### TANTALUM STATISTICS<sup>1</sup> **U.S. GEOLOGICAL SURVEY**

# [All values are in metric tons (t) tantalum unless otherwise noted] Last modification: October 28, 2008

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|-------------------------------------|------------|------------|-----------|------------|---------|-----|--------|-------------|-----------------|-------------------|------------|
|                                     | Mine       | Secondary  | Producer  | Government |         |     |        | Apparent    | Unit value      | Unit value        | World      |
| Year                                | production | production | shipments | shipments  | Imports | 1   | Stocks | consumption | ( <b>\$/t</b> ) | ( <b>98</b> \$/t) | production |
| 1964                                | 0          | 23         |           | 184        |         | 54  | 1,790  | 231         | 17,500          | 92,100            |            |
| 1965                                | 0          | 32         |           | 75         | 385     | 57  | 1,870  | 352         | 20,900          | 108,000           |            |
| 1966                                |            | 45         |           | 251        | 608     | 59  | 2,090  | 632         | 35,000          | 176,000           |            |
| 1967                                |            | 50         | 405       | 260        | 955     | 64  | 2,310  | 785         | 27,600          | 135,000           |            |
| 1968                                |            | 41         | 362       | 0          | 558     | 95  | 2,090  | 472         | 17,500          | 82,200            |            |
| 1969                                |            | 16         | 446       | 98         | 360     | 104 | 1,950  | 586         | 19,200          | 85,260            | 388        |
| 1970                                | 0          | 11         | 507       | 73         | 440     | 106 | 2,300  | 410         | 19,200          | 80,670            | 318        |
| 1971                                | 0          | 14         | 436       | 3          | 464     | 91  | 2,150  | 536         | 17,500          | 70,420            | 496        |
| 1972                                | 0          | 18         | 494       | 40         | 525     | 113 | 1,930  | 690         | 15,200          | 59,280            | 371        |
| 1973                                | 0          | 18         | 682       | 121        | 566     | 146 | 1,810  | 682         | 21,500          | 78,930            | 384        |
| 1974                                | 0          | 23         | 762       | 401        | 785     | 197 | 1,910  | 906         | 37,700          | 124,600           | 436        |
| 1975                                | 0          | 2          | 392       | 39         | 423     | 194 | 2,080  | 100         | 43,100          | 130,600           | 411        |
| 1976                                | 0          | 23         | 589       | 4          | 594     | 201 | 1,900  | 602         | 47,500          | 136,100           | 339        |
| 1977                                | 0          | 20         | 646       | 0          | 933     | 244 | 1,860  | 670         | 66,300          | 178,300           | 409        |
| 1978                                | 0          | 25         | 687       | 0          | 639     | 275 | 1,740  | 505         | 106,000         | 265,000           | 362        |
| 1979                                | 0          | 23         | 771       | 0          | 868     | 327 | 1,250  | 653         | 249,000         | 559,000           | 476        |
| 1980                                |            | 55         | 685       | 0          | 1,030   | 320 | 1,480  | 538         | 284,000         | 561,800           | 544        |
| 1981                                |            | 43         | 447       | 0          | 717     | 101 | 1,570  | 572         | 101,000         | 181,100           | 403        |
| 1982                                |            | 40         | 400       | -15        | 493     | 154 | 1,450  | 481         | 60,600          | 102,400           | 284        |
| 1983                                | 0          | 18         | 461       | 0          | 94      | 119 |        | 536         | 79,400          | 130,000           | 313        |
| 1984                                | 0          | 59         | 582       | 0          | 330     | 174 |        | 762         | 86,100          | 135,100           | 315        |
| 1985                                | 0          | 41         | 461       | -115       | 119     | 145 |        | 363         | 61,200          | 92,710            | 315        |
| 1986                                | 0          | 34         | 462       | 0          | 148     | 142 |        | 372         | 58,500          | 87,000            | 215        |
| 1987                                | 0          | 57         | 506       | 0          | 127     | 171 |        | 381         | 70,000          | 100,400           | 275        |
| 1988                                | 0          | 59         | 523       | 0          | 239     | 256 |        | 422         | 135,000         | 186,000           | 292        |
| 1989                                |            | 54         | 372       | 0          | 536     | 195 |        | 376         | 72,700          | 95,570            | 395        |
| 1990                                |            | 54         |           | 0          | 320     | 200 |        | 390         | 88,800          | 110,800           | 396        |
| 1991                                |            | 50         |           | 0          | 359     | 180 |        | 370         | 76,000          | 90,950            | 477        |
| 1992                                |            | 55         |           | 0          | 434     | 150 |        | 375         | 78,100          | 90,740            | 399        |
| 1993                                | 0          | 60         |           | 0          | 457     | 170 |        | 410         | 70,000          | 78,960            | 292        |
| 1994                                | 0          | 85         |           | 0          | 383     | 190 |        | 430         | 70,700          | 77,760            | 333        |
| 1995                                | 0          | 100        |           | 0          | 481     | 220 |        | 515         | 74,700          | 79,890            | 361        |
| 1996                                | 0          | 100        |           | 34         | 563     | 290 |        | 524         | 74,700          | 77,600            | 436        |
| 1997                                | 0          | 115        |           | 20         | 467     | 340 |        | 570         | 88,800          | 90,180            | 562        |
| 1998                                | 0          | 148        |           | 213        | 588     | 440 |        | 738         | 91,400          | 91,400            | 779        |
| 1999                                | 0          | 110        |           | 5          | 564     | 480 |        | 555         | 91,400          | 89,400            | 656        |
| 2000                                | 0          | 130        |           | 242        | 900     | 530 |        | 650         | 591,000         | 559,000           | 1,070      |

