellaneous receipts	$1,000	29 349
Value of resales	$1,000	26 584
Contract receipts	$1,000	–
Other miscellaneous receipts	$1,000	2 765
Primary products specialization ratio	percent	99
Value of primary products shipments made in all industries	$1,000	2 206 922
Value of primary products shipments made in this industry	$1,000	2 201 782
Value of primary products shipments made in other industries	$1,000	5 140
Coverage ratio	percent	100
Value added	$1,000	1 006 494
Total inventories, beginning of year	$1,000	584 672
Finished goods inventories	$1,000	342 070
Work-in-process inventories	$1,000	86 654
Materials and supplies inventories	$1,000	155 948
Total inventories, end of year	$1,000	628 887
Finished goods inventories	$1,000	365 427
Work-in-process inventories	$1,000	93 924
Materials and supplies inventories	$1,000	169 536
Gross value of depreciable assets (acquisition costs) at beginning of year	$1,000	1 845 724
Total capital expenditures (new and used)	$1,000	r46 806
Buildings and other structures (new and used)	$1,000	r4 671
Machinery and equipment (new and used)	$1,000	r42 135
Automobiles, trucks, etc., for highway use	$1,000	r449
Computers and peripheral data processing equipment	$1,000	r469
All other expenditures for machinery and equipment	$1,000	r41 217
Total retirements	$1,000	r124 605
Gross value of depreciable assets at end of year	$1,000	r1 767 925
Depreciation charges during year	$1,000	r82 327
Total rental payments	$1,000	9 346
Buildings and other structures	$1,000	4 130
Machinery and equipment	$1,000	5 216
Total other expenses[4]	$1,000	115 724
Response coverage ratio[5]	percent	91
Repair and maintenance services of buildings and/or machinery[4]	$1,000	45 016
Communications services[4]	$1,000	916
Legal services[4]	$1,000	239
Accounting, auditing, and bookkeeping services[4]	$1,000	221
Advertising and promotional services[4]	$1,000	4 721
Expensed computer hardware and supplies and purchased computer services[4]	$1,000	401
Refuse removal (including hazardous waste) services[4]	$1,000	1 491
Management consulting and administrative services[4]	$1,000	671
Taxes and license fees[4]	$1,000	13 706
All other expenses[4]	$1,000	48 343

[1]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.
[2]Includes establishments with payroll at any time during the year.
[3]Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.
[4]Based on Annual Survey of Manufactures (ASM) sample data.
[5]A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those Annual Survey of Manufactures (ASM) establishments that reported to the weighted total employment for all ASM 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 and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and 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]

Employment size class	E[1]	All establishments[2]	All employees		Production workers			Value added ($1,000)	Total cost of materials ($1,000)	Total value of shipments ($1,000)	Total capital expenditures ($1,000)
			Number[3]	Payroll ($1,000)	Number[3]	Hours (1,000)	Wages ($1,000)				
311313, Beet sugar manufacturing											
All establishments	1	35	5 697	220 394	4 903	10 493	174 444	1 006 494	1 280 532	2 256 399	r46 806
Establishments with—											
1 to 4 employees	–	–	–	–	–	–	–	–	–	–	–
5 to 9 employees	9	1	a	D	D	D	D	D	D	D	D
10 to 19 employees	9	7	c	D	D	D	D	D	D	D	D
20 to 49 employees	3	7	208	7 136	154	338	5 261	32 421	71 198	110 569	r1 083
50 to 99 employees	9	2	c	D	D	D	D	D	D	D	D
100 to 249 employees	1	7	1 508	54 966	1 275	2 612	42 637	220 523	344 994	523 643	10 137
250 to 499 employees	–	11	3 706	148 855	3 246	7 067	119 781	702 170	795 300	1 495 544	r33 791
500 to 999 employees	–	–	–	–	–	–	–	–	–	–	–
1,000 to 2,499 employees	–	–	–	–	–	–	–	–	–	–	–
2,500 employees or more	–	–	–	–	–	–	–	–	–	–	–
Administrative records[4]	–	–	–	–	–	–	–	–	–	–	–

[1]Some 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.

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

[3]Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

[4]Some 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 Primary Product Class Specialization: 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]

Industry or product class code	Industry or primary product class	All establishments[1]	All employees		Production workers			Value added ($1,000)	Total cost of materials ($1,000)	Total value of shipments ($1,000)	Total capital expenditures ($1,000)
			Number[2]	Payroll ($1,000)	Number[2]	Hours (1,000)	Wages ($1,000)				
311313	Beet sugar manufacturing	35	5 697	220 394	4 903	10 493	174 444	1 006 494	1 280 532	2 256 399	r46 806
3113130	Beet sugar	35	5 697	220 394	4 903	10 493	174 444	1 006 494	1 280 532	2 256 399	r46 806

[1]Includes establishments with payroll at any time during the year.
[2]Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

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 6a. **Products Statistics: 2002 and 1997**

[Includes quantity and value of products 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 code	Product			Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments	
						Quantity	Value ($1,000)
311313	Beet sugar manufacturing		2002	N	X	X	2 206 922
			1997	N	X	X	2 619 463
3113130	Beet sugar		2002	N	X	X	2 206 922
			1997	N	X	X	2 619 463
31131301	Refined granulated beet sugar, including cube and tablet sugar, shipped in small individual packets		2002	N	X	X	D
			1997	N	X	X	D
3113130111	Refined granulated beet sugar, including cube and tablet sugar, shipped in small individual packets	1,000 s tons	2002	1	X	D	D
			1997	2	X	D	D
31131302	Refined granulated beet sugar, including cube and tablet sugar, shipped in consumer units (25 lb or less)		2002	N	X	X	D
			1997	N	X	X	374 119
3113130221	Refined granulated beet sugar, including cube and tablet sugar, shipped in consumer units (25 lb or less)	1,000 s tons	2002	5	X	D	D
			1997	5	X	635.0	374 119
31131303	Refined granulated beet sugar, including cube and tablet sugar, shipped in commercial units (bags and other containers greater than 25 lb)		2002	N	X	X	322 632
			1997	N	X	X	516 195
3113130331	Refined granulated beet sugar, including cube and tablet sugar, shipped in commercial units (bags and other containers greater than 25 lb)	1,000 s tons	2002	5	X	[p]580.2	322 632
			1997	6	X	890.1	516 195
31131304	Refined granulated beet sugar, including cube and tablet sugar, shipped in bulk (rail cars, trucks, or bins)		2002	N	X	X	679 429
			1997	N	X	X	1 233 844
3113130441	Refined granulated beet sugar, including cube and tablet sugar, shipped in bulk (rail cars, trucks, or bins)	1,000 s tons	2002	6	X	1 227.8	679 429
			1997	7	X	[p]2 143.6	1 233 844
31131305	Refined beet sugar		2002	N	X	X	66 838
			1997	N	X	X	90 910
3113130551	Refined beet sugar, confectioners' powdered	1,000 s tons	2002	5	X	77.5	44 991
			1997	6	X	102.7	64 227
3113130561	Refined beet sugar, soft or brown	1,000 s tons	2002	6	X	[p]35.8	21 847
			1997	6	X	39.6	26 683
31131306	Refined liquid beet sugar or sugar syrup		2002	N	X	X	28 129
			1997	N	X	X	D
3113130671	Refined liquid beet sugar or sugar syrup	1,000 s tons	2002	4	X	[q]53.2	28 129
			1997	3	X	D	D
31131307	Whole, straighthouse, or discard beet sugar molasses and molasses beet sugar pulp		2002	N	X	X	54 851
			1997	N	X	X	77 592
3113130781	Whole, straighthouse, or discard beet sugar molasses	1,000 s tons	2002	6	X	438.5	D
			1997	6	X	[p]608.5	50 683
3113130791	Molasses beet sugar pulp, bulk	1,000 s tons	2002	2	X	D	D
			1997	5	X	S	26 909
31131308	Molasses beet sugar pulp, pelletized		2002	N	X	X	48 446
			1997	N	X	X	42 985
31131308A1	Molasses beet sugar pulp, pelletized	1,000 s tons	2002	6	X	532.5	48 446
			1997	4	X	S	42 985
31131309	All other beet sugar pulp, including raw beet sugar, dried, and other beet pulp (plain)		2002	N	X	X	17 228
			1997	N	X	X	74 173
31131309B1	All other beet sugar pulp, including raw beet sugar, dried, and other beet pulp (plain)	1,000 s tons	2002	4	X	504.6	17 228
			1997	4	X	S	74 173
3113130Y	Beet sugar, nsk, total		2002	N	X	X	83 243
			1997	N	X	X	10 815
3113130YWW	Beet sugar, nsk, for nonadministrative-record establishments		2002	N	X	X	83 243
			1997	N	X	X	10 815
3113130YWY	Beet sugar, nsk, for administrative-record establishments		2002	N	X	X	–
			1997	N	X	X	–

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.

Table 6b. **Product Class Shipments for Selected States: 2002 and 1997**

[Not applicable for this report.]

