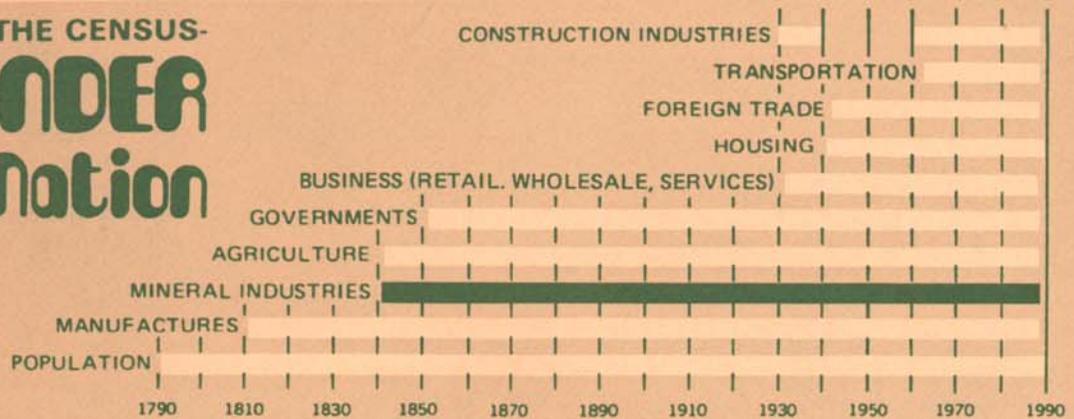


U.S. BUREAU OF THE CENSUS- FACTFINDER for the Nation



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STATISTICS ON MINERAL INDUSTRIES

INTRODUCTION

Mineral industries are those primarily engaged in mining— extracting minerals that occur naturally, whether in solid, liquid, or gaseous form; preparing them on-site as necessary; and exploring and developing mineral properties.

The U.S. decennial census collected the first statistics on mines and mining in this country (as distinguished from persons employed in this field) in 1840 and approximately every 10 years through 1940. After that, the censuses of mineral industries were taken for 1954, 1958, and 1963. Since then, they have been included among the economic censuses covering years ending in "2" and "7" that Title 13 of the U.S. Code authorizes. This law requires response to the census inquiries and also assures that all information companies provide will be kept confidential and published in summary form only. Thus, the Census Bureau makes certain that no individual firm's operations can be identified in its printed reports or public-use electronic products, and Bureau employees are subject to heavy penalties for violating the law's confidentiality provisions.

The Census Bureau collects its data directly from all large firms, usually by mail, and abstracts statistics on employment, payroll, and receipts from Federal administrative records for the remaining ones. This relieves about 11,000 small firms from filing census returns.

The unit of enumeration for the censuses is the **establishment**, generally defined as a single, physical location at

which one or more of the following activities takes place: Metal mining, coal mining, oil and gas extraction, and mining and quarrying of nonmetallic minerals (except fuels)— the standard industrial classification (SIC) major industry groups 10, 12, 13, and 14. These four groups are further broken down into 19 three-digit industry groups and 31 four-digit industries. Beyond these codes,



the Census Bureau uses 76 five-digit product classes and 180 seven-digit product codes, which are comparable to the "harmonized system" now used to classify commodities in export and import statistics.¹ Thus, census data

¹See *Numerical List of Manufactured and Mineral Products*, MC87-R-1 □ * ■ ⊕ ⊙ + (1989); also *1987 Industry and Product Classification Manual* (an extension of the *SIC Manual*) (1989) available from National Technical Information Service).

can be classified to several levels of detail, as illustrated here:

| | | |
|----------------|----------|---------------------------------|
| Major group | 10 | Metal mining |
| Industry group | 101 | Iron ores |
| Industry | 1011 | Iron ores |
| Product class | 10111 | Crude iron ores |
| Product | 10111 21 | Direct-shipping crude iron ores |

The Census Bureau also has a separate set of six-digit codes to classify important raw materials that mining establishments consume. The data are published, as appropriate, at various geographic levels—United States, States, counties, and offshore areas; and for water use, U.S. Geological Survey water-resource regions—and then by type of operation (surface or underground mining and method of ore concentration or preparation) and size of establishment. No mineral industry statistics are collected for Puerto Rico or other outlying areas.

WHAT SUBJECTS ARE COVERED IN THE CENSUS?