### TANTALUM STATISTICS<sup>1</sup> U.S. GEOLOGICAL SURVEY

#### [All values are in metric tons (t) tantalum unless otherwise noted]

|      | Mine       | Secondary  | Producer  | Government |         |         |        | Apparent    | Unit value      | Unit value        | World      |
|------|------------|------------|-----------|------------|---------|---------|--------|-------------|-----------------|-------------------|------------|
| Year | production | production | shipments | shipments  | Imports | Exports | Stocks | consumption | ( <b>\$/t</b> ) | ( <b>98</b> \$/t) | production |
| 2001 | 0          | 110        |           | -53        | 1,160   | 640     |        | 550         | 99,500          | 91,600            | 1,180      |
| 2002 | 0          | 100        |           | 16         | 1,040   | 510     |        | 500         | 83,300          | 75,500            | 1,340      |
| 2003 | 0          |            |           | 336        | 957     | 619     |        | 674         | 170,000         | 154,000           | 1,390      |
| 2004 | 0          |            |           | 127        | 1,540   | 984     |        | 679         | 146,000         | 130,000           | 1,520      |
| 2005 | 0          |            |           | 210        | 1,160   | 984     |        | 852         | 140,000         | 121,000           | 14,470     |
| 2006 | 0          |            |           | 289        | 1,160   | 949     |        | 498         | 192,000         | 160,000           | 964        |
| 2007 | 0          |            |           | 0          | 1,160   | 511     |        | 644         | 235,000         | 190,000           | 815        |

#### Last modification: October 28, 2008

<sup>1</sup>Compiled by D.A. Buckingham (retired), L.D. Cunningham (retired), M.J. Magyar, and J.F. Papp.

Data are calculated, estimated, or reported. See notes for more information.

## **Tantalum Worksheet Notes**

#### **Data Sources**

The sources of data for the tantalum worksheet are the mineral statistics publications of the U.S. Bureau of Mines and the U.S. Geological Survey—Minerals Yearbook (MYB), Mineral Commodity Summaries (MCS), Mineral Facts and Problems (MFP), and Metal Prices in the United States through 1998 (MP98). The years of publication and corresponding years of data coverage are listed in the References section below. Tantalum data prior to 1964 were not included in the tantalum statistics worksheet because they were either recorded in gross weight, combined with columbium data, ambiguous in detail, or were not available. Zeros are used where data are actually "0." Blank cells in the worksheet indicate that data either were not available or were withheld because they are proprietary.