Table 7. **Materials Consumed by Kind: 2002 and 1997**

[Includes quantity and cost of materials 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]

Material code	Material consumed			Quantity	Delivered cost ($1,000)
311313	Beet sugar manufacturing				
00900001	Total materials		2002	X	1 137 434
			1997	X	1 561 961
11199100	Sugar beets	1,000 s tons	2002	S	881 687
			1997	S	1 312 943
32221001	Paperboard containers, boxes, and corrugated paperboard		2002	X	D
			1997	X	7 184
001900A1	Packaging paper and plastics film, coated and laminated		2002	X	D
			1997	X	7 911
001900A3	Bags (plastics, foil, and coated paper)		2002	X	323
			1997	X	3 465
32222401	Bags (uncoated paper and multiwall)		2002	X	D
			1997	X	10 615
00970099	All other materials and components, parts, containers, and supplies		2002	X	36 676
			1997	X	219 843
00971000	Materials, ingredients, containers, and supplies, nsk		2002	X	171 898
			1997	X	–

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

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 stage of fabrication

Total inventories and three detailed components (1)finished goods, (2)work-in-process, and (3)materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for "all industries" and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

COST OF MATERIALS

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 materials. It includes the cost of materials or fuel 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.

Included in this item are:

1. Cost of parts, components, containers, etc. Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.
3. Cost of fuels consumed for heat and power. Includes the cost of materials or fuel 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.
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 generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work. This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term "Contract Work" refers to the fee a company pays to another company to perform a service.

Specific materials consumed

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials that were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than $25,000 of a listed material was consumed by an establishment, the cost data could be reported in the "Cost of all other materials" Census material code 00970099.

Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the "Materials not specified by kind" Census materials code 00971000.

Duplication in cost of materials and value of shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries.

Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

SELECTED PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of selected purchased services for the repair and maintenance services of buildings and/or machinery; communication services; legal services; accounting, auditing, and bookkeeping services; advertising and promotional services; expensed computer hardware and supplies and purchased computer services; refuse removal services; management consulting and administrative services; taxes and license fees; and all other expenses not previously stated. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services. These expenses are normally considered as nonproduction related costs purchased from other companies.

Included in the cost of selected purchased services for the repair and maintenance services of buildings and/or machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Excluded from this item are extensive repairs or reconstruction that was capitalized, which is considered capital expenditures; costs incurred directly by the establishment in using its own work force to perform repairs and maintenance work; and repairs and maintenance provided by the building or machinery owner as part of the rental contract.

Included in the cost of selected 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, on-line 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 services and materials. Excluded are the salaries paid to employees of this establishment for these services.

Included in the cost of selected expensed computer hardware and supplies and purchased computer services are actual expenses incurred or payable during the year for this item. Purchases for computer hardware and supplies, computer services (software, data transmission, processing services, Web design, etc.) are all included. Excluded are services provided by other establishments of the same company (such as a separate central data processing unit).

Included in the cost of selected purchased refuse removal services are payments made to other companies for these services that were paid directly by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures and the salaries paid to employees of the establishment for these services.

Included in the cost of selected purchased management consulting and administrative 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 purchased taxes and license fees are payments made to other companies for these services that were paid directly by the establishment, excluding income, sales, payroll, and excise taxes. Excluded are also 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 made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and nonreporters).

DEPRECIATION CHARGES FOR FIXED ASSETS

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed 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.

NUMBER OF EMPLOYEES

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period that included the 12th of the months specified on the report form. Included are employees on paid sick leave, paid holidays, and paid vacations; not included are proprietors and partners of unincorporated businesses.

These individuals comprise of all full-time and part-time employees who are on the payrolls of establishments who worked or received pay for any part of the pay period including the 12th of March, May, August, and November.

The “all employees” number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November

Production Workers

The “production workers” number includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant’s own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All Other Employees

The “other employees” covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

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 are divided into 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. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

GROSS VALUE OF DEPRECIABLE ASSETS (ACQUISITION COSTS) AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)

Total value of depreciable assets is collected on all census forms.

It shows the value of depreciable assets for the beginning of year (BOY) and end of year (EOY). The data encompass all fixed depreciable 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, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable 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.

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 manufacturing is performed. A separate report was required for each manufacturing establishment (plant) 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.

Company

A company or ("enterprise") is comprised of all the establishments that operate under the ownership 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.

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

PAYROLL

This item includes the gross earnings of all employees on the payrolls of operating manufacturing 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 manufacturing 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.

The ASM provides estimates of employers' total supplemental labor costs (those required by federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

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 manufacturing sector for 2002, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. There are 1,450 product classes (seven-digit codes), 5,674 census products, and an additional 3,746 ten-digit product codes. The ten-digit products are considered the primary products of the industry with the same first six digits.

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 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

PRODUCTION-WORKER HOURS

This item covers all hours worked or paid for at the manufacturing plant, 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.

QUANTITY OF ELECTRICITY PURCHASED FOR HEAT AND POWER

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the Annual Survey of Manufactures (ASM) form. 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.

RENTAL PAYMENTS

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM 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 and land rents where separable.

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 ASSETS

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. 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.

CAPITAL EXPENDITURES FOR NEW AND USED PLANT AND EQUIPMENT

Represents the total new and used capital expenditures reported by establishments in operation and any known plants under construction.

These data include expenditures for:

1. Permanent additions and major alterations to manufacturing and mining establishments.
2. New and used machinery and equipment used for replacement and additions to plant capacity, if they are of the type for which depreciation, depletion, or (for mining establishments) Office of Minerals Exploration accounts are ordinarily maintained. In addition, for mining establishments, these data include expenditures made during the year for development and exploration of mineral properties. For manufacturing establishments, these data are broken down into three types.
    a. Automobiles, trucks, etc. for highway use. These include vehicles acquired under a lease-purchase agreement and excludes vehicles leased or normally designed to transport materials, property, or equipment on mining, construction, petroleum development, and similar projects. These vehicles are of such size or weight as to be normally restricted by state laws or regulations from operating on public highways. It also excludes purchases of vehicles that are purchased by a company for highway use.
    b. Computers and peripheral data processing equipment. This item include all purchases of computers and related equipment.
    c. All other expenditures for machinery and equipment excluding automobiles and computer equipment.

Capital expenditures include work done by contract, as well as by the establishment's own workforce.

These data exclude expenditures for land and mineral rights and cost of maintenance and repairs charged as current operating expenses.

VALUE ADDED

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). 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 merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

"Value added" avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

VALUE OF SHIPMENTS

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer 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.

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 product shipments: Reported contract work — receipts for work or services that a plant performed for others on their materials. Value of resales — sales of products brought and sold without further manufacture, processing, or assembly. Other miscellaneous receipts — such as repair work, installation, sales of scrap, etc.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are: Primary products value of shipments. Secondary product value of shipments. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term "Value of primary products shipments made in this industry" is used in this publication and refers to the same data.

Duplication in cost of materials and value of shipment

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since, the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries.

Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries that included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

Specialization and coverage ratio

These items are not collected on the report forms, but are derived from the data shown in Table 3. An establishment is classified in a particular 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 shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.).

Specialization and coverage ratio have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1 through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

Appendix B.
NAICS Codes, Titles, and Descriptions

311313 BEET SUGAR MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing refined beet sugar from sugarbeets.

Appendix C. Methodology

SOURCES OF THE DATA

The manufacturing sector includes approximately 350,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing. The amount of information requested from manufacturing establishments was dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the Annual Survey of Manufactures (ASM).

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. ASM sample establishments. This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments, as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

      In an economic census year, the ASM report form (MA-10000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A. Explanation of Terms, for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 473 manufacturing industries. Each form was developed for a group of related industries.

      Appearing on each form was a list of products primary to the group of related industries, as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in certain cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

      The report form also contained a materials-consumed inquiry, which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided

for the respondent to describe significant materials not listed on the form.

A wide variety of special inquiries were included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM). Approximately 30 percent of all manufacturing 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 220 economic census — manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM). This group includes approximately 15 percent of all manufacturing 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 "short form" was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, 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 and materials consumed 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 manufacturing 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 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 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 cost of materials were not distributed among specific products and materials for these establishments, but were included in the product and material "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 manufacturing and nonmanufacturing activity.

   Sometimes the administrative-record cases had only two- or three-digit NAICS group classification codes available in the files. For manufacturing, 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" industries 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 — Manufacturing are classified in 1 of 473 industries in accordance with the industry definitions in the *North American Industry Classification System (NAICS), United States, 2002* manual. There were no changes between the 2002 edition and the 1997 edition affecting this sector. 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 production processes. 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 number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 2002, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. There are 1,450 product classes (seven-digit codes), 5,674 census products, and an additional 3,746 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 — Manufacturing, 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. For 2002, there were no "resistance rules" or "frozen industries."

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, 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, to the product statistics, the composition of the industry's output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The 2002 Economic Census — Manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports, if the plant records permit such a separation and if the activities are substantial in size.

In 2002, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than $5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures, except for data on number of establishments for a few industries.

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

DESCRIPTION OF THE ASM SURVEY SAMPLE

The ASM sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1999 survey year based on the 1997 Economic Census — Manufacturing. This sample will be in place through the 2003 ASM.

In 1997, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the establishments in the 1997 manufacturing population were partitioned into two components for developing estimates within the ASM. The details of each are described below:

1. Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies

that operate at more than one physical location). Approximately 200,000 of the 370,000 establishments in the 1997 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1999 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1997 census. Supplemental samples representing both 1998 and 1999 births (newly active establishments that were not included in the 1997 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 2003.

