

# Mining Machinery and Mineral Processing Equipment: 2004

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## Current Industrial Reports

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**SUMMARY OF FINDINGS.** In 2004, the manufacturers' value of shipments of selected types of mining machinery and related equipment totaled \$1.4 billion, an increase of

20.8 percent from the 2003 figure of \$1.2 billion. The 2004 total included shipments of \$69.8 million of portable crushing, screening, washing, and combination plants which was a 24.4-percent increase from the 2003 total of \$56.1 million. Underground mining machinery equipment totaled \$396.0 million in 2004, a 16.9-percent increase from the 2003 total of \$338.8 million. In 2004, stationary, crushing, pulverizing, and screening machinery totaled \$322.9 million, a 23.2-percent increase from the \$262.1 million reported in 2003. Drills and other mining machinery totaled \$173.5 million in 2004, a 36.7-percent increase from the \$126.9 million reported in 2003. Portable drilling rigs totaled \$455.8 million in 2004, a 16.8-percent increase from the \$390.1 million reported in 2003.

For general CIR information, explanation of general terms and historical note, see the appendix.

Address inquiries concerning these data to Investment Goods Industries Branch, Manufacturing and Construction Division (MCD), Washington, DC 20233-6900, or call Larry Blumberg, 301-763-4744.

For mail or fax copies of this publication, please contact the Information Services Center, MCD, Washington, DC 20233-6900, or call 301-763-4673.

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

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Economics and Statistics Administration  
U.S. CENSUS BUREAU

Table 1. Value of Shipments of Mining and Mineral Processing Equipment by Class of Product: 2000 to 2004  
[Thousands of dollars]

Product code	Product description	2004	2003	2002	2001	2000
	Mining and mineral processing equipment.....	1,418,044	1,174,095	1,161,993	1,241,566	1,313,987
33312081 pt.	Portable crushing, screening, washing, and combination plants.....	69,827	56,110	67,934	86,699	134,528
33313111	Underground mining machinery (except parts sold separately).....	396,037	338,845	323,320	309,250	295,416
33313151	Crushing, pulverizing, and screening (except portable) machinery (except parts sold separately).....	322,875	262,146	236,966	285,442	308,069
33313171	Drills and other mining machinery (except parts).....	173,548	r/ 126,920	129,953	157,641	172,899
33313271	Portable drilling rigs and parts.....	455,757	390,074	403,820	402,534	403,075
pt. Part.	r/Revised by 5 percent or more from previously published data.					

Table 2. Manufacturers' Shipments of Mining and Mineral Processing Equipment by Type: 2004 and 2003  
[Quantity in units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2004		2003	
			Quantity	Value	Quantity	Value
33312081 pt.	Mining and mineral processing equipment .....	(X)	(X)	1,418,044	(X)	1,174,095
	Portable crushing, screening, washing, and combination plants.....	11	398	69,827	381	56,110
	Crushing plants (classification based upon the type of crusher first in the processing flow):					
3331208111	Gyratory.....	4	37	12,939	32	12,726
3331208112	Impact.....	7	45	14,651	31	8,063
3331208113	Jaw.....	5	77	23,442	58	18,614
3331208114	Roll.....	-	(X)	(X)	(X)	(X)
3331208116	Screening, washing, and other plants.....	9	239	18,795	260	16,707
33313111	Underground mining machinery (except parts sold separately).....	24	11,634	396,037	11,125	338,845
3331311101	Continuous mining machines, borer, ripper, auger and drum, including roadheading machines 1/.....	7	219	192,570	(D)	(D)
3331311106	Face haulage vehicles, rubber-tired, self-propelled .....	7 a/	183	39,584	a/ 133	38,029
3331311111	Support vehicles, rubber-tired or track-mounted.....	11 a/	233 a/	32,346	210 a/	22,154
3331311116	All other underground mining machinery 1/.....	15 b/	10,999 b/	131,537	a/ 10,782 b/	278,662
33313151	Crushing, pulverizing, and screening (except portable) machinery (except parts sold separately).....	27	4,449	322,875	3,293	262,146
	Crushers, stationary type, including skid-mounted:					
3331315101	Gyratory.....	3	182	63,028	152	34,479
3331315106	Impact.....	12	342	45,522	241	29,513
3331315111	Jaw.....	6	76	11,268	59	9,923
3331315116	Roll 2/.....	6	(D)	(D)	(D)	(D)
3331315121	Grinding mills and pulverizers 2/.....	6	240	64,913	153	82,345
	Screens, vibrating, stationary:					
3331315126	Horizontal.....	11	780	29,638	734	22,831
3331315131	Inclined.....	12 a/	1,514 a/	64,956	1,248	49,997
3331315136	Other, including trommell.....	4	67	8,250	80	6,767
3331315141	Other crushing, pulverizing, and screening machinery.....	11	1,248	35,300	626	26,291
33313171	Drills and other mining machinery (except parts).....	18	3,336	173,548	r/ 3,145 r/	126,920
	Drills and breakers (rotary and percussion):					
3331317102	Rock drills, air and hydraulic powered 3/.....	3	(D)	(D)	(D)	(D)
3331317106	Coal drills and core drills 3/.....	2	(D)	(D)	(D)	(D)
3331317111	Roof bolters 3/.....	4 a/	505	124,689	r/ 307 r/	73,933
3331317116	All other mining machinery and equipment (except parts sold separately).....	13	2,831	48,859	r/ 2,838 r/	52,987
33313271	Portable drilling rigs and parts.....	20	(X)	455,757	(X)	390,074
	Rotary, trailer- and truck-mounted with pull-back capacity:					
3331327116	Up to 14,999 lbs. 4/.....	3	(D)	(D)	44	5,791
3331327121	15,000 to 29,999 lbs. 4/.....	5 a/	176	32,437	124	25,966
3331327126	30,000 to 59,999 lbs. ....	5	94	34,973	110	42,172
3331327131	60,000 lbs. and over.....	3	51	35,207	29	19,133
	Rotary blasthole drills, truck-, trailer-, or track-mounted:					
3331327136	Up through 59,999 lbs. 5/.....	3	(D)	(D)	(D)	(D)
3331327141	60,000 lbs. and over 5/.....	3	179	103,675	114	62,169
3331327146	Construction drills 6/.....	6	(D)	(D)	(D)	(D)

