

Mineral Industry Surveys

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BISMUTH IN THE THIRD QUARTER 2004

Total bismuth consumption in the United States for the third quarter of 2004 was 612 metric tons (t), which was essentially unchanged from that in the first and second quarters of 2004, according to estimates compiled by the U.S. Geological Survey. Estimated consumer stocks were 53% lower at the end of the third quarter of 2004 as compared with the those held at the end of the second quarter of 2004 (table 1). The consumption breakdown for bismuth in the third quarter of 2004 was 45% for metallurgical additives and galvanizing; 30% for fusible alloys, solders, and ammunition; 24% for chemical and pharmaceutical uses; and 1% for research and other miscellaneous uses (table 2).

The New York dealer price for bismuth, as published in *Platts Metals Week*, ended the second quarter of 2004 at a price range of \$3.60 to \$3.95 per pound. The price range continually decreased during the third quarter to end the quarter at \$3.40 to \$3.70 per pound. The price was still higher than the third quarter 2003 average price of \$2.70 per pound.

Reserves.—Tiberon Minerals Ltd. (Canada) secured a \$100 million loan for the Nui Phoa project in Vietnam. The project financing was expected to be completed shortly after the bankable feasibility study is completed in second quarter 2005 (*American Metal Market*, 2004b).

Fortune Minerals Limited (Canada) announced that a bankable feasibility study was begun on the NICO gold-cobalt-bismuth deposit in Northwest Territories, Canada, and that it should be completed by the end of the first quarter 2005 (*Fortune Minerals Limited*, 2004).

Production.—Ganzhou Xinli Nonferrous Metals began construction on a new 500-metric-ton-per-year (t/yr) capacity bismuth smelting plant that was expected to be completed by early 2005 (*Metal-Pages*, 2004b§¹). Marc Rich & Co. Investment AG entered into a joint venture with Yunnan Copper Industrial Co. and other metals interests in China to construct an anode slimes processing plant. When completed, the plant was expected to produce 150 t/yr of bismuth (*American Metal Market*, 2004a).

Hunan Shizhuyuan Nonferrous Metal Mine announced that it will lower its 2004 output of bismuth to 600 t from 650 t in 2003. The drop in production was the result of lower ore grade and higher production costs (*Platts Metal Week*, 2004). Many other Chinese smelters have also announced that their 2004 production would be lower than in 2003; this was attributed to the large worldwide bismuth inventory and the decrease in price in China (*Metal-Pages*, 2004a§).

Eleven facilities in China were closed by the Zhuzhou Environmental Protection Bureau of Hunan Province. Yongli Bismuth Company's smelter was one of the facilities that was closed because it was contributing to drinking water pollution (*China Metal Market*, 2004§).

Consumption.—Worldwide bismuth consumption increased slightly in the third quarter as the replacement of lead in solders and other lead products continued (*Metal-Pages*, 2004a§).

References Cited

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American Metal Market, 2004b, Tiberon secures loan for Nui Phoa tungsten project: *American Metal Market*, v. 112, no. 34-3, August 25, p. 6.
Fortune Minerals Limited, 2004, Fortune Minerals announces NICO bankable feasibility study: London, Ontario, Canada, Fortune Minerals Limited news release, September 23, 3 p.
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Internet References Cited

- China Metal Market, 2004 (August 31), Eleven enterprises ordered to shut down in Zhuzhou, Hunan, accessed September 2, 2004, via URL <http://www.antaike.com>.
Metal-Pages, 2004a (September 8), Bismuth volumes strong, despite summer lull, accessed September 15, 2004, via URL <http://www.metal-pages.com>.
Metal-Pages, 2004b (August 18), Early 2005 completion for Bi plant, accessed August 25, 2004, via URL <http://www.metal-pages.com>.

¹References that include a section mark (§) are found in the Internet References Cited section.

TABLE 1
SALIENT BISMUTH STATISTICS¹

(Kilograms unless otherwise specified)

	2003	2004			
		First quarter	Second quarter	Third quarter	Year to date
Consumption ^e	2,120,000	607,000	610,000	612,000	1,830,000
Exports ²	108,000	39,000	21,300	9,160 ³	69,400 ³
Imports for consumption	2,320,000	502,000	414,000	238,000 ³	1,150,000 ³
Price per pound, dealer, average of period	\$2.87	\$2.94	\$3.42	\$3.62	XX
Stocks, end of period, consumer	278,000	134,000	290,000	135,000	XX

^eEstimated. XX Not applicable.

¹Data are rounded to no more than three significant digits.

²Comprises bismuth metal and the bismuth content of alloys and waste and scrap.

³Includes data for July and August. September was not available.

TABLE 2
ESTIMATED BISMUTH METAL CONSUMED IN THE UNITED STATES, BY USE¹

(Kilograms)

Use	2003	2004			
		First quarter	Second quarter	Third quarter	Year to date
Chemicals ²	616,000	147,000	146,000	146,000	438,000
Bismuth alloys	646,000	177,000	181,000	183,000	541,000
Metallurgical additives	831,000	279,000	278,000	278,000	835,000
Other	25,000	4,830	5,640	5,370	15,800
Total	2,120,000	607,000	610,000	612,000	1,830,000

¹Data are rounded to no more than three significant digits, may not add to totals shown.

²Includes industrial and laboratory chemicals, cosmetics, and pharmaceuticals.

TABLE 3
U.S. EXPORTS OF BISMUTH METAL, ALLOYS AND WASTE AND SCRAP, BY COUNTRY¹

(Kilograms)

Country	2003	2004				Year to date
		June	Second quarter	July	August	
Belgium	10,500	--	2,720	--	--	2,720
Brazil	1,800	--	--	--	--	300
Canada	23,500	462	4,380	4,240	3,970	23,300
China	992	--	--	--	99	99
Costa Rica	492	--	--	--	--	--
Dominica	--	--	53	--	--	53
Dominican Republic	2,320	391	1,100	8,370	206	10,600
Egypt	448	--	--	--	--	--
Germany	4	--	1	--	--	1
Guatemala	143	--	--	--	--	229
Hong Kong	155	--	144	61	60	360
Hungary	136	--	--	--	--	--
Israel	7	--	--	--	--	--
Japan	30,200	--	--	--	--	5,200
Korea, Republic of	496	--	75	--	--	75
Mexico	33,300	9,360	12,700	--	4,090	28,300
Russia	1,510	--	--	--	--	1,040
Singapore	--	--	--	2	--	2
Thailand	250	--	--	--	--	--
United Kingdom	1,840	--	148	--	729	9,780
Total	108,000	10,200	21,300	12,700	9,160	82,100

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF BISMUTH METAL, BY COUNTRY¹

(Kilograms, metal content)

Country	2003	2004				Year to date
		June	Second quarter	July	August	
Bahamas, The	1,330	--	206	--	941	1,150
Belgium	778,000	58,700	126,000	78,100	64,900	519,000
Canada	22,500	778	1,880	659	469	5,340
China	573,000	467	24,800	21,000	38,800	122,000
Germany	67,100	20,200	40,300	20,000	60,200	162,000
Hong Kong	105,000	--	--	20,100	--	20,100
Italy	500	--	--	--	--	--
Mexico	532,000	40,000	119,000	40,000	39,200	335,000
Netherlands	57,900	--	--	--	--	31
Peru	135	--	39,700	--	--	39,800
Russia	--	52	52	--	--	52
Spain	756	--	--	--	--	--
United Kingdom	178,000	17,900	61,700	15,000	--	145,000
Total	2,320,000	138,000	414,000	195,000	205,000	1,350,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.