

# Mineral Industry Surveys

## For information, contact:

Daniel Edelstein, Copper Commodity Specialist  
U.S. Geological Survey  
989 National Center  
Reston, VA 20192  
Telephone: (703) 648-4978, Fax: (703) 648-7757  
E-mail: dedelste@usgs.gov

Hema Edupuganti (Data)  
Telephone: (703) 648-7951  
Fax: (703) 648-7975  
E-mail: hedupuganti@usgs.gov

**Internet:** <http://minerals.usgs.gov/minerals>

## COPPER IN APRIL 2004

Average daily mine production in April fell by about 3%, according to data compiled by the U.S. Geological Survey. Production increases at several mines were more than offset by a production loss at ASARCO Incorporated's Ray Mine in Arizona. In February, Asarco had predicted that production from its three U.S. mines in Arizona would rise to 181,000 metric tons (t), up from 168,000 t in 2003. Asarco's Ray Mine was projected to produce 130,000 to 135,000 t; its Mission Complex, 25,000 t; and the Silver Bell Mine, 22,000 t (Bresnick, 2004). Though individual property details were not released, a company spokesman indicated in June that Asarco's projected production had fallen to 150,000 t (Bresnick, 2004<sup>1</sup>).

Average daily consumption of refined copper in April rose by about 4% compared with that in March and was 16% higher than in April 2003. Year-to-date consumption of refined copper through April was up by about 11% when compared to consumption for the same period in 2003. Brass and wire-rod mill shipments for the first 4 months of the year were also up by 11% compared with those in the same period of 2003.

The price discount to refined copper for No. 2 copper scrap increased sharply in April, rising from an average of 11.5 cents per pound during the first quarter to 21.3 cents per pound in April. The rise coincides with industry reports that China, which is the largest destination for domestic scrap exports, had essentially exited from the No. 2 scrap market, and that shipments of scrap were backed up at Chinese ports (McCann, 2004). In 2003, exports of scrap to China totaled 483,000 t and accounted for 70% of total U.S. copper scrap exports. During the first quarter of 2004 exports of scrap to China totaled 115,000 t and accounted for 66% of total scrap exports. Exports of ferrous and nonferrous scrap to China could be further affected by a new licensing requirement by China's General Administration of Quality Supervision, Inspection and Quarantine. The licensing requirement reportedly was China's response to concerns over the quality of material being shipped, including discoveries that imported scrap contained radioactive, explosive and poisonous materials. To obtain a license,

exporters to China must demonstrate that: they are an authorized scrap processor or trader; they have a permanent office or plant; they are aware of Chinese environmental regulations; they are certified by local environmental authorities; and they have disclosed any past environmental problems or bad shipment practices. The initial deadline of July 1 for applying to obtain an export license was subsequently delayed until August 1, and the deadline for acceptance of unregistered overseas shipments at Chinese ports was extended to November 1, as determined by the issue date of the bill of lading (Institute of Scrap Recycling Industries, Inc., 2004; Marley, 2004).

### Update

According to Antaika (2004), China's State-run metals research company, the available supply of copper to Chinese consumers tightened in May despite a 20.7% year-on-year increase in refined copper output in the January-May period. Strong demand, reduced imports, and increased exports, led to a declining inventory of stocks held on the Shanghai Futures Exchange (SHFE). Imports in May totaled 54,000 t, less than one-half the monthly average for the January to April period, while exports of 22,000 t in May accounted for about one-half of the year-to-date exports of 45,000 t. The reduction in net imports was attributed to lower prices on the SHFE. According to Antaika, China's copper consumption has not been affected significantly by macroeconomic policies imposed by the government to restrain economic growth. China's semifabricate production for the first 5 months of 2004 totaled 1.76 million metric tons (Mt), an increase of 30% from production during the same period in 2003. The reason for the apparent disparity is the continued double digit growth of copper use in power generation and transmission applications, which account for more than 50% of total copper consumption in China, as China struggles to keep up with growing power requirements. Also, demand for cooling and refrigeration purposes continued to grow. According to Antaika, Chinese demand for refined copper is anticipated to grow from 2.965 Mt in 2003 to 3.260 Mt in 2004.

<sup>1</sup>A reference that includes a section mark (§) is found in the Internet Reference Cited section.

## References Cited

Antaika, 2004, Copper market commentary: Copper & nickel monthly, July, p. 2-5.

Bresnick, Julie, 2004, Asarco writedown hits Grupo Mexico earnings:  
American Metal Market, v. 112, no. 8-2, February 24, p. 5.

Institute of Scrap Recycling Industries, Inc., 2004, AQSIQ further extends  
deadline for registration applications to August 1, 2004: Washington, DC,  
Institute of Scrap Recycling Industries, Inc. news release, June 23, 1 p.

