## NATURAL GRAPHITE STATISTICS ${ }^{1}$

U.S. GEOLOGICAL SURVEY
[All values in metric tons (t) natural graphite unless otherwise noted]
Last modification: October 17, 2007

| Year | Production | Shipments | Imports | Exports | $\begin{array}{\|c\|} \hline \text { Apparent } \\ \text { consumption } \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \text { Unit value } \\ (\$ / \mathbf{t}) \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \text { Unit value } \\ (98 \$ / t) \\ \hline \end{array}$ | World <br> production |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1900 | 3,050 |  | 14,600 |  | 17,700 | 95.00 | 1,900 | 81,600 |
| 1901 | 2,530 |  | 14,600 |  | 17,100 | 62.00 | 1,200 | 77,100 |
| 1902 <br> 1903 | 6,090 |  | 18,500 |  | 24,600 | 63.00 | 1,200 | 81,600 |
| 1903 | 17,100 |  | 16,300 |  | 33,400 | 74.00 | 1,300 | 77,100 |
| 1904 | 17,900 |  | 12,900 |  | 30,800 | 70.00 | 1,300 | 77,100 |
| 1905 | 22,700 |  | 15,800 |  | 38,500 | 62.00 | 1,100 | 90,700 |
| 1906 | 18,000 |  | 23,100 |  | 41,100 | 67.00 | 1,200 | 104,000 |
| 1907 | 26,600 |  | 20,800 |  | 47,400 | 85.00 | 1,500 | 109,000 |
| 1908 | 2,350 |  | 10,400 |  | 12,700 | 73.00 | 1,300 | 95,300 |
| 1909 | 7,480 |  | 19,300 |  | 26,800 | 96.00 | 1,700 | 95,300 |
| 1910 | 3,810 |  | 22,900 |  | 26,700 | 82.00 | 1,400 | 95,300 |
| 1911 | 3,280 | 3,280 | 18,800 |  | 22,100 | 80.00 | 1,400 | 109,000 |
| 1912 | 3,480 | 3,480 | 23,300 | 2,110 | 24,600 | 74.00 | 1,200 | 118,000 |
| 1913 <br> 1914 | 4,330 | 4,330 | 26,200 | 2,440 | 28,100 | 80.50 | 1,320 | 136,000 |
| 1914 | 3,930 | 3,930 | 19,900 | 1,780 | 22,100 | 70.10 | 1,140 | 104,000 |
| 1915 |  | 4,280 | 20,900 | 480 | 24,700 | 107 | 1,720 | 113,000 |
| 1916 |  | 7,340 | 38,900 | 724 | 45,600 | 187 | 2,790 | 172,000 |
| 1917 |  | 12,300 | 38,600 | 2,330 | 48,600 | 232 | 2,950 | 209,000 |
| 1918 |  | 11,800 | 17,700 | 865 | 28,600 | 175 | 1,890 | 181,000 |
| 1919 |  | 6,730 | 24,200 | 571 | 30,300 | 123 | 1,160 | 122,000 |
| 1920 <br> 1921 |  | 8,630 | 19,100 | 551 | 27,200 | 89.40 | 728 | 118,000 |