Table 2. Manufacturers' Shipments of Mining and Mineral Processing Equipment by Type: 2004 and 2003  
[Quantity in units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2004		2003	
			Quantity	Value	Quantity	Value
3331327151	Other portable drilling rigs, including workover (service) rigs 6/.....	3	439	61,122	540	58,803
3331327256	Parts for portable drilling rigs.....	15	(X)	188,343	(X)	176,040

- Represents zero. D Withheld to avoid disclosing data for individual companies. pt. Part. r/Revised by 5 percent or more from previously published data. X Not applicable.

1/Product code 3331311101 is combined with product code 3331311116 for 2003 to avoid disclosing data for individual companies.

2/Product code 3331315116 is combined with product code 3331315121 to avoid disclosing data for individual companies.

3/Product codes 3331317102 and 3331317106 are combined with product code 3331317111 to avoid disclosing data for individual companies.

4/Product code 3331327116 is combined with product code 3331327121 for 2004 to avoid disclosing data for individual companies.

5/Product code 3331327136 is combined with product code 3331327141 to avoid disclosing data for individual companies.

6/Product code 3331327146 is combined with product code 3331327151 to avoid disclosing data for individual companies.

Note: Percent of estimation of each item is indicated as follows: a/15 to 25 percent of this item is estimated. b/26 to 50 percent of this item is estimated. c/Over 50 percent of this item is estimated.

Table 3. Shipments, Exports, and Imports of Selected Mining Machinery and Mineral Processing Equipment: 2004 and 2003  
[Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments (value f.o.b. plant)	Exports of domestic merchandise 1/2/ (value at port)	Value of imports for consumption 1/3/4/
<b>2004</b>				
3331208111, 112, 113, 114 3331315021	Portable crushing plants and stationary grinding machines....	(D)	63,560	83,474
3331208116, 3331315026, 031, 036, 041	Sorting, screening, separating or washing machines.....	156,939	99,117	155,355
3331311001, 3331317102, 106, 111	Rock breaking machines, coal or rock cutters, tunneling machinery, and rock drilling and earth boring tools.....	317,259	636,670	451,615
3331311006, 011	Mine wagon pushers, locomotive or wagon traversers, wagon tippers, and similar railway wagon handling equipment.....	71,930	5,322	1,465
3331315001, 006, 011, 016	Stationary crushing machines.....	(D)	45,845	63,507
<b>2003</b>				
3331208111, 112, 113, 114 3331315021	Portable crushing plants and stationary grinding machines....	(D)	55,836	68,171
3331208116, 3331315026, 031, 036, 041	Sorting, screening, separating or washing machines.....	122,593	72,190	117,567
3331311001, 3331317102, 106, 111	Rock breaking machines, coal or rock cutters, tunneling machinery, and rock drilling and earth boring tools.....	(D)	525,848	389,205
3331311006, 011	Mine wagon pushers, locomotive or wagon traversers, wagon tippers, and similar railway wagon handling equipment.....	60,183	8,895	2,995
3331315001, 006, 011, 016	Stationary crushing machines.....	(D)	28,144	34,109

D Withheld to avoid disclosing data for individual companies.