Marley, Michael, 2004, ISRI posts details about China import license:  
American Metal Market, v. 112, no. 25-3, June 23, p. 7.

McCann, Joseph, 2004, Chinese noticeably absent from US copper scrap mart:  
American Metal Market, v. 112, no. 11-1, March 15, p. 6.

## Internet Reference Cited

Bresnick, Julie, 2004 (July 2), Deadline nears; Asarco, union brace for strike  
(American Metal Market), accessed July 7, 2004, at URL  
<http://www.amm.com>.

TABLE 1  
SALIENT STATISTICS OF THE COPPER INDUSTRY IN THE UNITED STATES<sup>1</sup>

(Metric tons, unless otherwise specified)

	Source table <sup>2</sup>	2003 <sup>p</sup>	2004		
			March	April	January - April
Production:					
Primary:					
Mine, recoverable	(2)	1,120,000	92,900	87,000	356,000
Refinery:					
Electrolytic:					
Domestic and foreign	(4)	662,000	52,300	53,000	207,000
Electrowon	(4)	591,000	48,400	47,600	189,000
Total	(4)	1,250,000	101,000	101,000	396,000
Secondary recoverable copper:					
Refineries	(5)	53,300	4,330 <sup>r</sup>	4,360	16,800
Ingot makers <sup>3</sup>	(5)	119,000	9,890	9,890	39,600
Brass and wire-rod mills	(5)	676,000	63,800 <sup>r</sup>	62,400	248,000
Foundries, etc. <sup>3</sup>	(5)	64,600	5,380	5,380	21,500
Smelter, total	(3)	539,000	41,300	44,400	156,000
Consumption:					
Apparent	(8)	2,450,000	235,000	NA	NA
Refined (reported)	(7)	2,300,000	219,000 <sup>r</sup>	219,000	849,000
Purchased copper-base scrap	(9)	1,150,000	105,000 <sup>r</sup>	103,000	410,000
Stocks at end of period:					
Total refined	(11)	656,000	439,000 <sup>r</sup>	346,000	XX
Blister, etc.	(11)	56,800	43,200 <sup>r</sup>	48,500	XX
Prices:					
U.S. producer cathode (cents per pound) <sup>4</sup>	(12)	85.247	138.323	133.646	128.902
Imports: <sup>5</sup>					
Ores and concentrates <sup>6</sup>	(14)	27,100	--	NA	NA
Refined	(14)	882,000	70,700	NA	NA
Exports: <sup>5</sup>					
Ores and concentrates <sup>6</sup>	(15)	9,860	2,860	NA	NA
Refined	(15)	93,300	23,900	NA	NA

<sup>p</sup>Preliminary. <sup>r</sup>Revised. NA Not available. XX Not applicable. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits, except prices; may not add to totals shown.

<sup>2</sup>Numbers in parentheses refer to the significant tables where these data are located.

<sup>3</sup>Monthly data and 2003 cumulative data estimated based on 2002 monthly average.

<sup>4</sup>Source: Platts Metals Week.

<sup>5</sup>Source: U.S. Census Bureau.

<sup>6</sup>Copper content.

TABLE 2  
MINE PRODUCTION OF RECOVERABLE COPPER IN THE UNITED STATES<sup>1</sup>

(Metric tons)

Period	Recoverable copper			Contained copper		
	Arizona	Others <sup>2</sup>	Total	Electrowon	Concentrates <sup>3</sup>	Total
2003: <sup>P</sup>						
January - April	242,000	116,000	358,000	195,000	168,000	363,000
April	59,800	27,600	87,400	47,400	41,100	88,500
May	62,400	31,300	93,700	50,400	44,400	94,800
June	65,100	29,400	94,600	49,600	46,400	96,000
July	63,900	34,200	98,100	49,500	50,100	99,600
August	63,400	31,400	94,700	50,500	45,400	95,900
September	59,700	34,100	93,900	50,600	44,400	94,900
October	62,300	33,200	95,500	49,600	47,000	96,600
November	60,200	31,800	92,000	46,200	47,000	93,200
December	62,000	33,400	95,300	49,600	46,900	96,500
Year	741,000	375,000	1,120,000	591,000	539,000	1,130,000
2004:						
January	58,500	32,300 <sup>r</sup>	90,800 <sup>r</sup>	48,700	43,200	91,900
February	55,200	29,600 <sup>r</sup>	84,800 <sup>r</sup>	44,700	41,100 <sup>r</sup>	85,800 <sup>r</sup>
March	61,400	31,500	92,900	48,400	45,700	94,100
April	55,600	31,400	87,000	47,600	40,500	88,100
January - April	231,000	125,000	356,000	189,000	170,000	360,000

<sup>P</sup>Preliminary. <sup>r</sup>Revised.