The 1999-2003 ASM sample design is similar to the one used since 1984. Companies in the 1997 Economic Census — Manufacturing with manufacturing shipments of at least $500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1999-2003 sample, there are approximately 500 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. Across these arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1997 Economic Census — Manufacturing.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1997 industry classification and its 1997 product class data. For each product class (1,755) and six-digit industry (473), a desired reliability constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints, while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by the Census Bureau's primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) that permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

2. Nonmail stratum. The initial nonmail component of the survey was comprised of approximately 170,000 small, single-establishment companies that were tabulated as administrative records in the 1997 Economic Census — Manufacturing. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

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. The following are two ways that further explain this method: ASM Estimating Procedure. Most of the ASM

estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1997 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1998-2002 ASM estimates, the 1997 Economic Census — Manufacturing values serve as the base year. For the 2003 ASM, the base will be updated to be the 2002 Economic Census — Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contained approximately 170,000 individual establishments in 1999, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication. ASM Data Qualifications. The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists, but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

- From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.
- From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.
- From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

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 — Manufacturing shows value of shipments 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.

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. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. Nonetheless, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures, which can be suppressed even though value of shipments data are published.

Appendix D.
Geographic Notes

Not applicable for this report.

U.S. Census Bureau, 2002 Economic Census

Appendix E.
Metropolitan Areas and Micropolitan Statistical Areas

Not applicable for this report.

U.S. Census Bureau, 2002 Economic Census

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

2002 published	2002 collected	1997 published
3111111	3111111	3111111
3111111111	3111111111	3111111111
3111111121	3111111121	3111111121
3111111231	3111111231	3111111231
3111111341	3111111341	3111111341
3111111YWV	3111111YWV	3111111YWV
3111114	3111114	3111114
3111114111	3111114111	3111114111
3111114221	3111114221	3111114221
3111114231	3111114231	3111114231
3111114341	3111114341	3111114341
3111114351	3111114351	3111114351
3111114YWV	3111114YWV	3111114YWV
311111W	311111W	311111W
311111WYWW	311111WYWW	311111WYWW
311111WYWY	311111WYWY	311111WYWY
3111191	3111191	3111191
3111191111	3111191111	3111191111
3111191121	3111191121	3111191121
3111191231	3111191231	3111191231
3111191341	3111191341	3111191341
3111191351	3111191351	3111191351
3111191361	3111191361	3111191361
3111191371	3111191371	3111191371
3111191381	3111191381	3111191381
3111191391	3111191391	3111191391
31111913A1	31111913A1	31111913A1
31111913B1	31111913B1	31111913B1
31111913C1	31111913C1	31111913C1
3111191YWV	3111191YWV	3111191YWV
3111194	3111194	3111194
3111194100	3111194100	3111194100
3111197	3111197	3111197
3111197111	3111197111	3111197111
3111197121	3111197121	3111197121
3111197YWV	3111197YWV	3111197YWV
311119A	311119A	311119A
311119A100	311119A100	311119A100
311119D	311119D	311119D
311119D111	311119D111	311119D111
311119D121	311119D121	311119D121
311119DYWV	311119DYWV	311119DYWV
311119G	311119G	311119G
311119G100	311119G100	311119G100
311119J	311119J	311119J
311119J111	311119J111	311119J111
311119J121	311119J121	311119J121
311119JYWV	311119JYWV	311119JYWV
311119M	311119M	311119M
311119M111	311119M111	311119M111
311119M121	311119M121	311119M121
311119M131	311119M131	311119M131
311119M141	311119M141	311119M141
311119M151	311119M151	311119M151
311119M161	311119M161	311119M161
311119M171	311119M171	311119M171
311119M181	311119M181	311119M181
311119M191	311119M191	311119M191
311119MYWV	311119MYWV	311119MYWV
311119P	311119P	311119P
311119P111	311119P113	311119P111
311119P121	311119P121	311119P121
311119P131	311119P131	311119P131
311119P141	311119P141	311119P141
311119P151	311119P151	311119P151
311119PYWV	311119PYWV	311119PYWV
311119R	311119T pt	311119T pt
311119R121	311119T121	311119T121
311119R131	311119T131	311119T131
311119R141	311119T141	311119T141
311119R151	311119T151	311119T151
311119R161	311119T161	311119T161
311119R171	311119T171	311119T171
311119R181	311119T181	311119T181
311119RYWV	311119TYWV pt	311119TYWV pt
311119W	311119W pt	311119W pt
311119WYWW	311119WYWW pt	311119WYWW pt
311119WYWY	311119WYWY pt	311119WYWY pt
3112111	3112111	3112111
3112111111	3112111111	3112111111
3112111221	3112111221	3112111221
3112111331	3112111331	3112111331
3112111441	3112111441	3112111441
3112111551	3112111551	3112111551
3112111561	3112111561	3112111561
3112111671	3112111671	3112111671
3112111681	3112111681	3112111681
3112111791	3112111791	3112111791
31121117A1	31121117A1	31121117A1
31121117B1	31121117B1	31121117B1
31121118C1	31121118C1	31121118C1
31121118D1	31121118D1	31121118D1
31121118E1	31121118E1	31121118E1
31121118F1	31121118F1	31121118F1
3112111YWV	3112111YWV	3112111YWV
3112114	3112114	3112114
3112114111	3112114111	3112114111
3112114121	3112114121	3112114121
3112114YWV	3112114YWV	3112114YWV
3112117	3112117	3112117
3112117111	3112117111	3112117111
3112117121	3112117121	3112117121
3112117131	3112117131	3112117131
3112117141	3112117141	3112117141
3112117151	3112117151	3112117151
3112117161	3112117161	3112117161
3112117171	3112117171	3112117171
3112117181	3112117181	3112117181
3112117YWV	3112117YWV	3112117YWV
311211A	311211A	311211A
311211A111	311211A111	311211A111
311211A121	311211A121	311211A121
311211A131	311211A131	311211A131
311211A141	311211A141	311211A141
311211A151	311211A151	311211A151
311211A161	311211A161	311211A161
311211A171	311211A171	311211A171
311211AYWV	311211AYWV	311211AYWV
311211B pt	311211D	311211D
311211B pt	3114234 pt	3114234 pt
311211B111	311211D111	311211D111
311211B121	311211D121	311211D121
311211B131	3114234145	3114234141 pt
311211BYWV pt	311211DYWV	311211DYWV
311211BYWV pt	3114234YWV pt	3114234YWV pt
311211W pt	311211W	311211W
311211W pt	311423W pt	311423W pt
311211WYWW pt	311211WYWW	311211WYWW
311211WYWW pt	311423WYWW pt	311423WYWW pt
311211WYWY pt	311211WYWY	311211WYWY
311211WYWY pt	311423WYWY pt	311423WYWY pt
3112120 pt	3112120	3112120
3112120 pt	311999C	311999D pt
3112120111	3112120111	3112120111
3112120221	3112120221	3112120221
3112120331	3112120331	3112120331
3112120441	3112120441	3112120441
3112120451	3112120451	3112120451
3112120461	3112120461	3112120461
3112120471	3112120471	3112120471
3112120481	3112120481	3112120481
3112120511	311999C100	311999D141 pt
3112120YWW pt	3112120YWW	3112120YWW
3112120YWW pt	311999CYWV pt	311999DYWV pt
3112120YWY pt	3112120YWY	3112120YWY
3112120YWY pt	311999CYWV pt	311999DYWV pt
3112130	3112130	3112130
3112130100	3112130100	3112130100
3112130YWW	3112130YWW	3112130YWW
3112130YWY	3112130YWY	3112130YWY
3112211	3112211	3112211
3112211111	3112211111	3112211111
3112211121	3112211121	3112211121
3112211131	3112211131	3112211131
3112211141	3112211141	3112211141
3112211251	3112211251	3112211251
3112211261	3112211261	3112211261
3112211371	3112211371	3112211371
3112211YWV	3112211YWV	3112211YWV
3112214	3112214	3112214
3112214111	3112214111	3112214111
3112214221	3112214221	3112214221
3112214331	3112214331	3112214331
3112214YWV	3112214YWV	3112214YWV
3112218	3112218 pt	3112217 pt
3112218111	3112218111	3112217111
3112218121	3112218121	3112217121
3112218131	3112218131	3112217131 pt
3112218YWV	3112218YWV pt	3112217YWV pt
311221A	311221A	311221A
311221A111	311221A111	311221A111
311221A221	311221A221	311221A221
311221A231	311221A231	311221A231
311221A241	311221A241	311221A241
311221AYWV	311221AYWV	311221AYWV
311221W	311221W pt	311221W pt
311221WYWW	311221WYWW pt	311221WYWW pt
311221WYWY	311221WYWY pt	311221WYWY pt
3112221	3112221	3112221
3112221111	3112221111	3112221111
3112221221	3112221221	3112221221
3112221231	3112221231	3112221231
3112221241	3112221241	3112221241
3112221YWV	3112221YWV	3112221YWV
3112224	3112224	3112224
3112224111	3112224111	3112224111
3112224221	3112224221	3112224221
3112224231	3112224231	3112224231
3112224241	3112224241	3112224241
3112224261	3112224261	3112224261
3112224YWV	3112224YWV	3112224YWV
311222W	311222W	311222W
311222WYWW	311222WYWW	311222WYWW
311222WYWY	311222WYWY	311222WYWY
3112231	3112231	3112231
3112231100	3112231100	3112231100
3112234	3112234	3112234
3112234100	3112234100	3112234100
3112237	3112237	3112237
3112237100	3112237100	3112237100
311223A	311223A	311223A
311223A111	311223A111	311223A111
311223A221	311223A221	311223A221
311223A231	311223A231	311223A231
311223AYWV	311223AYWV	311223AYWV
311223D	311223D	311223D
311223D111	311223D111	311223D111
311223D121	311223D121	311223D121
311223DYWV	311223DYWV	311223DYWV
311223G	311223G	311223G
311223G111	311223G111	311223G111
311223G121	311223G121	311223G121
311223G131	311223G131	311223G131
311223G141	311223G141	311223G141
311223G151	311223G151	311223G151
311223G161	311223G161	311223G161
311223G171	311223G171	311223G171
311223G181	311223G181	311223G181
311223G191	311223G191	311223G191
311223GYWV	311223GYWV	311223GYWV
311223J	311223J	311223J
311223J111	311223J111	311223J111
311223J121	311223J121	311223J121
311223J131	311223J131	311223J131
311223J141	311223J141	311223J141
311223JYWV	311223JYWV	311223JYWV
311223W	311223W	311223W
311223WYWW	311223WYWW	311223WYWW
311223WYWY	311223WYWY	311223WYWY
3112252 pt	3112218 pt	3112217 pt
3112252 pt	3112251 pt	3112251 pt
3112252111	3112251111	3112251111
3112252221	3112251221	3112251221
3112252331	3112251331	3112251331
3112252441	3112251441	3112251441
3112252551	3112251551	3112251551
3112252561	3112251561	3112251561
3112252571	3112251571	3112251571
3112252581	3112251581	3112251581