| 1921 |  | 2,210 | 7,420 | 836 | 8,800 | 60.90 | 555 | 90,700 |
| 1922 |  | 2,840 | 11,300 | 516 | 13,600 | 41.80 | 406 | 104,000 |
| 1923 <br> 1924 |  | 5,480 | 17,600 | 824 | 22,300 | 34.80 | 333 | 95,300 |
| 1924 |  | 4,510 | 14,900 | 927 | 18,400 | 26.90 | 256 | 95,300 |
| 1925 |  | 4,230 | 16,100 | 857 | 19,500 | 51.30 | 477 | 122,000 |
| 1926 |  | 4,960 | 14,700 | 367 | 19,300 | 62.80 | 579 | 136,000 |
| 1927 |  | 4,720 | 15,800 | 1,650 | 18,900 | 45.70 | 429 | 154,000 |
| 1928 |  | 5,090 | 15,900 | 2,000 | 19,000 | 50.30 | 479 | 150,000 |
| 1929 |  | 5,860 | 21,800 | 1,460 | 26,200 | 48.90 | 465 | 150,000 |
| 1930 |  |  | 15,200 | 1,410 | 13,800 | 41.20 | 402 | 118,000 |
| 1931 |  |  | 7,670 | 1,080 | 6,590 | 34.70 | 371 | 77,100 |
| 1932 |  |  | 5,770 | 717 | 5,050 | 26.10 | 312 | 72,600 |
| 1933 |  |  | 6,660 | 829 | 5,830 | 31.70 | 399 | 86,200 |
| 1934 |  |  | 12,300 | 1,130 | 11,200 | 39.80 | 485 | 109,000 |
| 1935 |  |  | 14,900 | 1,340 | 13,600 | 35.30 | 419 | 145,000 |
| 1936 |  |  | 20,400 | 740 | 19,700 | 27.70 | 326 | 150,000 |
| 1937 |  |  | 26,100 | 1,370 | 24,700 | 28.80 | 327 | 159,000 |
| 1938 |  |  | 15,000 | 892 | 14,100 | 24.90 | 288 | 177,000 |
| 1939 \| |  |  | 19,500 | 885 | 18,700 | 21.80 | 256 | 222,000 |
| 1940 |  |  | 28,200 | 1,480 | 26,700 | 31.60 | 368 | 254,000 |
| 1941 | 2,490 |  | 37,300 | 1,560 | 38,300 | 54.20 | 600 | 231,000 |
| 1942 | 6,460 |  | 39,700 | 3,720 | 42,400 | 63.00 | 630 | 272,000 |
| 1943 | 9,020 |  | 27,000 | 2,730 | 33,200 | 35.60 | 335 | 277,000 |
| 1944 | 4,910 |  | 23,600 | 2,020 | 26,500 | 53.80 | 498 | 263,000 |
| 1945 | 4,430 |  | 32,800 | 1,190 | 36,000 | 43.30 | 393 | 136,000 |
| 1946 | 5,060 |  | 30,100 | 2,100 | 33,000 | 44.20 | 369 | 95,300 |
| 1947 | 3,980 |  | 39,600 | 1,400 | 42,200 | 38.20 | 279 | 122,000 |
| 1948 | 9,030 |  | 47,400 | 950 | 55,400 | 43.20 | 293 | 163,000 |
| 1949 | 5,540 |  | 28,800 | 1,230 | 33,100 | 43.80 | 299 | 168,000 |
| 1950 | 4,630 |  | 39,400 | 1,270 | 42,800 | 52.70 | 357 | 159,000 |