The earliest censuses tended to concentrate on production and its value, employment, and capital invested, but they now collect the following general information:

- Employment
- Payroll
- Hours worked
- Quantity and value of products shipped and supplies used
- Cost of purchased machinery
- Capital expenditures
- Assets



U.S. Department of Commerce
BUREAU OF THE CENSUS

For sale by Customer Services (DUSD), Bureau of the Census, Washington, DC 20233. Postage stamps not acceptable; currency submitted at sender's risk. Remittances from foreign countries must be by international money order or by draft on a U.S. bank. Price, 25 cents per copy. A discount of 25 percent is available on orders of 100 copies or more sent to a single address.

Depreciation, amortization, and depletion
Rents
Inventories
Quantity and cost of fuels produced and consumed
Value added by mining
Mineral development and exploration costs

WHO USES MINERAL INDUSTRIES STATISTICS?

The Federal Government uses these statistics in calculating the gross national product and the Nation's mineral wealth; developing input and output models; planning and evaluating conservation, energy-related, and other legislation; determining national minerals policies and research and development projects; and administering mineral industry programs.

State and local governments are interested in the economic and fiscal effects of mining industries within their jurisdictions. Nongovernment users in schools of mines and research institutions, and in manufacturing, finance, transportation, and other fields employ these data in planning and forecasting.

Trade associations and mining firms themselves use the tabulations to evaluate their own operations with respect to their industry or geographic area.

HOW THE DATA ARE PUBLISHED

Most of the mineral industries statistics are issued in printed reports □ that are also available on microfiche ■, computer tape ⊕ and CD-ROM ⊙ (computer disk, read-only memory). Other Census Bureau data, referred to under "Other Aids and Sources of Data" below, are published on diskettes ■ or appear on CENDATA™ ⊕, an online electronic service available from DIALOG, telephone

800/334-2564, and CompuServe, telephone 800/848-8199. Two other symbols, also used below, indicate where printed and electronic materials may be purchased:

- * Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402
Telephone 202/783-3238
FAX 202/275-0019
- + Data User Services Division (DUSD)
Customer Services
Bureau of the Census
Washington, DC 20233
Telephone 301/763-4100
FAX 301/763-4794

Report Series

(The dates shown in parentheses reflect scheduled release times for the reports in each series.)

Selected data are issued in press releases and preliminary reports:

- *Preliminary Industry Series*, MIC87-I-10A(P) to -14E(P), □ * (June-Oct. 1989). Each of the 12 reports furnishes general statistics for the United States for a group of related industries, with information by State insofar as there are significant operations in the State. Preliminary totals also are shown for quantity and value of shipments for the products primary to the industry. The data are similar to those in the final reports (below), but in less detail.
- *Preliminary Summary Series*, MIC87-SUM-1(P), □ * (Oct. 1989). This report offers general statistics for the Nation as a whole from the *Preliminary Industry Series* for each of the four-digit SIC industries. One table shows totals for States without industry detail.

There are three series of final reports:

- *Industry Series*, MIC87-I-10A to -14E, □ * ■ ⊕ ⊙ + (1989-1990). Each of the 12 reports contains statistics for the Nation as a whole for a group of industries (e.g., oil and gas field exploration services). There are final figures for each of 31 four-digit SIC industries on the number of establishments and on the census topics (see list on page 1), and comparative statistics for earlier years are included. Bridge tables show 1987 data classified according to both the old (pre-1987) and new (1987) SIC's. There are general statistics by State and offshore area, type of operation, and size of establishment.
- *Geographic Area Series*, MIC87-A-1 to -9, □ * ■ ⊕ ⊙ + (1989-1990). These nine reports present data for the States and for offshore areas grouped according to the nine census geographic divisions on the number of establishments, payroll, employment, hours worked, value of shipments, cost of supplies, capital expenditures, assets, rental payments, inventories, and value added by mining. Comparative 1982 data on employment and value added by mining are provided at the State level. There are selected data for each of the four-digit industries insofar as they have significant operations in the State, and by type of operation.

Two kinds of data are presented for counties and for the offshore areas under each State's jurisdiction: General statistics for two- and three-digit industries with 450 or more employees in the county and the number of establishments by employment-size class for two-digit major industry groups with no size cutoff.

- *Subject Series*, MIC87-S-1 to -3, □ * ■ + (1990).