#### **Mine Production**

Mine production data represent the tantalum content in tantalum-bearing ores and mineral concentrates that were mined within the United States. Mine production data for the years 1966–69 and 1980–82 were withheld because they were proprietary. A small, unreported quantity of tantalum contained in tantalum-bearing concentrates was produced in the years 1980-82 and 1989–92. No mine production of tantalum-bearing ores and mineral concentrates occurred for the years 1964–65, 1970–79, 1983–88 and 1993 to the most recent, as reported in the MYB.

#### **Secondary Production**

Secondary production represents the tantalum content in tantalum scrap materials that was consumed in the United States. Secondary production data for the years 1964–83 were recorded from the MFP. Secondary production data for the years 1984–2004 were recorded from the Commodity Specialist's data. Secondary production data were not available after 2004.

#### Shipments

Shipment data for the years 1964 to the most recent were recorded from the MYB and the MFP. Producer shipment data for the years 1967–89 represent the tantalum content in tantalum metal, alloy additives, carbides, power, scrap, and other tantalum materials that were shipped by domestic producers. Producer shipments data for the years 1964–66 and 1990 to the most recent were not available. Government shipment data for the years 1964 to the most recent are shipments or releases of tantalum-bearing materials from the National Defense Stockpile (NDS). Negative numbers for the years 1982 and 1985 indicate U.S. Government inventory acquisitions. Negative number in 2001, the year in which NDS changed accounting systems, indicates U.S. Government inventory increase.

#### Imports

Import data for the years 1964–68 were recorded from the MFP. Import data for the years 1969 to the most recent were recorded from the MYB. Import data for the years 1964–82 represent the tantalum content in tantalum mineral concentrates, metal, alloys, tin slags, synthetic concentrates, and other tantalum materials that were imported into the United States for consumption purposes. Tantalum import data for 1983–2004 exclude tantalum contained in tin slags, synthetic concentrate, and tantalum-bearing ore and concentrates other than tantalum ore and concentrate, materials that were included in 1964–82 data. Starting in 2005, import data were recorded from the MYB.

#### **Exports**

Export data represent the tantalum content in various tantalum materials that were exported from the United States. Export data for the years 1964–75 were recorded from the MFP. Export data for the years 1976–2004 were recorded from the MCS. Starting in 2005, export data were recorded from the MYB.

#### Stocks

Stock data for the years 1964–82 represent the tantalum content in various tantalum materials that were held in industrial producer or processor inventories. Stock data for the years 1964–82 were recorded from the MFP. Beginning in 1983, domestic tantalum stock data were not available.

#### **Apparent Consumption**

Apparent consumption data represent the tantalum content in various tantalum materials that were consumed within the United States. Apparent consumption data for the years 1964–75 were recorded from the MFP. Apparent consumption data for the years 1976 to the most recent were recorded from the MCS.

#### Unit Value (\$/t)

Unit value is defined as the value of 1 metric ton (t) of tantalum apparent consumption. Unit value data for the years 1964–2004 were based on the yearend average price, in dollars per pound, of tantalite and converted to contained tantalum using the equation below.

UNIT VALUE = (YEAREND AVERAGE PRICE \* 2,204.623) / (0.82)

Yearend average price data were recorded from the MP98 and the MYB. Starting in 2005, unit value was estimated as the massweighted average value of tantalum from trade statistics, making unit value representative of the materials that comprise apparent consumption. (The tantalum content of tantalum ore was assumed to have been 0.3.)

#### 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 for the years 1964–68 were not available. World production data for the years 1969 to the most recent represent the tantalum content in tantalum-bearing ores and mineral concentrates that were produced from mines throughout the world. World production data for the years 1969 to the most recent were recorded from the MYB.

#### References

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#### **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:

USGS Tantalum Commodity Specialist