1/For comparison of North American Industry Classification System (NAICS)-based product codes with Schedule B export codes, and HTSUSA import codes, see Table 4.

2/Source: Census Bureau report FT 446, U.S. Exports.

3/Source: Census Bureau report IM 145, U.S. Imports for Consumption.

4/Dollar value represents the c.i.f. (cost, insurance, and freight) value at first port of entry in the United States plus U.S. import duties.

Table 4. Comparison of North American Industry Classification System (NAICS)-Based Product Codes with Schedule B Export Codes, and HTSUSA Import Codes: 2004

Product code	Product description	Export code 1/	Import code 2/
3331208111, 112, 113, 114 3331315021	Portable crushing plants and stationary grinding machines.....	8474.20.0010 8474.20.0070	8474.20.0010 8474.20.0070
3331208116, 3331315026, 031, 036, 041	Sorting, screening, separating, or washing machines.....	8474.10.0010 8474.10.0090	8474.10.0010 8474.10.0090
3331311001, 3331317102, 106, 111	Rock breaking machinery, coal or rock cutters, tunneling machinery, and rock drilling and earth boring tools.....	8430.31.0000 8430.39.0000 8430.50.0000 8430.69.0000 8207.13.0000 8207.19.1030 8207.19.2030 8207.19.5030	8430.31.0040 8430.31.0080 8430.39.0040 8430.39.0080 8430.50.1000 8430.50.5000 8430.69.0100 8207.13.0000 8207.19.3030 8207.19.3060 8207.19.3090 8207.19.6030 8207.19.6060 8207.19.6090
3331311006, 011	Mine wagon pushers, locomotive or wagon traversers, wagon tippers, and similar railway wagon handling equipment.....	8428.50.0000	8428.50.0000
3331315001, 006, 011, 016	Stationary crushing machines.....	8474.20.0050	8474.20.0050

1/Source: 2004 edition, Harmonized System-based Schedule B, Statistical Classification of Domestic and Foreign Commodities Exported from the United States.

2/Source: Harmonized Tariff Schedule of the United States, Annotated (2004).

# Appendix.

## General CIR Survey Information, Explanation of General Terms and Historical Note

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### GENERAL

The CIR program has been providing monthly, quarterly, and annual measures of industrial activity for many years. Since 1904, with its cotton and fats and oils surveys, the CIR program has formed an essential part of an integrated statistical system involving the quinquennial economic census, manufacturing sector, and the annual survey of manufactures. The CIR surveys, however, provide current statistics at a more detailed product level than either of the other two statistical programs.

The primary objective of the CIR program is to produce timely, accurate data on production and shipments of selected products. The data are used to satisfy economic policy needs and for market analysis, forecasting, and decision making in the private sector. The product-level data generated by these surveys are used extensively by individual firms, trade associations, and market analysts in planning or recommending marketing and legislative strategies, particularly if their industry is significantly affected by foreign trade. Although production and shipments information are the two most common data items collected, the CIR program collects other measures also such as inventories, orders, and consumption. These surveys measure manufacturing activity in important commodity areas such as textiles and apparel, chemicals, primary metals, computer and electronic components, industrial equipment, aerospace equipment, and consumer goods.

The CIR program uses a unified data collection, processing, and publication system. The U.S. Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic census, manufacturing sector. The manufacturing sector provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is too large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. The CIR program includes a group of mandatory and voluntary surveys. Typically the monthly and quarterly surveys are conducted on a voluntary basis. Those companies that choose not to respond to the voluntary surveys are required to submit a mandatory annual counterpart corresponding to the more frequent survey.

### NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS), 1997

The adoption of the North American Industry Classification System (NAICS) in the 1997 Economic Census has had a major impact on the comparability of current and historic data. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those that left manufacturing are logging and portions of publishing. Prominent among the industries that came into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. The net effect of the classification changes are such that if the 1997 value of shipments data for all manufacturers were tabulated on an SIC basis, it would be approximately 3 percent higher.