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2002 published	2002 collected	1997 published
3112252591	3112251591	3112251591
31122525A1	31122515A1	31122515A1
31122525A5	3112218135	3112217131 pt
31122525B1	31122515B1	31122515B1
31122525C1	31122515C1	31122515C1
3112252701	3112251701	3112251701
3112252706	3112251706	3112251706
3112252711	3112251711	3112251711
3112252721	3112251721	3112251721
3112252731	3112251731	3112251731
3112252741	3112251741	3112251741
3112252751	3112251751	3112251751
3112252761	3112218141	3112217141
3112252YWV pt	3112218YWV pt	3112217YWV pt
3112252YWV pt	3112251YWV pt	3112251YWV pt
3112254	3112254	3112254
3112254100	3112254100	3112254100
311225W pt	311221W pt	311221W pt
311225W pt	311225W pt	311225W pt
311225WYWW pt	311221WYWW pt	311221WYWW pt
311225WYWW pt	311225WYWW pt	311225WYWW pt
311225WYWY pt	311221WYWY pt	311221WYWY pt
311225WYWY pt	311225WYWY pt	311225WYWY pt
3112301	3112301	3112301
3112301111	3112301111	3112301111
3112301121	3112301121	3112301121
3112301231	3112301231	3112301231
3112301241	3112301241	3112301241
3112301351	3112301351	3112301351
3112301361	3112301361	3112301361
3112301471	3112301471	3112301471
3112301481	3112301481	3112301481
3112301591	3112301591	3112301591
31123015A1	31123015A1	31123015A1
3112301YWV	3112301YWV	3112301YWV
3112304	3112304	3112304
3112304111	3112304111	3112304111
3112304121	3112304121	3112304121
3112304131	3112304131	3112304131
3112304141	3112304141	3112304141
3112304151	3112304151	3112304151
3112304YWV	3112304YWV	3112304YWV
311230W	311230W	311230W
311230WYWW	311230WYWW	311230WYWW
311230WYWY	311230WYWY	311230WYWY
3113110	3113110	3113110
3113110111	3113110111	3113110111
3113110221	3113110221	3113110221
3113110231	3113110231	3113110231
3113110YWW	3113110YWW	3113110YWW
3113110YWY	3113110YWY	3113110YWY
3113120	3113120	3113120
3113120111	3113120111	3113120111
3113120221	3113120221	3113120221
3113120331	3113120331	3113120331
3113120441	3113120441	3113120441
3113120551	3113120551	3113120551
3113120561	3113120561	3113120561
3113120571	3113120571	3113120571
3113120581	3113120581	3113120581
3113120591	3113120591	3113120591
31131205A1	31131205A1	31131205A1
31131205B1	31131205B1	31131205B1
3113120YWW	3113120YWW	3113120YWW
3113120YWY	3113120YWY	3113120YWY
3113130	3113130	3113130
3113130111	3113130111	3113130111
3113130221	3113130221	3113130221
3113130331	3113130331	3113130331
3113130441	3113130441	3113130441
3113130551	3113130551	3113130551
3113130561	3113130561	3113130561
3113130671	3113130671	3113130671
3113130781	3113130781	3113130781
3113130791	3113130791	3113130791
31131308A1	31131308A1	31131308A1
31131309B1	31131309B1	31131309B1
3113130YWW	3113130YWW	3113130YWW
3113130YWY	3113130YWY	3113130YWY
3113201	3113201	3113201
3113201111	3113201111	3113201111
3113201221	3113201221	3113201221
3113201231	3113201231	3113201231
3113201341	3113201341	3113201341
3113201YWV	3113201YWV	3113201YWV
3113204	3113204	3113204
3113204100	3113204100	3113204000
3113207	3113207	3113207
3113207111	3113207111	3113207111
3113207221	3113207221	3113207221
3113207231	3113207231	3113207231
3113207241	3113207241	3113207241
3113207251	3113207251	3113207251
3113207360	3113207360	3113207360
3113207371	3113207371	3113207371
3113207381	3113207381	3113207381
3113207391	3113207391	3113207391
3113207YWV	3113207YWV	3113207YWV
311320W	311320W pt	311320W pt
311320WYWW	311320WYWW	311320WYWW
311320WYWY	311320WYWY	311320WYWY

2002 published	2002 collected	1997 published
3113301	3113301	3113301
3113301100	3113301100	3113301000
3113302	3113302	3113302
3113302100	3113302100	3113302000
311330W pt	311320W pt	311320W pt
311330W pt	311330W	311330W
311330WYWW	311330WYWW	311330WYWW
311330WYWY	311330WYWY	311330WYWY
3113401	3113401	3113401
3113401100	3113401100	3113401000
3113402	3113402	3113402
3113402100	3113402100	3113402000
3113404	3113404	3113404
3113404110	3113404110	3113404110
3113404320	3113404320	3113404320
3113404530	3113404530	3113404530
3113404YWV	3113404YWV	3113404YWV
3113407	3113407	3113407
3113407221	3113407221	3113407221
3113407231	3113407231	3113407231
3113407241	3113407241	3113407241
3113407YWV	3113407YWV	3113407YWV
311340W	311340W	311340W
311340WYWW	311340WYWW	311340WYWW
311340WYWY	311340WYWY	311340WYWY
3114111	3114111	3114111
3114111111	3114111111	3114111111
3114111121	3114111121	3114111121
3114111131	3114111131	3114111131
3114111141	3114111141	3114111141
3114111151	3114111151	3114111151
3114111261	3114111261	3114111261
3114111371	3114111371	3114111371
3114111481	3114111481	3114111481
3114111491	3114111491	3114111491
31141115A1	31141115A1	31141115A1
31141116B1	31141116B1	31141116B1
31141116C1	31141116C1	31141116C1
31141116D1	31141116D1	31141116D1
31141116E1	31141116E1	31141116E1
31141116F1	31141116F1	31141116F1
31141116G1	31141116G1	31141116G1
31141116H1	31141116H1	31141116H1
31141116J1	31141116J1	31141116J1
31141116K1	31141116K1	31141116K1
31141116L1	31141116L1	31141116L1
3114111YWV	3114111YWV	3114111YWV
3114114	3114114	3114114
3114114111	3114114111	3114114111
3114114121	3114114121	3114114121
3114114131	3114114131	3114114131
3114114141	3114114141	3114114141
3114114151	3114114151	3114114151
3114114161	3114114161	3114114161
3114114171	3114114171	3114114171
3114114181	3114114181	3114114181
3114114191	3114114191	3114114191
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31141143B1	31141143B1	31141143B1
31141144C1	31141144C1	31141144C1
31141145D1	31141145D1	31141145D1
31141145E1	31141145E1	31141145E1
31141146F1	31141146F1	31141146F1
31141146G1	31141146G1	31141146G1
31141146H1	31141146H1	31141146H1
3114114YWV	3114114YWV	3114114YWV
311411W	311411W	311411W
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311411WYWY	311411WYWY	311411WYWY
3114121	3114121	3114121
3114121111	3114121111	3114121111
3114121221	3114121221	3114121221
3114121331	3114121331	3114121331
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3114121561	3114121561	3114121561
3114121671	3114121671	3114121671
3114121781	3114121781	3114121781
3114121791	3114121791	3114121791
31141217A1	31141217A1	31141217A1
31141217B1	31141217B1	31141217B1
31141217C1	31141217C1	31141217C1
31141217D1	31141217D1	31141217D1
31141217E1	31141217E1	31141217E1
31141217F1	31141217F1	31141217F1
3114121YWV	3114121YWV	3114121YWV
3114124	3114124	3114124
3114124111	3114124111	3114124111
3114124221	3114124221	3114124221
3114124331	3114124331	3114124331
3114124441	3114124441	3114124441
3114124YWV	3114124YWV	3114124YWV
311412W	311412W	311412W
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311412WYWY	311412WYWY	311412WYWY