## NATURAL GRAPHITE STATISTICS ${ }^{1}$

U.S. GEOLOGICAL SURVEY
[All values in metric tons (t) natural graphite unless otherwise noted]
Last modification: October 17, 2007

| Year | Production | Shipments | Imports | Exports | $\begin{array}{\|c\|} \hline \text { Apparent } \\ \text { consumption } \end{array}$ | $\begin{array}{\|c\|} \hline \text { Unit value } \\ (\$ / \mathbf{t}) \end{array}$ | Unit value <br> $(98 \$ / t)$ | World <br> production |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1951 | 6,470 |  | 49,300 | 1,360 | 54,500 | 61.00 | 383 | 195,000 |
| 1952 | 5,090 |  | 38,500 | 1,620 | 42,000 | 74.30 | 456 | 177,000 |
| 1953 | 5,700 |  | 46,300 | 1,380 | 50,600 | 60.70 | 370 | 168,000 |
| 1954 |  |  | 36,900 | 726 | 36,100 | 61.90 | 375 | 168,000 |
| 1955 |  |  | 44,100 | 1,270 | 42,800 | 54.20 | 330 | 272,000 |
| 1956 |  |  | 43,400 | 998 | 42,400 | 59.80 | 359 | 263,000 |
| 1957 |  |  | 37,600 | 1,180 | 36,500 | 56.00 | 324 | 372,000 |
| 1958 |  |  | 24,600 | 1,090 | 23,500 | 49.00 | 276 | 318,000 |
| 1959 |  |  | 33,600 | 1,270 | 32,300 | 45.50 | 254 | 372,000 |
| 1960 |  |  | 43,600 | 1,720 | 41,900 | 40.20 | 221 | 435,000 |
| 1961 |  |  | 26,900 | 1,450 | 25,400 | 49.60 | 270 | 413,000 |
| 1962 |  |  | 31,600 | 1,090 | 30,500 | 56.40 | 304 | 535,000 |
| 1963 |  |  | 47,000 | 816 | 46,200 | 42.50 | 226 | 679,000 |
| 1964 |  |  | 42,800 | 1,810 | 41,000 | 45.40 | 239 | 620,000 |
| 1965 |  |  | 52,700 | 2,900 | 49,800 | 45.30 | 234 | 607,000 |
| 1966 |  |  | 51,300 | 2,900 | 48,400 | 49.60 | 249 | 484,000 |
| 1967 |  |  | 51,100 | 3,240 | 47,900 | 45.90 | 224 | 358,000 |
| 1968 |  |  | 61,500 | 3,780 | 57,700 | 40.50 | 190 | 437,000 |
| 1969 |  |  | 53,000 | 9,310 | 52,600 | 45.60 | 203 | 376,000 |
| 1970 |  |  | 60,200 | 5,250 | 45,400 | 50.30 | 211 | 393,000 |
| 1971 |  |  | 52,100 | 5,200 | 54,400 | 52.30 | 211 | 394,000 |
| 1972 |  |  | 57,800 | 6,610 | 63,500 | 60.80 | 237 | 361,000 |
| 1973 |  |  | 69,900 | 7,220 | 62,600 | 59.20 | 217 | 395,000 |
| 1974 |  |  | 73,500 | 11,100 | 62,600 | 73.40 | 243 | 497,000 |
| 1975 |  |  | 58,300 | 9,600 | 50,000 | 92.80 | 281 | 451,000 |
| 1976 |  |  | 70,500 | 11,100 | 60,700 | 91.30 | 261 | 449,000 |
| 1977 |  |  | 76,500 | 12,500 | 66,900 | 101 | 271 | 493,000 |
| 1978 |  |  | 87,700 | 8,710 | 82,000 | 129 | 322 | 534,000 |
| 1979 |  |  | 75,100 | 7,820 | 70,400 | 169 | 379 | 626,000 |
| 1980 |  |  | 52,300 | 8,060 | 47,600 | 294 | 583 | 597,000 |
| 1981 |  |  | 59,600 | 10,300 | 49,300 | 321 | 575 | 589,000 |
| 1982 |  |  | 48,200 | 9,380 | 38,800 | 325 | 549 | 562,000 |
| 1983 |  |  | 39,500 | 8,560 | 31,000 | 302 | 493 | 604,000 |
| 1984 |  |  | 52,800 | 6,440 | 46,400 | 276 | 433 | 625,000 |
| 1985 |  |  | 47,800 | 7,580 | 40,300 | 338 | 513 | 584,000 |
| 1986 |  |  | 38,800 | 7,030 | 31,800 | 406 | 604 | 625,000 |
| 1987 |  |  | 43,300 | 11,700 | 31,600 | 407 | 584 | 643,000 |
| 1988 |  |  | 53,900 | 11,100 | 42,800 | 431 | 595 | 575,000 |
| 1989 |  |  | 62,300 | 11,500 | 50,900 | 541 | 711 | 1,010,000 |
| 1990 |  |  | 50,200 | 11,500 | 38,700 | 701 | 875 | 946,000 |
| 1991 |  |  | 33,500 | 19,400 | 14,200 | 648 | 775 | 771,000 |
| 1992 |  |  | 49,700 | 20,200 | 29,500 | 513 | 596 | 670,000 |
| 1993 |  |  | 52,200 | 17,400 | 34,800 | 573 | 646 | 648,000 |
| 1994 |  |  | 53,100 | 20,300 | 32,900 | 507 | 557 | 517,000 |
| 1995 |  |  | 60,700 | 37,300 | 23,500 | 496 | 530 | 584,000 |
| 1996 |  |  | 53,400 | 26,000 | 27,400 | 536 | 557 | 555,000 |
| 1997 |  |  | 58,100 | 39,700 | 18,400 | 558 | 566 | 685,000 |
| 1998 |  |  | 61,600 | 28,000 | 33,600 | 565 | 565 | 651,000 |
| 1999 |  |  | 55,800 | 29,400 | 26,400 | 624 | 609 | 692,000 |
| 2000 |  |  | 60,800 | 21,800 | 39,000 | 535 | 506 | 846,000 |
| 2001 |  |  | 52,100 | 23,900 | 28,200 | 447 | 412 | 816,000 |