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

<sup>2</sup>Includes production from Alaska, Idaho, Missouri, Montana, Nevada, New Mexico, and Utah.

<sup>3</sup>Includes copper content of precipitates and other metal concentrates.

TABLE 3  
COPPER PRODUCED AT SMELTERS IN  
THE UNITED STATES, BY SOURCE<sup>1,2</sup>

(Metric tons, copper content)

Period	Anode production
2003: <sup>P</sup>	
January - April	162,000
April	29,700
May	46,000
June	49,700
July	46,600
August	49,200
September	46,000
October	44,100
November	47,800
December	47,400
Total	539,000
2004:	
January	39,700
February	30,100
March	41,300
April	44,400
January - April	156,000

<sup>P</sup>Preliminary.

<sup>1</sup>Includes blister, anode and copper from primary or secondary sources.

<sup>2</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 4  
PRODUCTION OF REFINED COPPER, BY SOURCE AND METHOD OF RECOVERY<sup>1</sup>

(Metric tons)

Period	Primary materials			Scrap	Total refined
	Electrolytically refined <sup>2</sup>	Electrowon	Total		
2003: <sup>P</sup>					
January - April	235,000 <sup>r</sup>	195,000	430,000 <sup>r</sup>	20,200 <sup>r</sup>	450,000 <sup>r</sup>
April	45,200	47,400	92,600	6,140	98,700
May	44,400	50,400	94,700	4,050	98,800
June	52,200	49,600	102,000	4,130	106,000
July	56,700	49,500	106,000	4,130	110,000
August	55,100	50,500	106,000	3,910	110,000
September	57,100	50,600	108,000	4,220	112,000
October	53,600	49,600	103,000	4,490	108,000
November	50,500	46,200	96,700	4,050	101,000
December	57,700	49,600	107,000	4,080	111,000
Year	662,000	591,000	1,250,000	53,300	1,310,000
2004:					
January	51,300	48,700	100,000	4,190	104,000
February	50,300	44,700	95,000	3,920	99,000
March	52,300	48,400	101,000	4,330 <sup>r</sup>	105,000
April	53,000	47,600	101,000	4,360	105,000
January - April	207,000	189,000	396,000	16,800	413,000

<sup>P</sup>Preliminary. <sup>r</sup>Revised.

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

<sup>2</sup>From domestic and foreign source materials.

TABLE 5  
COPPER RECOVERABLE IN UNALLOYED AND ALLOYED FORM FROM PURCHASED COPPER-BASE SCRAP<sup>1</sup>

(Metric tons, copper content)

Period	Refineries <sup>2</sup>		Ingot makers <sup>3</sup>		Brass and wire-rod mills		Foundries, etc. <sup>3</sup>		Total <sup>4</sup>
	New scrap	Old scrap	New scrap	Old scrap	New scrap	Old scrap	New scrap	Old scrap	
2003: <sup>P</sup>									
January - April	5,300	14,900 <sup>r</sup>	9,370 <sup>r</sup>	30,200 <sup>r</sup>	220,000 <sup>r</sup>	10,000 <sup>r</sup>	8,090 <sup>r</sup>	13,400 <sup>r</sup>	312,000 <sup>r</sup>
April	1,340	4,810	2,340	7,550	51,600	2,920	2,020	3,360	75,900
May	1,340	2,710	2,340	7,550	52,400	2,910	2,020	3,360	74,700
June	1,340	2,790	2,340	7,550	54,300	2,910	2,020	3,360	76,600
July	1,340	2,800	2,340	7,550	50,600	2,750	2,020	3,360	72,700
August	1,340	2,580	2,340	7,550	52,900	2,190	2,020	3,360	74,300
September	1,340	2,880	2,340	7,550	53,900	2,790	2,020	3,360	76,200
October	1,340	3,160	2,340	7,550	56,300	2,880	2,020	3,360	78,900
November	1,340	2,720	2,340	7,550	51,100	2,450	2,020	3,360	72,900
December	1,340	2,740	2,340	7,550	51,900	2,880	2,020	3,360	74,100
Year	16,000	37,300	28,100	90,600	644,000	31,800	24,300	40,300	912,000
2004:									
January	1,340	2,860	2,340	7,550	57,400	3,610	2,020	3,360	80,500
February	1,340	2,590	2,340	7,550	56,600	3,900	2,020	3,360	79,700
March	1,340	3,000 <sup>r</sup>	2,340	7,550	60,100 <sup>r</sup>	3,650	2,020	3,360	83,400 <sup>r</sup>
April	1,340	3,020	2,340	7,550	59,500	2,900	2,020	3,360	82,000
January - April	5,340	11,500	9,370	30,200	234,000	14,100	8,090	13,400	326,000

<sup>P</sup>Preliminary. <sup>r</sup>Revised.