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3114211121	3114211121	3114211121
3114211131	3114211131	3114211131
3114211141	3114211141	3114211141
3114211151	3114211151	3114211151
3114211161	3114211161	3114211161
3114211171	3114211171	3114211171
3114211181	3114211181	3114211181
3114211191	3114211191	3114211191
31142111A1	31142111A1	31142111A1
31142111B1	31142111B1	31142111B1
31142111C1	31142111C1	31142111C1
31142111D1	31142111D1	31142111D1
31142111E1	31142111E1	31142111E1
31142111F1	31142111F1	31142111F1
31142111G1	31142111G1	31142111G1
31142111H1	31142111H1	31142111H1
3114211YWV	3114211YWV	3114211YWV
3114214	3114214	3114214
3114214111	3114214111	3114214111
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3114214131	3114214131	3114214131
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3114214151	3114214151	3114214151
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3114214171	3114214171	3114214171
3114214181	3114214181	3114214181
3114214191	3114214191	3114214191
31142141A1	31142141A1	31142141A1
31142141B1	31142141B1	31142141B1
31142141C1	31142141C1	31142141C1
31142141D1	31142141D1	31142141D1
31142141E1	31142141E1	31142141E1
31142141F1	31142141F1	31142141F1
31142141G1	31142141G1	31142141G1
31142141H1	31142141H1	31142141H1
3114214YWV	3114214YWV	3114214YWV
3114217	3114217	3114217
3114217111	3114217111	3114217111
3114217121	3114217121	3114217121
3114217YWV	3114217YWV	3114217YWV
311421A	311421A	311421A
311421A111	311421A111	311421A111
311421A121	311421A121	311421A121
311421AYWV	311421AYWV	311421AYWV
311421D	311421D	311421D
311421D111	311421D111	311421D111
311421D221	311421D221	311421D221
311421D231	311421D231	311421D231
311421D241	311421D241	311421D241
311421D251	311421D251	311421D251
311421D261	311421D261	311421D261
311421D271	311421D271	311421D271
311421D281	311421D281	311421D281
311421D291	311421D291	311421D291
311421D3A1	311421D3A1	311421D3A1
311421D3B1	311421D3B1	311421D3B1
311421D3C1	311421D3C1	311421D3C1
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311421G	311421G	311421G
311421G111	311421G111	311421G111
311421G121	311421G121	311421G121
311421G131	311421G131	311421G131
311421G141	311421G141	311421G141
311421G151	311421G151	311421G151
311421G161	311421G161	311421G161
311421G171	311421G171	311421G171
311421G181	311421G181	311421G181
311421G191	311421G191	311421G191
311421G1A1	311421G1A1	311421G1A1
311421GYWV	311421GYWV	311421GYWV
311421J	311421J	311421J
311421J111	311421J111	311421J111
311421J221	311421J221	311421J221
311421J231	311421J231	311421J231
311421J241	311421J241	311421J241
311421J251	311421J251	311421J251
311421J261	311421J261	311421J261
311421J271	311421J271	311421J271
311421JYWV	311421JYWV	311421JYWV
311421M	311421M	311421M
311421M111	311421M111	311421M111
311421M121	311421M121	311421M121
311421M131	311421M131	311421M131
311421MYWV	311421MYWV	311421MYWV
311421P	311421P	311421P
311421P111	311421P111	311421P111
311421P121	311421P121	311421P121
311421P131	311421P131	311421P131
311421P141	311421P141	311421P141
311421P151	311421P151	311421P151
311421P161	311421P161	311421P161
311421P171	311421P171	311421P171
311421P181	311421P181	311421P181
311421P191	311421P191	311421P191
311421P1A1	311421P1A1	311421P1A1
311421P1B1	311421P1B1	311421P1B1
311421P1C1	311421P1C1	311421P1C1
311421PYWV	311421PYWV	311421PYWV
311421W	311421W	311421W
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311421WYWY	311421WYWY	311421WYWY

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3114227	3114227	3114227
3114227111	3114227111	3114227111
3114227121	3114227121	3114227121
3114227131	3114227131	3114227131
3114227141	3114227141	3114227141
3114227151	3114227151	3114227151
3114227161	3114227161	3114227161
3114227171	3114227171	3114227171
3114227181	3114227181	3114227181
3114227191	3114227191	3114227191
3114227YWV	3114227YWV	3114227YWV
311422B	311422A pt	311422A pt
311422B111	311422A111	311422A111
311422B121	311422A121	311422A121
311422B131	311422A131	311422A131
311422B141	311422A141	311422A141
311422BYWV	311422AYWV pt	311422AYWV pt
311422W	311422W pt	311422W pt
311422WYWW	311422WYWW pt	311422WYWW pt
311422WYWY	311422WYWY pt	311422WYWY pt
3114231	3114231	3114231
3114231113	3114231113	3114231111 pt
3114231115	3114231115	3114231111 pt
3114231121	3114231121	3114231121
3114231YWV	3114231YWV	3114231YWV
3114235	3114234 pt	3114234 pt
3114235111	3114234111	3114234111
3114235121	3114234121	3114234121
3114235131	3114234131	3114234131
3114235143	3114234143	3114234141 pt
3114235151	3114234151	3114234151
3114235161	3114234161	3114234161
3114235181	3114234181	3114234181
3114235YWV	3114234YWV pt	3114234YWV pt
3114237	311999A pt	311999A pt
3114237100	311999A117	311999A111 pt
3114237211 pt	311999A127 pt	311999A121 pt
3114237211 pt	311999A127 pt	311999A131 pt
3114237311	311999A137	311999A141 pt
3114237411 pt	311999A147 pt	311999A151 pt
3114237411 pt	311999A147 pt	311999A161 pt
3114237YWV	311999AYWV pt	311999AYWV pt
3114238	311999F	311999D pt
3114238111	311999F111	311999D131 pt
3114238121	311999F121	311999D141 pt
3114238131	311999F131	311999D151 pt
3114238YWV	311999FYWV	311999DYWV pt
311423W pt	311423W pt	311423W pt
311423W pt	311999W pt	311999W pt
311423WYWW pt	311423WYWW pt	311423WYWW pt
311423WYWW pt	311999WYWW pt	311999WYWW pt
311423WYWY pt	311423WYWY pt	311423WYWY pt
311423WYWY pt	311999WYWY pt	311999WYWY pt
3115111	3115111	3115111
3115111111	3115111111	3115111111
3115111221	3115111221	3115111221
3115111231	3115111231	3115111231
3115111241	3115111241	3115111241
3115111YWV	3115111YWV	3115111YWV
3115115	3115115	3115114 pt
3115115111	3115115111	3115114111 pt
3115115211	3115115211	3115114221 pt
3115115311	3115115311	3115114331 pt
3115115441	3115115441	3115114441
3115115451	3115115451	3115114451
3115115461	3115115461	3115114461
3115115471	3115115471	3115114471
3115115481	3115115481	3115114481
3115115YWV	3115115YWV	3115114YWV pt
3115117	3115117	3115117
3115117111	3115117111	3115117111
3115117121	3115117121	3115117121
3115117131	3115117131	3115117131
3115117YWV	3115117YWV	3115117YWV
311511A	311511A	311511A
311511A111	311511A111	311511A111
311511A121	311511A121	311511A121
311511AYWV	311511AYWV	311511AYWV
311511D	311511D	311511D
311511D111	311511D111	311511D111
311511D121	311511D121	311511D121
311511D131	311511D131	311511D131
311511D141	311511D141	311511D141
311511D151	311511D151	311511D151
311511D161	311511D161	311511D161
311511DYWV	311511DYWV	311511DYWV
311511G	311511G	311511G
311511G111	311511G111	311511G111
311511G121	311511G121	311511G121
311511G131	311511G131	311511G131
311511GYWV	311511GYWV	311511GYWV
311511W	311511W pt	311511W pt
311511WYWW	311511WYWW pt	311511WYWW pt
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3115120131	3115120131	3115120131
3115120YWW	3115120YWW	3115120YWW
3115120YWY	3115120YWY	3115120YWY
3115131	3115131	3115131
3115131111	3115131111	3115131111
3115131121	3115131121	3115131121
3115131131	3115131131	3115131131
3115131141	3115131141	3115131141
3115131YWV	3115131YWV	3115131YWV
3115134	3115134	3115134
3115134111	3115134111	3115134111
3115134221	3115134221	3115134221
3115134231	3115134231	3115134231
3115134241	3115134241	3115134241
3115134251	3115134251	3115134251
3115134YWV	3115134YWV	3115134YWV
3115137	3115137	3115137
3115137111	3115137111	3115137111
3115137121	3115137121	3115137121
3115137YWV	3115137YWV	3115137YWV
311513A	311513A	311513A
311513A100	311513A100	311513A100
311513W	311513W	311513W
311513WYWW	311513WYWW	311513WYWW
311513WYWY	311513WYWY	311513WYWY
3115141	3115141	3115141
3115141111	3115141111	3115141111
3115141221	3115141221	3115141221
3115141331	3115141331	3115141331
3115141441	3115141441	3115141441
3115141551	3115141551	3115141551
3115141661	3115141661	3115141661
3115141671	3115141671	3115141671
3115141681	3115141681	3115141681
3115141791	3115141791	3115141791
3115141811	3115141811	3115141811
3115141YWV	3115141YWV	3115141YWV
3115145 pt	3115116	3115114 pt
3115145 pt	3115144	3115144
3115145111	3115144111	3115144111
3115145121	3115144121	3115144121
3115145131	3115144131	3115144131
3115145241	3115144241	3115144241
3115145351	3115144351	3115144351
3115145441	3115116111	3115114111 pt
3115145442	3115116211	3115114221 pt
3115145443	3115116311	3115114331 pt
3115145YWV pt	3115116YWV	3115114YWV pt
3115145YWV pt	3115144YWV	3115144YWV
3115147	3115147	3115147
3115147111	3115147111	3115147111
3115147121	3115147121	3115147121
3115147131	3115147131	3115147131
3115147YWV	3115147YWV	3115147YWV
311514A	311514A	311514A
311514A111	311514A111	311514A111
311514A121	311514A121	311514A121
311514A131	311514A131	311514A131
311514A241	311514A241	311514A241
311514A251	311514A251	311514A251
311514A261	311514A261	311514A261
311514A271	311514A271	311514A271
311514AYWV	311514AYWV	311514AYWV
311514D	311514D	311514D
311514D111	311514D111	311514D111
311514D121	311514D121	311514D121
311514D131	311514D131	311514D131
311514D141	311514D141	311514D141
311514D151	311514D151	311514D151
311514D161	311514D161	311514D161
311514DYWV	311514DYWV	311514DYWV
311514W pt	311511W pt	311511W pt
311514W pt	311514W	311514W
311514WYWW pt	311511WYWW pt	311511WYWW pt
311514WYWW pt	311514WYWW	311514WYWW
311514WYWY pt	311511WYWY pt	311511WYWY pt
311514WYWY pt	311514WYWY	311514WYWY
3115200	3115200	3115200
3115200111	3115200111	3115200111
3115200221	3115200221	3115200221
3115200331	3115200331	3115200331
3115200441	3115200441	3115200441
3115200451	3115200451	3115200451
3115200461	3115200461	3115200461
3115200471	3115200471	3115200471
3115200481	3115200481	3115200481
3115200491	3115200491	3115200491
31152005A1	31152005A1	31152005A1
31152005B1	31152005B1	31152005B1
31152005C1	31152005C1	31152005C1
31152005D1	31152005D1	31152005D1
31152005E1	31152005E1	31152005E1
31152005F1	31152005F1	31152005F1
31152005G1	31152005G1	31152005G1
31152005H1	31152005H1	31152005H1
3115200YWW	3115200YWW	3115200YWW
3115200YWY	3115200YWY	3115200YWY