## NATURAL GRAPHITE STATISTICS ${ }^{1}$

U.S. GEOLOGICAL SURVEY
[All values in metric tons (t) natural graphite unless otherwise noted]
Last modification: October 17, 2007

| Year | Production | Shipments | Imports | Exports | Apparent <br> consumption | Unit value <br> $\mathbf{( \$ / t )}$ | Unit value <br> $\mathbf{( 9 8 \$ / t )}$ | World <br> production |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 2002 |  |  | 45,100 | 21,600 | 23,600 | 495 | 448 | 932,000 |
| 2003 |  |  | 52,300 | 22,200 | 30,000 | 467 | 413 | 999,000 |
| 2004 |  |  | 63,700 | 46,100 | 17,600 | 469 | 405 | $1,020,000$ |
| 2005 |  |  | 64,500 | 22,100 | 42,400 | 537 | 448 | $1,040,000$ |
| 2006 |  |  | 52,600 | 22,200 | 30,400 | 553 | 447 | $1,030,000$ |

${ }^{1}$ Compiled by J.L. Sznopek (retired) and D.W. Olson.
Data are calculated, estimated, or reported. See notes for more information.

## Natural Graphite Worksheet Notes

## Data Sources

The sources of data for the natural graphite worksheet are the mineral statistics publications of the U.S. Bureau of Mines and the U.S. Geological Survey-Minerals Yearbook (MYB) and its predecessor, Mineral Resources of the United States (MR). The years of publication and corresponding years of data coverage are listed in the References section below. Blank cells in the worksheet indicate that data were not available or withheld.

## Production

Production data were recorded from published values in the MR and the MYB for the years 1900-14 and 1941-53. For the years 1915-40, 1954-79, 1982-84, and 1988-89, production data were withheld. For the years 1980-81, 1985-87, and 1990-2006, production data were not available. Shipment data were reported for the years 1911-29. For the years 1911-14, shipment data were reported as being equal to production data. Reported shipment data were used as an estimate in the absence of production data for the years 1915-29.

## Imports

For the years 1931-80, the import numbers shown in the MYB include artificial and natural graphite. Therefore, the import numbers listed in the spreadsheet were adjusted by subtracting the artificial graphite totals from the gross number. Import data were recorded from the published values in the MR and the MYB.

## Exports

Export data for the years 1927-35 include manufactured graphite because there was no specific data available to allow separating manufactured graphite from natural graphite. Prior to 1912, export data were not available. Data were reported in the MR and the MYB.

## Apparent Consumption

For the years 1985-2006, apparent consumption was recorded as it appeared in the MYB. Prior to 1985, there were no entries, so apparent consumption was calculated using the formula:
APPARENT CONSUMPTION = PRODUCTION + IMPORTS - EXPORTS.

## Unit Value (\$/t)

Unit value is defined as the value of 1 metric ton ( t ) of natural graphite apparent consumption in current dollars. Apparent consumption data were not reported for the years 1900-68 and were withheld for the years 1982-84. Production and shipment data were not available or withheld for most of the century, which prevented the calculation of apparent consumption. The unit value was based solely on imports.

## Unit Value (98\$/t)

The Consumer Price Index conversion factor, with 1998 as the base year, is used to adjust unit value in current U.S. dollars to the unit value in constant 1998 U.S. dollars.

## World Production

World production data were reported in the MR and MYB.

## References

U.S. Bureau of Mines, 1927-34, Mineral Resources of the United States, 1924-31.
U.S. Bureau of Mines, 1933-96, Minerals Yearbook, 1932-94.
U.S. Geological Survey, 1904-27, Mineral Resources of the United States, 1902-23.
U.S. Geological Survey, 1997-2007, Minerals Yearbook, v. I, 1995-2006.

## Recommended Citation Format:

U.S. Geological Survey, [year of last update, e.g., 2005], [Mineral commodity, e.g., Gold] statistics, in Kelly, T.D., and Matos, G.R., comps., Historical statistics for mineral and material commodities in the United States: U.S. Geological Survey Data Series 140, available online at http://pubs.usgs.gov/ds/2005/140/. (Accessed [date].)

## For more information, please contact:

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