TYPICAL TABLE FROM INDUSTRY SERIES, MIC87-I

Table 7a. Selected Supplies, Minerals Received for Preparation, and Purchased Machinery Installed: 1987 and 1982

[Includes quantity and cost of supplies consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

| Supply code | Industry and supply consumed | 1987 | | 1982 | |
|-------------|--|----------|----------------------------------|----------|----------------------------------|
| | | Quantity | Delivered cost (million dollars) | Quantity | Delivered cost (million dollars) |
| | INDUSTRY 1011, IRON ORES | | | | |
| | Selected supplies used, minerals received for preparation, and purchased machinery installed | (X) | 260.8 | (X) | 320.2 |
| | Minerals or ores for preparation: | | | | |
| 100093 | Crude ore received for concentration | (D) | (D) | (D) | (¹) |
| 100093 | Crude ore produced and concentrated at same establishment | 143.6 | (X) | 97.2 | (X) |
| 100095 | Concentrates produced and agglomerated at same establishment | 47.6 | (X) | 33.1 | (X) |
| 353020 | Purchased machinery installed, including equipment installed at the operation as well as mobile loading and transportation equipment | (X) | 15.8 | (X) | 49.0 |
| 353030 | Parts and attachments (except those listed elsewhere) for construction, mining, and conveying equipment; and for preparation machinery | (X) | 48.0 | (X) | 42.0 |
| | Supplies used: | | | | |
| 145000 | Bentonite and other clay nonmetallic minerals | (X) | 16.1 | (X) | 17.1 |
| 280110 | Industrial chemicals (chemical reagents, calcium chloride, fatty acids, etc.), except explosive materials and blasting accessories | (X) | (D) | (X) | 17.0 |

Table 5. Total Energy Consumed by Major Group for Selected States and Offshore Areas: 1987

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix]

| SIC code | Geographic area and major group | Total energy used (trillion Btu's) | Energy produced and consumed at same establishment for power or heat | | | | Purchased fuels and electricity used (trillion Btu's) | Selected purchased fuels used | | | |
|----------|--|------------------------------------|--|-------------------------|---------------------------------|--------------------------|---|-------------------------------|--------------------------|--------------------------|----------------------------|
| | | | Total (trillion Btu's) | Coal (1,000 short tons) | Crude petroleum (1,000 barrels) | Gas (billion cubic feet) | | Coal (1,000 short tons) | Fuel oil (1,000 barrels) | Gas (billion cubic feet) | Gasoline (million gallons) |
| | United States ----- | 2 008.6 | 859.0 | 189.8 | 30 500.0 | 663.2 | 1 149.6 | 3 046.2 | 44 360.5 | 375.7 | 451.1 |
| | Alabama ----- | 18.0 | (D) | - | - | (D) | (D) | (D) | 886.9 | 1.6 | 4.2 |
| 12 | Bituminous coal and lignite mining ----- | 7.8 | - | - | - | - | 7.8 | (D) | 702.6 | (Z) | 2.7 |
| 13 | Oil and gas extraction ----- | 8.3 | (D) | - | - | (D) | (D) | - | 116.0 | (D) | 1.2 |
| 14 | Nonmetallic minerals, except fuels ----- | 1.9 | - | - | - | - | 1.9 | (D) | 68.3 | (D) | .4 |
| | Alaska ----- | 40.2 | 26.4 | (D) | - | (D) | 13.9 | (D) | (D) | (D) | 10.0 |
| 10 | Metal mining ----- | .3 | - | - | - | - | .3 | (Z) | 42.4 | (Z) | .2 |
| 13 | Oil and gas extraction ----- | 39.6 | (D) | - | - | (D) | (D) | - | (D) | (D) | 9.6 |
| | Arizona ----- | 23.6 | (Z) | - | - | (Z) | 23.6 | (D) | 1 129.7 | 4.6 | 3.8 |
| 10 | Metal mining ----- | 21.4 | - | - | - | - | 21.4 | (D) | 982.1 | 4.6 | 2.4 |
| 13 | Oil and gas extraction ----- | .3 | (Z) | - | - | (Z) | .2 | - | 1.6 | (Z) | .3 |

*Table contains 1982 data from illustrative purposes only.

1. *General Summary* presents totals for all 31 mineral industries nationally. The report also contains information that previously appeared in the 1982 census subject report on gross book value of depreciable assets, capital expenditures, retirements, depreciation, and rental payments.

2. *Fuels and Electric Energy Consumed* covers the quantity and cost of purchased fuels and electric energy used by mineral establishments to produce heat and power. Data are presented nationally by two-, three-, and four-digit SIC and by State.

3. *Water Use in Mineral Industries* offers data by industry on the intake, recirculation, and discharge of water during 1989, for establishments using 20 million gallons of water or more annually. Data are shown by industry, by State, and by water-resource region.

