

BISMUTH STATISTICS¹
U.S. GEOLOGICAL SURVEY

[All values are in metric tons (t) bismuth content unless otherwise noted]

Last modification: November 19, 2008

Year	Production	Imports	Exports	Stocks	Reported consumption	Apparent consumption	Unit value (\$/t)	Unit value (98\$/t)	World production
1900		81.8				82	4,960	97,000	
1901		74.9				75	3,970	78,000	
1902		86.6				87	3,310	62,000	
1903		66.8				67	3,310	60,000	
1904		84.3				84	3,310	60,000	
1905		67.4				67	2,820	51,000	
1906		116				120	2,760	50,000	
1907		118				120	2,760	48,000	
1908		74.7				75	3,860	70,000	
1909		83.2				83	3,860	70,000	
1910		89.9				90	4,250	75,000	
1911		78.1				78	4,700	82,000	
1912		82.9				83	4,480	76,000	722
1913		53.4				53	4,410	72,700	922
1914		41.1				41	6,350	104,000	1,050
1915		20.1				20	6,350	102,000	1,770
1916		34.8				35	8,000	120,000	1,670
1917		31.4			136	136	7,560	96,300	907
1918		61.6			136	136	7,560	81,600	992
1919		26.1				26	6,790	64,000	833
1920		33.0				33	5,620	45,800	817
1921		42.7				43	4,300	39,200	274
1922		55.1				55	4,370	42,400	
1923		28.4				28	5,510	52,500	
1924		8.39				8.4	4,480	42,700	
1925		45.2				45	4,410	41,100	
1926		30.6				31	6,680	61,500	
1927		21.6				22	5,070	47,500	
1928		18.8				19	4,370	41,700	
1929		17.0				17	3,750	35,700	
1930		11.1				11	2,980	29,100	
1931		3.50				3.5	2,760	29,600	
1932		14.0				14	1,870	22,300	
1933		13.0				13	2,380	29,800	
1934		8.77				8.8	2,650	32,200	
1935		47.0				47	2,310	27,500	
1936		52.0				540	2,200	25,800	
1937		32.0				540	2,200	24,900	700
1938		43.0				540	2,310	26,700	1,000
1939		82.9				540	2,430	28,500	1,300
1940		56.2				540	2,760	32,100	1,400
1941		101	268	120		540	2,760	30,600	1,400
1942		101	131	160	1,130	1,130	2,760	27,600	1,700
1943		218	42.0	378	909	909	2,760	26,000	1,400
1944		188	56.0	435	665	665	2,760	25,600	1,200
1945		151	52.0	346	742	742	2,760	25,000	1,100
1946		192	69.0	266	603	603	3,170	26,500	940
1947		141	109	54.0		700	4,370	31,900	1,500
1948		136	160	42.0		710	4,410	29,800	1,500
1949		246	86.6	52.0		720	4,410	30,200	1,500
1950		354	90.4	63.0		730	4,540	30,700	1,400

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1951		239	66.7	88.6	788	788	4,960	31,100	1,770
1952		321	111	95.9	805	805	4,960	30,500	1,770
1953		291	57.6	75.6	711	711	4,960	30,300	2,090
1954		292	62.5	115	653	653	4,960	30,100	1,680
1955		270	92.4	106	702	702	4,960	30,200	1,910
1956		416	130	104	686	686	4,960	29,700	2,400
1957		385	71.8	170	733	733	4,960	28,800	2,270
1958		289	143	248	564	564	4,960	28,000	2,090
1959		207	81.5	214	725	725	4,960	27,800	2,270
1960		529	71.0	165	693	693	4,960	27,300	2,400
1961		362	144	147	671	671	4,960	27,000	2,590
1962		370	159	203	866	866	4,960	26,800	3,040
1963		510	16.0	194	987	987	4,960	26,400	2,530
1964		562	27.8	298	980	980	5,070	26,700	2,890
1965		625	155	230	1,330	1,330	7,560	39,100	2,960
1966		763	40.5	296	1,450	1,450	8,820	44,400	3,110
1967		626	69.3	299	1,140	1,140	8,820	43,000	3,380
1968		574	54.6	282	1,070	1,070	8,820	41,300	3,770
1969		406	203	271	1,150	1,150	10,200	45,300	3,760
1970		453	413	327	1,000	1,000	13,200	55,500	3,720
1971		385	32.3	502	748	748	11,600	46,700	3,830
1972		709	120	325	1,050	1,050	8,000	31,200	4,000
1973		1,220	68.5	245	1,320	1,320	11,600	42,600	3,720
1974		859	150	271	1,040	1,040	20,400	67,400	4,820
1975		604	58.5	205	638	638	18,200	55,100	3,980
1976		1,060	31.1	219	1,090	1,090	16,500	47,300	3,940
1977		913	43.2	198	1,080	1,080	13,300	35,800	4,480
1978		1,210	43.7	355	1,140	1,140	7,450	18,600	4,250
1979		983	194	286	1,240	1,240	6,640	14,900	3,420
1980		1,010	58.4	306	1,040	1,040	5,820	11,500	3,610
1981		1,100	35.8	231	1,090	1,090	5,560	9,970	3,750
1982		919	24.0	246	851	851	3,550	6,000	4,110
1983		894	139	262	1,040	1,040	3,790	6,200	3,980
1984		884	142	218	1,200	1,200	9,410	14,800	3,480
1985		907	122	230	1,200	1,200	11,400	17,300	4,410
1986		1,130	42.0	346	1,320	1,320	7,170	10,700	3,660
1987		1,580	38.0	294	1,600	1,600	8,050	11,600	3,170
1988		1,640	147	433	1,530	1,530	12,700	17,500	3,220
1989		1,880	122	440	1,350	1,350	12,700	16,700	3,650
1990		1,610	122	331	1,120	1,120	7,850	9,790	3,440
1991		1,410	75.0	247	1,260	1,260	6,610	7,910	3,230
1992		1,620	90.0	272	1,300	1,300	5,860	6,810	2,870
1993		1,330	70.0	323	1,300	1,300	5,510	6,220	3,550
1994		1,660	160	402	1,490	1,490	7,170	7,890	3,410
1995		1,450	261	390	2,150	2,150	8,490	9,080	3,430
1996		1,490	151	122	1,520	1,520	8,050	8,360	3,600
1997	0	2,170	206	213	1,530	1,530	7,720	7,840	4,490
1998	0	2,720	245	175	1,990	1,990	7,940	7,940	3,990
1999	0	2,110	257	121	2,050	2,050	8,490	8,310	5,490
2000	0	2,410	491	118	2,130	2,130	8,160	7,720	3,760
2001	0	2,220	541	95	2,200	1,700	8,250	7,590	4,420