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3116111331	3116111331	3116111331
3116111441	3116111441	3116111441
3116111551	3116111551	3116111551
3116111661	3116111661	3116111661
3116111671	3116111671	3116111671
3116111YWV	3116111YWV	3116111YWV
3116114	3116114	3116114
3116114111	3116114111	3116114111
3116114121	3116114121	3116114121
3116114131	3116114131	3116114131
3116114YWV	3116114YWV	3116114YWV
3116117	3116117	3116117
3116117111	3116117111	3116117111
3116117121	3116117121	3116117121
3116117YWV	3116117YWV	3116117YWV
311611A	311611A	311611A
311611A111	311611A111	311611A111
311611A121	311611A121	311611A121
311611A131	311611A131	311611A131
311611AYWV	311611AYWV	311611AYWV
311611D	311611D	311611D
311611D111	311611D111	311611D111
311611D121	311611D121	311611D121
311611DYWV	311611DYWV	311611DYWV
311611G	311611G	311611G
311611G111	311611G111	311611G111
311611G121	311611G121	311611G121
311611G131	311611G131	311611G131
311611G141	311611G141	311611G141
311611G151	311611G151	311611G151
311611G161	311611G161	311611G161
311611G171	311611G171	311611G171
311611GYWV	311611GYWV	311611GYWV
311611J	311611J	311611J
311611J111	311611J111	311611J111
311611J121	311611J121	311611J121
311611J131	311611J131	311611J131
311611J141	311611J141	311611J141
311611J151	311611J151	311611J151
311611JYWV	311611JYWV	311611JYWV
311611M	311611M	311611M
311611M100	311611M100	311611M100
311611P	311611P	311611P
311611P111	311611P111	311611P111
311611P121	311611P121	311611P121
311611P131	311611P131	311611P131
311611P141	311611P141	311611P141
311611PYWV	311611PYWV	311611PYWV
311611R pt	311119T pt	311119T pt
311611R pt	311611T pt	311611T
311611R pt	311611T pt	311611W pt
311611R111	311611T111	311611T111
311611R121	311611T121	311611T121
311611R131	311611T131	311611T131
311611R141	311611T141	311611T141
311611R151	311611T151	311611T151
311611R161	311611T161	311611T161
311611R171	311611T171	311611T171
311611R181 pt	311119T111	311119T111
311611R181 pt	311611T181	311611WYWW pt
311611RYWV pt	311119TYWV pt	311119TYWV pt
311611RYWV pt	311611TYWV	311611TYWV
311611W pt	311119W pt	311119W pt
311611W pt	311611W	311611W pt
311611WYWW pt	311119WYWW pt	311119WYWW pt
311611WYWW pt	311611WYWW	311611WYWW pt
311611WYWY pt	311119WYWY pt	311119WYWY pt
311611WYWY pt	311611WYWY	311611WYWY
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3116121111	3116121111	3116121111
3116121121	3116121121	3116121121
3116121231	3116121231	3116121231
3116121341	3116121341	3116121341
3116121451	3116121451	3116121451
3116121561	3116121561	3116121561
3116121671	3116121671	3116121671
3116121781	3116121781	3116121781
3116121YWV	3116121YWV	3116121YWV
3116124	3116124	3116124
3116124111	3116124111	3116124111
3116124221	3116124221	3116124221
3116124331	3116124331	3116124331
3116124441	3116124441	3116124441
3116124451	3116124451	3116124451
3116124YWV	3116124YWV	3116124YWV
3116127	3116127	3116127
3116127100	3116127100	3116127100
311612A	311612A	311612A
311612A111	311612A111	311612A111
311612A221	311612A221	311612A221
311612A331	311612A331	311612A331
311612A441	311612A441	311612A441
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311612AYWV	311612AYWV	311612AYWV

2002 published	2002 collected	1997 published
311612W	311612W	311612W
311612WYWW	311612WYWW	311612WYWW
311612WYWY	311612WYWY	311612WYWY
3116131	3116131	3116131
3116131111	3116131111	3116131111
3116131121	3116131121	3116131121
3116131YWV	3116131YWV	3116131YWV
3116135 pt	3112251 pt	3112251 pt
3116135 pt	3116134	3116134
3116135111	3116134111	3116134111
3116135221	3116134221	3116134221
3116135243 pt	3116134241 pt	3116134231
3116135243 pt	3116134241 pt	3116134241
3116135251	3116134251	3116134251
3116135261	3116134261	3116134261
3116135271	3122515D1	3122515D1
3116135YWV pt	3112251YWV pt	3112251YWV pt
3116135YWV pt	3116134YWV	3116134YWV
311613W pt	311225W pt	311225W pt
311613W pt	311613W	311613W
311613WYWW pt	311225WYWW pt	311225WYWW pt
311613WYWW pt	311613WYWW	311613WYWW
311613WYWY pt	311225WYWY pt	311225WYWY pt
311613WYWY pt	311613WYWY	311613WYWY
3116151	3116151	3116151
3116151111	3116151111	3116151111
3116151221	3116151221	3116151221
3116151331	3116151331	3116151331
3116151441	3116151441	3116151441
3116151551	3116151551	3116151551
3116151YWV	3116151YWV	3116151YWV
3116154	3116154	3116154
3116154111	3116154111	3116154111
3116154121	3116154121	3116154121
3116154YWV	3116154YWV	3116154YWV
3116157	3116157	3116157
3116157111	3116157111	3116157111
3116157221	3116157221	3116157221
3116157331	3116157331	3116157331
3116157341	3116157341	3116157341
3116157YWV	3116157YWV	3116157YWV
311615A	311615A	311615A
311615A111	311615A111	311615A111
311615A121	311615A121	311615A121
311615AYWV	311615AYWV	311615AYWV
311615D	311615D	311615D
311615D111	311615D111	311615D111
311615D121	311615D121	311615D121
311615D131	311615D131	311615D131
311615D141	311615D141	311615D141
311615D151	311615D151	311615D151
311615D161	311615D161	311615D161
311615D171	311615D171	311615D171
311615DYWV	311615DYWV	311615DYWV
311615W	311615W	311615W
311615WYWW	311615WYWW	311615WYWW
311615WYWY	311615WYWY	311615WYWY
3117110	3117110	3117110
3117110111	3117110111	3117110111
3117110221	3117110221	3117110221
3117110331	3117110331	3117110331
3117110341	3117110341	3117110341
3117110351	3117110351	3117110351
3117110461	3117110461	3117110461
3117110471	3117110471	3117110471
3117110481	3117110481	3117110481
3117110591	3117110591	3117110591
31171106A1	31171106A1	31171106A1
31171107B1	31171107B1	31171107B1
31171107C1	31171107C1	31171107C1
31171107D1	31171107D1	31171107D1
31171107E1	31171107E1	31171107E1
3117110YWW	3117110YWW	3117110YWW
3117110YWY	3117110YWY	3117110YWY
3117121	3117121	3117121
3117121111	3117121111	3117121111
3117121121	3117121121	3117121121
3117121131	3117121131	3117121131
3117121141	3117121141	3117121141
3117121151	3117121151	3117121151
3117121161	3117121161	3117121161
3117121171	3117121171	3117121171
3117121181	3117121181	3117121181
3117121191	3117121191	3117121191
31171211A1	31171211A1	31171211A1
31171211B1	31171211B1	31171211B1
31171211C1	31171211C1	31171211C1
31171211D1	31171211D1	31171211D1
31171211E1	31171211E1	31171211E1
31171211F1	31171211F1	31171211F1
31171211G1	31171211G1	31171211G1
31171211H1	31171211H1	31171211H1
31171211J1	31171211J1	31171211J1
31171211K1	31171211K1	31171211K1
31171211L1	31171211L1	31171211L1
31171211M1	31171211M1	31171211M1
3117121YWV	3117121YWV	3117121YWV