Data pertaining to mineral industries may be found in other reports from the 1987 Economic Censuses, such as the following:

- *Census of Manufactures*. The preliminary and final *Industry Series* (MC87-I) and the final *Geographic Area Series* (MC87-A) reports [see *Factfinder* No. 15] (1989-1990), cover oil and gas refining and ore smelting. The final reports appear in □ * and ■ ⊕ ⊙ ■ +. The *Analytical Reports* series (AR87-3, *Indexes of Production* [1990]) □ * ■ ⊕ ⊙ + ■ measures the change in physical output of manufacturing and mineral industries between 1982 and 1987. Price deflators used in converting the value of shipments to constant dollars are presented at the four- and five-digit SIC levels for the Nation and the States. (This is the only report from the economic censuses where the topic of adjusting the data for inflation is discussed.)

- *Enterprise Statistics*, series ES87, □ * ■ + (1990-1991) has three reports of interest:

1. *Large Companies* includes national-level data by enterprise industrial classification (EIC) on the number of companies, number of employees, annual payroll, selected operating expenses, and other economic statistics for firms with 500 or more employees.

2. *Auxiliary Establishments* presents data for multiestablishment firms on number of auxiliaries and payroll, number of employees by type of service performed, sales/receipts, end-of-year inventories, rental payments, capital expenditures, gross value of fixed assets, selected operating expenses, and research and development costs. Company size and other characteristics of the operating firms are tabulated by EIC.

3. *Company Summary* details employment and sales size, legal form of organization, and company/establishment cross tabulations. The number and primary industry of owned or operated establishments, number of employees, annual payroll, and sales/receipts are shown by EIC.

There are some entries for mineral industries in three other series of reports (1989-1991) based on the 1987 Economic Censuses and administrative records. These are:

- *Minority-Owned Businesses*, MB87, □ * ■ ⊕ ■ + ■, which offers general statistics for the Nation by two-digit SIC group and by broad economic sector at lower levels for establishments owned by Blacks, Hispanics, American Indians, and other minorities.
- *Women-Owned Businesses*, WB87, □ * ■ ⊕ ■ + ■, a single report with the same general statistics as the MB87 series.

- *Characteristics of Business Owners*, CBO87 □ * ■ +, presents demographic and economic characteristics of minority, female, and nonminority male business owners and their businesses. Total firms and sales/receipts are shown for each group at the State level, and by two-digit SIC group at the national level.

Some of the Census Bureau's current programs contain annual or quarterly estimates that cover mineral industries:

- *Quarterly Financial Report for Manufacturing, Mining, and Trade Corporations*, QFR, □ * ■ + ■ offers aggregated quarterly statistics for the Nation on the financial position of domestic corporations, such as estimated statements of income and retained earnings, balance sheets, and related operating ratios by EIC and asset size.
- *County Business Patterns*, CBP, □ * ■ ⊕ ⊙ ■ + ■ estimates the number of employees in each year's mid-March pay period, together with the number and employment size of establishments and payroll by two-, three-, and four-digit SIC levels for the United States, States, and counties.
- *Trade and Employment*, TM3, □ * ■ + estimates the quarterly changes in value of U.S. imports and exports, by SIC-based commodity groups and in nonagricultural domestic employment, all at the national level.
- *U.S. Commodity Exports and Imports as Related to Output*, ES2, □ * ■ +, issued periodically, deals at the national level with the quantity and value of exports and imports and the value of import duty for detailed SIC-based commodity groups and compares U.S. domestic output with foreign trade.
- Many of the Census Bureau's summary, detailed, and annual foreign trade reports include some data on the imports



TYPICAL TABLE FROM GEOGRAPHIC AREA SERIES, MIC87-A*

Table 2a. Mineral Establishment Statistics by Industry for the State: 1987 and 1982