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2002	0	1,930	131	111	2,320	1,780	6,920	6,270	4,600
2003	0	2,320	108	279	2,120	2,040	6,330	5,610	5,100
2004	0	1,990	109	134	2,420	2,130	7,100	6,130	5,600
2005	0	2,530	142	136	2,340	2,490	8,620	7,200	5,400
2006	0	2,300	311	155	1,980	2,070	11,100	8,970	5,700
2007	0	3,070	421	160	1,570	2,750	31,000	24,400	6,300

¹Compiled by D.A. Buckingham (retired) and J.F. Carlin, Jr.

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

Bismuth Worksheet Notes

Data Sources

Sources of data for the bismuth worksheet are the mineral statistics publications of the former U.S. Bureau of Mines and the U.S. Geological Survey—Minerals Yearbook (MYB) and its predecessor, Mineral Resources of the United States (MR), and Metal Prices in the United States Through 1998 (MP98). 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 either not available or were withheld from publication in order to avoid disclosing proprietary data.

Production

Domestic primary bismuth production ceased in 1997. Primary bismuth production data prior to 1997 and secondary production data are withheld in order to avoid disclosing proprietary data.

Imports

Data are bismuth metal imported into the United States. Data are from the MR and the MYB.

Exports

Data are bismuth metal and bismuth content of alloys, waste, and scrap exported from the United States. Prior to 1941 exports are assumed to be negligible or zero, data are not available. Datum for the year 1941 is for a partial year, July to December, inclusive. Data are from the MR and the MYB.

Stocks

Stocks data are not available prior to 1941. Stocks for the years 1941–46 are government metal stocks as of end of year, December 31. Government metal stocks were completely dispersed in 1946. Data for the years 1947–68 are both consumer and dealer stocks as of end of year, December 31. For the years 1969 to the most recent, stocks are consumer stocks only, as of end of year, December 31. Data are from the MR and the MYB.

Reported Consumption

Reported consumption data are published for the years 1917–18, 1942–46, and 1951 to the most recent. Reported consumption data are substituted when apparent consumption data are not available. Data were recorded from the MR and the MYB.

Apparent Consumption

Primary, byproduct, or secondary domestic production is not disclosed for proprietary reasons. Prior to 1941 exports are assumed to be negligible or zero, data are not available. There is no information available to assess changes in stocks levels prior to 1941. Import data for the years 1900–16 and 1919–35 were rounded to two significant figures and used in the absence of data for calculating apparent consumption. For the years 1936–41, apparent consumption was calculated as an average and rounded to two significant figures because apparent consumption was reported as ranging between 454 and 635 tons in each year. Data are from the MR and the MYB. Apparent consumption data was not available for the years 1947–50. Apparent consumption for these years was estimated by interpolation and rounded to two significant figures. Reported consumption data was used for the years 1917–18, 1942–46, and 1951–2000 in the absence of apparent consumption data. Apparent consumption data for the years 2001 to the most recent were estimated using the equation below. Data are from the MYB.

$$\text{APPARENT CONSUMPTION} = \text{IMPORTS} - \text{EXPORTS} \pm (\text{STOCK CHANGES}).$$

Unit Value (\$/t)

Unit value is defined as the value of 1 metric ton (t) apparent consumption of bismuth in current dollars. Unit value data for the years 1906–98 is estimated based on the bismuth metal market price as reported in the MP98. Data for the years 1900–05 is the bismuth metal market price. Data for the years 1999 to the most recent are the average domestic dealer price for bismuth. Data for the years 1900–05 and 1999 to the most recent are from the MR and the MYB.

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

Data are the bismuth content of world mine production. Data were not available prior to 1912 or for the years 1922–36. Data for the years 1912–21 and 1972–2003 exclude U.S. production. Data are from the MR and the MYB. Data for 2004 is an unpublished revision provided by the Commodity Specialist.

References

- U.S. Bureau of Mines, 1927–34, Mineral Resources of the United States, 1924–31.
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U.S. Geological Survey, 1901–27, Mineral Resources of the United States, 1900–23.
U.S. Geological Survey, 1997–2008, Minerals Yearbook, v. I, 1995–2007.
U.S. Geological Survey, 1999, Metal Prices in the United States through 1998.

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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 Bismuth Commodity Specialist](#)