2002 published	2002 collected	1997 published
3117122	3117122	3117122
3117122111	3117122111	3117122111
3117122221	3117122221	3117122221
3117122331	3117122331	3117122331
3117122441	3117122441	3117122441
3117122551	3117122551	3117122551
3117122661	3117122661	3117122661
3117122671	3117122671	3117122671
3117122771	3117122581	3117122771
3117122881	3117122691	3117122881
3117122891	31171226A1	3117122891
3117122991	31171227B1	3117122991
3117122AA1	31171228C1	3117122AA1
3117122AB1	31171228D1	3117122AB1
3117122BC1	31171229E1	3117122BC1
3117122CD1	3117122AF1	3117122CD1
3117122CE1	3117122AG1	3117122CE1
3117122YWV	3117122YWV	3117122YWV
3117123	3117123	3117123
3117123111	3117123111	3117123111
3117123121	3117123121	3117123121
3117123131	3117123131	3117123131
3117123141	3117123141	3117123141
3117123251	3117123251	3117123251
3117123261	3117123261	3117123261
3117123271	3117123271	3117123271
3117123281	3117123281	3117123281
3117123291	3117123291	3117123291
31171232A1	31171232A1	31171232A1
31171232B1	31171232B1	31171232B1
31171232C1	31171232C1	31171232C1
31171232D1	31171232D1	31171232D1
3117123E1	3117123E1	3117123E1
3117123YWV	3117123YWV	3117123YWV
3117124	3117124	3117124
3117124111	3117124111	3117124111
3117124121	3117124121	3117124121
3117124131	3117124131	3117124131
3117124211	3117124211	3117124211
3117124221	3117124221	3117124221
3117124231	3117124231	3117124231
3117124311	3117124311	3117124311
3117124YWV	3117124YWV	3117124YWV
311712W	311712W	311712W
311712WYWW	311712WYWW	311712WYWW
311712WYWY	311712WYWY	311712WYWY
3118110	3118110	3118110
3118110111	3118110111	3118110111
3118110121	3118110121	3118110121
3118110131	3118110131	3118110131
3118110141	3118110141	3118110141
3118110151	3118110151	3118110151
3118110161	3118110161	3118110161
3118110V1	3118110V1	3118110V1
3118110YWW	3118110YWW	3118110YWW
3118110YWY	3118110YWY	3118110YWY
3118121	3118121	3118121
3118121111	3118121111	3118121111
3118121121	3118121121	3118121121
3118121231	3118121231	3118121231
3118121241	3118121241	3118121241
3118121351	3118121351	3118121351
3118121361	3118121361	3118121361
3118121471	3118121471	3118121471
3118121481	3118121481	3118121481
3118121491	3118121491	3118121491
3118121A1	3118121A1	3118121A1
3118121G1	3118121G1	3118121G1
3118121J1	3118121J1	3118121J1
3118121YWV	3118121YWV	3118121YWV
3118125 pt	3118124	3118124
3118125 pt	3118211 pt	3118211 pt
3118125111	3118124111	3118124111
3118125121	3118124121	3118124121
3118125231	3118124231	3118124231
3118125241	3118124241	3118124241
3118125251	3118124251	3118124251
3118125261	3118124261	3118124261
3118125271	3118124271	3118124271
3118125281	3118124281	3118124281
3118125291	3118124291	3118124291
31181252A1	31181242A1	31181242A1
31181252B1	31181242B1	31181242B1
31181252C1	31181242C1	31181242C1
31181252D1	31181242D1	31181242D1
31181252E1	31181242E1	31181242E1
31181252F1	31181242F1	31181242F1
31181252G1	3118211351	3118211351
3118125YWV pt	3118124YWV	3118124YWV
3118125YWV pt	3118211YWV pt	3118211YWV pt
3118127	3118127	3118127
3118127111	3118127111	3118127111
3118127121	3118127121	3118127121
3118127131	3118127131	3118127131
3118127YWV	3118127YWV	3118127YWV
311812A	311812A	311812A
311812A111	311812A111	311812A111
311812A121	311812A121	311812A121
311812AYWV	311812AYWV	311812AYWV

2002 published	2002 collected	1997 published
311812D	311812D	311812D
311812D111	311812D111	311812D111
311812D131	311812D131	311812D131
311812D151	311812D151	311812D151
311812D181	311812D181	311812D181
311812D191	311812D191	311812D191
311812DYWV	311812DYWV	311812DYWV
311812W pt	311812W	311812W
311812W pt	311821W pt	311821W pt
311812WYWW pt	311812WYWW	311812WYWW
311812WYWW pt	311821WYWW pt	311821WYWW pt
311812WYWY pt	311812WYWY	311812WYWY
311812WYWY pt	311821WYWY pt	311821WYWY pt
3118130	3118130	3118130
3118130111	3118130111	3118130111
3118130221	3118130221	3118130221
3118130331	3118130331	3118130331
3118130341	3118130341	3118130341
3118130351	3118130351	3118130351
3118130361	3118130361	3118130361
3118130371	3118130371	3118130371
3118130391	3118130391	3118130391
3118130V1	3118130V1	3118130V1
3118130YWW	3118130YWW	3118130YWW
3118130YWY	3118130YWY	3118130YWY
3118212	3118211 pt	3118211 pt
3118212111	3118211111	3118211111
3118212221	3118211221	3118211221
3118212331	3118211331	3118211331
3118212341	3118211341	3118211341
3118212391	3118211391	3118211391
3118212YWV	3118211YWV pt	3118211YWV pt
3118214	3118214	3118214
3118214111	3118214111	3118214111
3118214221	3118214221	3118214221
3118214331	3118214331	3118214331
3118214341	3118214341	3118214341
3118214351	3118214351	3118214351
3118214361	3118214361	3118214361
3118214371	3118214371	3118214371
3118214381	3118214381	3118214381
3118214391	3118214391	3118214391
3118214YWV	3118214YWV	3118214YWV
311821W	311821W pt	311821W pt
311821WYWW	311821WYWW pt	311821WYWW pt
311821WYWY	311821WYWY pt	311821WYWY pt
3118220	3118220	3118220
3118220121	3118220121	3118220121
3118220211	3118220211	3118220211
3118220231	3118220231	3118220231
3118220241	3118220241	3118220241
3118220251	3118220251	3118220251
3118220261	3118220261	3118220261
3118220271	3118220271	3118220271
3118220YWW	3118220YWW	3118220YWW
3118220YWY	3118220YWY	3118220YWY
3118230 pt	3118231 pt	3118230 pt
3118230 pt	311999A pt	311999A pt
31182301 pt	311999W pt	311999W pt
3118230111	3118231111	3118230111
3118230121	3118231311	3118230441
3118230211	311999A115	311999A111 pt
3118230231	311999A135	311999A141 pt
3118230YWW pt	311823WYWW pt	3118230YWW pt
3118230YWW pt	311999AYWV pt	311999AYWV pt
3118230YWW pt	311999WYWW pt	311999WYWW pt
3118230YWY pt	311823WYWY pt	3118230YWY pt
3118230YWY pt	311999WYWY pt	311999WYWY pt
3118300	3118300	3118300
3118300100	3118300100	3118300100
3118300YWW	3118300YWW	3118300YWW
3118300YWY	3118300YWY	3118300YWY
3119111	3119111	3119111
3119111111	3119111111	3119111111
3119111121	3119111121	3119111121
3119111131	3119111131	3119111131
3119111241	3119111241	3119111241
3119111251	3119111251	3119111251
3119111261	3119111261	3119111261
3119111371	3119111371	3119111371
3119111381	3119111381	3119111381
3119111391	3119111391	3119111391
31191113A1	31191113A1	31191113A1
3119111YWV	3119111YWV	3119111YWV
3119114	3119114	3119114
3119114111	3119114111	3119114111
3119114121	3119114121	3119114121
3119114YWV	3119114YWV	3119114YWV
311911W	311911W	311911W
311911WYWW	311911WYWW	311911WYWW
311911WYWY	311911WYWY	311911WYWY
3119191	3119191	3119191
3119191100	3119191100	3119191100
3119194	3119194	3119194
3119194111	3119194111	3119194111
3119194221	3119194221	3119194221
3119194331	3119194331	3119194331
3119194YWV	3119194YWV	3119194YWV