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix A]

| SIC code | Industry group and industry | 1987 | | | | | | | | | | | 1982 | | |
|----------|-------------------------------------|----------------------------|------------------------------------|-----------------------------|---------------------------|--|------------------|-------------------------|---|--|---|--|------------------------------------|---|-------|
| | | Establishments during year | | All employees | | Production, development, and exploration workers | | | Value added by mining (million dollars) | Cost of supplies used, purchased machinery installed, etc. (million dollars) | Value of shipments and receipts (million dollars) | Capital expenditures (million dollars) | All employees ² (1,000) | Value added by mining (million dollars) | |
| | | Total (number) | With 20 employees or more (number) | Number ² (1,000) | Payroll (million dollars) | Number (1,000) | Hours (millions) | Wages (million dollars) | | | | | | | |
| | All mineral industries | E1 | 941 | 91 | 10.7 | 276.7 | 7.2 | 14.7 | 181.7 | 1 934.7 | 980.8 | 2 659.4 | 256.1 | 11.3 | 938.9 |
| 10 | Metal mining | - | 16 | 7 | FF | (D) | (D) | (D) | (D) | (D) | (D) | (D) | (D) | 4.2 | 237.7 |
| 1011 | Iron ores | - | 8 | 5 | EE | (D) | (D) | (D) | (D) | (D) | (D) | (D) | (D) | FF | (D) |
| 1021 | Copper ores | - | 2 | 1 | CC | (D) | (D) | (D) | (D) | (D) | (D) | (D) | (D) | EE | (D) |
| 1061 | Ferrous alloy ores, except vanadium | - | 2 | 1 | AA | (D) | - | - | - | - | - | - | - | (NA) | (NA) |
| 13 | Oil and gas extraction | E1 | 727 | 62 | 5.3 | 135.9 | 3.7 | 8.0 | 90.5 | 1 669.1 | 724.4 | 2 169.7 | 223.6 | 3.5 | 568.2 |
| 1311 | Crude petroleum and natural gas | E1 | 295 | 26 | 2.0 | 55.1 | 1.0 | 2.2 | 27.5 | 1 309.8 | 266.2 | 1 407.5 | 168.5 | 1.1 | 466.4 |

*Table contains 1982 and 1977 data for illustrative purposes only.

and exports of mineral products. See *Factfinder CFF 14* [] + or the *Census Catalog & Guide* [] * for information.

- The 1990 Census of Population (see *Factfinder CFF 7*), especially the 1990 CP-2 series [] * [] [] [] [] + entitled *Social and Economic Characteristics* (1993), provides data on selected characteristics of persons who are employed in mineral industries.
- Information on mineral industries appear in digest form in several Bureau publications: The annual *Statistical Abstract of the United States* [] * [] +, the periodic *County and City Data Book (CCDB)* [] * [] [] [] [] + (latest, 1988), *State and Metropolitan Area Data Book (SMADB)* [] * [] [] [] [] + (latest 1986, next 1990), *Historical Statistics of the United States from Colonial Times to 1970* [] (available commercially) [] +, and *County Statistics File 3* [] + (1988). Census and survey statistics also appear in trade journals, textbooks, and other secondary sources.
- Published reports from the censuses of mineral industries, as well as the other materials mentioned above, are available for use in many of over 1,400 Government and Census depository libraries across the country. (A list of these libraries appears in the Bureau's *Census Catalog & Guide* [] * and also

is available separately on request +). These are mainly college, university, and large public libraries, but many smaller libraries also have Bureau publications. Recent reports are available for reference and/or order at the U.S. Department of Commerce's International Trade Administration district offices and Census regional offices in principal cities.

- All of the States, plus the District of Columbia, Puerto Rico, Guam, and the Virgin Islands have State data centers that assist users with printed and computerized data, and some States have business and industry data centers (specializing in economic statistics) as well. There also are organizations registered with the Bureau's National Clearinghouse for Census Data Services that offer tape printouts and other services to their customers. (Lists of centers and organizations on request. +)

DATA USER SERVICES

The Census Bureau assists its data users in a number of ways. It publishes an annual *Census Catalog & Guide* [] *, a monthly newsletter called *Census and You* [] (subscription *, single copies or free sample copy +), a *Monthly Product Announcement* [] (free +) and a *Daily*

List [] (subscription +), and a *Guide to the 1987 Economic Censuses and Related Statistics* [] (free +). A history of these economic censuses is in preparation. The agency also conducts workshops on the availability and use of statistics and offers exhibits and resources for the conventions of interested national organizations. +

Census Awareness and Products Program (CAPP) specialists at the Census Bureau's 12 regional offices, staff members of the International Trade Administration's many district offices, and resource personnel at Bureau headquarters (telephone contact list on request +) are equipped to answer users' questions and assist in locating data.

FACTFINDER FOR THE NATION

General information about the Census Bureau's various statistical programs is contained in the publications in this *Factfinder* series entitled "History and Organization" (CFF 4) and "Bureau Programs and Products" (CFF 18) [] +.

Inquiries and suggestions about the mineral industries statistics program and other Bureau activities are invited. Write or call:

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