Listed below are the 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 Foodservices
- 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), covered by the census of governments conducted by the Census Bureau.)

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The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

## FUNDING

The Census Bureau funds most of the surveys. However, a number of surveys are paid for either fully or partially by other Federal Government agencies or private trade associations. A few surveys are mandated, but all are authorized by Title 13 of the United States Code.

## RELIABILITY OF DATA

Survey error may result from several sources including the inability to obtain information about all cases in the survey, response errors, definitional difficulties, differences in the interpretation of questions, mistakes in recording or coding the reported data, and other errors of collection, response, coverage, and estimation. These nonsampling errors also occur in complete censuses. Although no direct measurement of the biases due to these nonsampling errors has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize their influence.

A major source of bias in the published estimates is the imputing of data for nonrespondents, for late reporters, and for data that fail logic edits. Missing figures are imputed based on period-to-period movements shown by reporting firms. A figure is considered to be an impute if the value was not directly reported on the questionnaire, directly derived from other reported items, directly available from supplemental sources, or obtained from the respondent during the analytical review phase. Imputation generally is limited to a maximum of 10 percent for any one data cell. Figures with imputation rates greater than 10 percent are suppressed or footnoted. The imputation rate is not an explicit indicator of the potential error in published figures due to nonresponse, because the actual yearly movements for nonrespondents may or may not closely agree with the imputed movements. The range of difference between the actual and imputed figures is assumed to be small. The degree of uncertainty regarding the accuracy of the published data increases as the percentage of imputation increases. Figures with imputation rates above 10 percent should be used with caution.

## DATA REVISIONS

Statistics for previous years may be revised as the result of corrected figures from respondents, late reports for which imputations were originally made, or other corrections. Data that have been revised by more than 5 percent from previously published data are indicated by footnotes.

## DISCLOSURE

The Census Bureau collects the CIR data under the authority of Title 13, United States Code, which specifies that the information can only be used for statistical purposes and cannot be published or released in any manner that would identify a person, household, or establishment. "D" indicates that data in the cell have been suppressed to avoid disclosure of information pertaining to individual companies.

## EXPLANATION OF GENERAL TERMS

**Capacity.** The maximum quantity of a product that can be produced in a plant in 1 day if operating for 24 hours. Includes the capacity of idle plants until the plant is reported to be destroyed, dismantled, or abandoned.

**Consumption.** Materials used in producing or processing a product or otherwise removing the product from the inventory.

**Exports.** Includes all types of products shipped to foreign countries, or to agents or exporters for reshipment to foreign countries.

**Gross shipments.** The quantity or value of physical shipments from domestic establishments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale or use. Shipments of products purchased for resale are omitted. Shipments of products made under toll arrangements are included.

**Interplant transfers.** Shipments to other domestic plants within a company for further assembly, fabrication, or manufacture.

**Inventories.** The quantity or value of finished goods, work in progress, and materials on hand.

**Machinery in place.** The number of machines of a particular type in place as of a particular date whether the machinery was used for production, prototype, or sampling, or was idle. Machinery in place includes all machinery set up in operating positions.

**Net receipts.** Derived by subtracting the materials held at the end of the previous month from the sum of materials used during the current month.

**Production.** The total volume of products produced, including: products sold; products transferred or added to inventory after adjustments for breakage, shrinkage, and obsolescence, plus any other inventory adjustment; and products that undergo further manufacture at the same establishment.

**Quantities produced and consumed.** Quantities of each type of product produced by a company for internal consumption within that same company.



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**Quantity and value of new orders.** The sales value of orders received during the current reporting period for products and services to be delivered immediately or at some future date. Also represents the net sales value of contract change documents that increase or decrease the sales value of the orders to which they are related, when the parties concerned are in substantial agreement as to the amount involved. Included as orders are only those that are supported by binding legal documents such as signed contracts or letter contracts.

**Quantity and value of shipments.** The figures on quantity and value of shipments represent physical shipments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale. The value represents the net sales price, f.o.b. plant, to the customer or branch to which the products are shipped, net of discounts, allowances, freight charges, and

returns. Shipments to a company's own branches are assigned the same value as comparable appropriate allocation of company overhead and profit. Products bought and resold without further manufacture are excluded.

**Stocks.** Total quantity of ending finished inventory.

**Unfilled orders (backlog).** Calculated by adding net new orders and subtracting net sales from the backlog at the end of the preceding year.

#### **HISTORICAL NOTE**

Data on mining machinery and equipment have been collected by the Census Bureau since 1961. Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library.