2002 published	2002 collected	1997 published
3119197	3119197	3119197
3119197111	3119197111	3119197111
3119197221	3119197221	3119197221
3119197YWV	3119197YWV	3119197YWV
311919W	311919W	311919W
311919WYWW	311919WYWW	311919WYWW
311919WYWY	311919WYWY	311919WYWY
3119201	3119201	3119201
3119201111	3119201111	3119201111
3119201211	3119201211	3119201211
3119201331	3119201331	3119201331
3119201YWV	3119201YWV	3119201YWV
3119205 pt	3119204	3119204
3119205 pt	3119424 pt	3119424 pt
3119205111	3119204111	3119204111
3119205121	3119204121	3119204121
3119205131	3119424141	3119424141
3119205YWV pt	3119204YWV	3119204YWV
3119205YWV pt	3119424YWV pt	3119424YWV pt
3119207	3119207	3119207
3119207111	3119207111	3119207111
3119207221	3119207221	3119207221
3119207231	3119207231	3119207231
3119207YWV	3119207YWV	3119207YWV
311920W pt	311920W	311920W
311920W pt	311942W pt	311942W pt
311920WYWW pt	311920WYWW	311920WYWW
311920WYWW pt	311942WYWW pt	311942WYWW pt
311920WYWY pt	311920WYWY	311920WYWY
311920WYWY pt	311942WYWY pt	311942WYWY pt
3119301	3119301	3119301
3119301111	3119301111	3119301111
3119301121	3119301121	3119301121
3119301YWV	3119301YWV	3119301YWV
3119304	3119304	3119304
3119304111	3119304111	3119304111
3119304121	3119304121	3119304121
3119304131	3119304131	3119304131
3119304141	3119304141	3119304141
3119304151	3119304151	3119304151
3119304161	3119304161	3119304161
3119304YWV	3119304YWV	3119304YWV
3119305	3121117	3121117
3119305111	3121117111	3121117111
3119305121	3121117121	3121117121
3119305YWV	3121117YWV	3121117YWV
3119308	3119307 pt	3119307 pt
3119308111	3119307111	3119307111
3119308121	3119307121	3119307121
3119308141	3119307141	3119307141
3119308YWV	3119307YWV pt	3119307YWV pt
311930W pt	311930W pt	311930W pt
311930W pt	312111W pt	312111W pt
311930WYWW pt	311930WYWW pt	311930WYWW pt
311930WYWW pt	312111WYWW pt	312111WYWW pt
311930WYWY pt	311930WYWY pt	311930WYWY pt
311930WYWY pt	312111WYWY pt	312111WYWY pt
3119411	3119411	3119411
3119411111	3119411111	3119411111
3119411121	3119411121	3119411121
3119411131	3119411131	3119411131
3119411YWV	3119411YWV	3119411YWV

2002 published	2002 collected	1997 published
3119414	3119414	3119414
3119414111	3119414111	3119414111
3119414221	3119414221	3119414221
3119414YWV	3119414YWV	3119414YWV
3119417	3119417	3119417
3119417111	3119417111	3119417111
3119417221	3119417221	3119417221
3119417331	3119417331	3119417331
3119417441	3119417441	3119417441
3119417YWV	3119417YWV	3119417YWV
311941W	311941W	311941W
311941WYWW	311941WYWW	311941WYWW
311941WYWY	311941WYWY	311941WYWY
3119421	3119421	3119421
3119421111	3119421111	3119421111
3119421121	3119421121	3119421121
3119421131	3119421131	3119421131
3119421241	3119421241	3119421241
3119421351	3119421351	3119421351
3119421YWV	3119421YWV	3119421YWV
3119425 pt	3119307 pt	3119307 pt
3119425 pt	3119424 pt	3119424 pt
3119425111	3119424111	3119424111
3119425121	3119424121	3119424121
3119425131	3119424131	3119424131
3119425151	3119307131	3119307131
3119425YWV pt	3119307YWV pt	3119307YWV pt
3119425YWV pt	3119424YWV pt	3119424YWV pt
3119427	3119427	3119427
3119427111	3119427111	3119427111
3119427121	3119427121	3119427121
3119427131	3119427131	3119427131
3119427241	3119427241	3119427241
3119427251	3119427251	3119427251
3119427YWV	3119427YWV	3119427YWV
311942W pt	311930W pt	311930W pt
311942W pt	311942W pt	311942W pt
311942W pt	312120W pt	312120W pt
311942WYWW pt	311930WYWW pt	311930WYWW pt
311942WYWW pt	311942WYWW pt	311942WYWW pt
311942WYWY pt	311930WYWY pt	311930WYWY pt
311942WYWY pt	311942WYWY pt	311942WYWY pt
3119910 pt	3118231 pt	3118230 pt
3119910 pt	311823W	3118230 pt
3119910 pt	3119910	3119910
3119910 pt	311999A pt	311999A pt
3119910 pt	311999W pt	311999W pt
3119910111	3119910111	3119910111
3119910221	3119910211	3119910221
3119910331	3119910311	3119910331
3119910441	3119910411	3119910441
3119910551	3119910511	3119910551
3119910561	3119910521	3119910561
3119910671	3119910611	3119910671
3119910781	3119910F11	3119910781
3119910811 pt	3118231211 pt	3118230221
3119910811 pt	3118231211 pt	3118230331
3119910911 pt	3118231321 pt	3118230451
3119910911 pt	3118231321 pt	3118230461
3119910A11 pt	311999A125 pt	311999A121 pt
3119910A11 pt	311999A125 pt	311999A131 pt
3119910A21 pt	311999A145 pt	311999A151 pt
3119910A21 pt	311999A145 pt	311999A161 pt
3119910YWW pt	311823WYWW pt	3118230YWW pt
3119910YWW pt	3119910YWW	3119910YWW

2002 published	2002 collected	1997 published
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3119910YWW pt	311999WYWW pt	311999WYWW pt
3119910YWY pt	311823WYWY pt	3118230YWY pt
3119910YWY pt	3119910YWY	3119910YWY
3119910YWY pt	311999WYWY pt	311999WYWY pt
3119991	3119991	3119991
3119991111	3119991111	3119991111
3119991121	3119991121	3119991121
3119991131	3119991131	3119991131
3119991141	3119991141	3119991141
3119991151	3119991151	3119991151
3119991YWV	3119991YWV	3119991YWV
3119994	3119994	3119994
3119994111	3119994111	3119994111
3119994121	3119994121	3119994121
3119994YWV	3119994YWV	3119994YWV
3119997	3119997	3119997
3119997111	3119997111	3119997111
3119997121	3119997121	3119997121
3119997131	3119997131	3119997131
3119997141	3119997141	3119997141
3119997YWV	3119997YWV	3119997YWV
311999B pt	311999A pt	311999A pt
311999B pt	311999B	311999D pt
311999B111 pt	311999A113	311999A111 pt
311999B111 pt	311999B111	311999D131 pt
311999B121 pt	311999A123 pt	311999A121 pt
311999B121 pt	311999A123 pt	311999A131 pt
311999B121 pt	311999B121	311999D141 pt
311999B131 pt	311999A133	311999A141 pt
311999B131 pt	311999B131	311999D151 pt
311999B141 pt	311999A143 pt	311999A151 pt
311999B141 pt	311999A143 pt	311999A161 pt
311999BYWV pt	311999AYWV pt	311999AYWV pt
311999BYWV pt	311999BYWV	311999DYWV pt
311999G	311999G	311999G
311999G111	311999G111	311999G111
311999G121	311999G121	311999G121
311999G131	311999G131	311999G131
311999G141	311999G141	311999G141
311999G151	311999G151	311999G151
311999G161	311999G161	311999G161
311999G171	311999G171	311999G171
311999G181	311999G181	311999G181
311999GYWV	311999GYWV	311999GYWV
311999J	311999J	311999J
311999J111	311999J111	311999J111
311999J121	311999J121	311999J121
311999JYWV	311999JYWV	311999JYWV
311999P pt	311422A pt	311422A pt
311999P pt	311999M	311999M
311999P101	311999M101	311999M101
311999P105	311422A136	311422A136
311999P111	311999M111	311999M111
311999P121	311999M121	311999M121
311999P131	311999M131	311999M131
311999P141	311999M141	311999M141
311999P151	311999M151	311999M151
311999P161	311999M161	311999M161
311999P171	311999M171	311999M171
311999PYWV pt	311422AYWV pt	311422AYWV pt
311999PYWV pt	311999MYWV	311999MYWV
311999W pt	311422W pt	311422W pt
311999W pt	311999W pt	311999W pt
311999WYWW pt	311422WYWW pt	311422WYWW pt
311999WYWW pt	311999WYWW pt	311999WYWW pt
311999WYWY pt	311422WYWY pt	311422WYWY pt
311999WYWY pt	311999WYWY pt	311999WYWY pt