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

<sup>2</sup>Electrolytically refined and fire-refined scrap based on source of material at smelter level.

<sup>3</sup>Monthly data and 2003 cumulative data estimated based on 2002 annual data.

<sup>4</sup>Does not include an estimate, based on reported 2002 data of 31,000 tons per month from new scrap and 2,020 tons per month from old scrap of copper recovered from scrap other than copper-base.

TABLE 6  
PRODUCTION, SHIPMENTS, AND STOCKS OF BRASS AND WIRE-ROD SEMIFABRICATES<sup>1</sup>

(Metric tons, gross weight)

Period	Production		Shipments		Stocks, end of period	
	Brass mills	Wire-rod mills	Brass mills	Wire-rod mills	Brass mills	Wire-rod mills
2003: <sup>P</sup>						
January - April <sup>f</sup>	459,000	546,000	459,000	543,000	XX	XX
April	115,000	133,000	115,000	130,000	59,500	37,700
May	111,000	128,000	112,000	132,000	58,200	33,400
June	114,000	126,000	114,000	125,000	57,700	34,800
July	107,000	123,000	110,000	126,000	54,800	31,400
August	111,000	140,000	112,000	142,000	53,500	29,900
September	117,000	142,000	118,000	147,000	53,200	24,900
October	120,000	156,000	119,000	159,000	54,000	21,600
November	110,000	139,000	111,000	136,000	53,500	24,700
December	106,000	131,000	106,000	134,000	53,800	22,200
Year	1,360,000	1,630,000	1,360,000	1,640,000	XX	XX
2004:						
January	115,000	158,000	116,000	151,000	52,400	29,400
February	117,000	146,000	120,000	147,000	52,200	28,500
March	123,000 <sup>r</sup>	159,000 <sup>r</sup>	124,000 <sup>r</sup>	166,000 <sup>r</sup>	51,300	21,000 <sup>r</sup>
April	125,000	163,000	125,000	162,000	51,500	21,900
January - April	481,000	626,000	485,000	627,000	XX	XX

<sup>P</sup>Preliminary. <sup>f</sup>Revised. XX Not applicable.

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

TABLE 7  
CONSUMPTION OF REFINED COPPER<sup>1</sup>

(Metric tons)

Period and item	Wire-rod mills	Brass mills	Other plants <sup>2</sup>	Total
2003: <sup>P</sup>				
January - April <sup>f</sup>	547,000	196,000	22,500	765,000
April	133,000	49,500	5,630	188,000
May	131,000	49,900	5,630	187,000
June	130,000	50,400	5,630	186,000
July	122,000	49,500	5,630	177,000
August	143,000	46,800	5,630	195,000
September	143,000	48,000	5,630	197,000
October	157,000	49,500	5,630	212,000
November	140,000	49,600	5,630	195,000
December	128,000	46,900	5,630	181,000
Year	1,640,000	587,000	67,600	2,300,000
2004:				
January	156,000	47,900	5,630	210,000
February	146,000	49,600	5,630	201,000
March	159,000 <sup>r</sup>	54,300	5,630	219,000 <sup>r</sup>
April:				
Cathodes	162,000	34,900	818	197,000
Wire bars	--	--	(3)	(3)
Ingots and ingot bars	--	1,150	2,230	3,390
Cakes and slabs	--	(3)	(3)	(3)
Billets and other	W	16,100	2,580	18,700
Total	162,000	52,200	5,630	219,000
January - April	623,000	204,000	22,500	849,000

<sup>P</sup>Preliminary. <sup>f</sup>Revised. W Withheld to avoid disclosing company proprietary data included with "Cathodes." -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not added to totals shown.

<sup>2</sup>Consumption by ingot makers, chemical plants, foundries, and miscellaneous manufacturers is estimated based on 2002 annual data.

<sup>3</sup>Withheld to avoid disclosing company proprietary data; included with "Billets and others."

TABLE 8  
U.S. APPARENT CONSUMPTION OF COPPER<sup>1</sup>

(Metric tons)

Period	Refined copper production	Copper in old scrap <sup>2</sup>	Refined general imports <sup>3</sup>	Refined exports <sup>3</sup>	Stock change during period	Apparent consumption
2003: <sup>P</sup>						
January - March	337,000 <sup>r</sup>	56,100 <sup>r</sup>	179,000	4,820	(89,100) <sup>r</sup>	656,000
March	119,000	18,600	64,300	3,150	20,100	178,000
April	92,600	20,700	52,200	606	(4,410)	169,000
May	94,700	18,600	56,000	15,900	(73,100)	226,000
June	102,000	18,600	51,500	23,000	(59,200)	208,000
July	106,000	18,500	40,700	5,080	(36,300)	197,000
August	106,000	17,700	72,700	4,080	5,710	186,000
September	108,000	18,600	46,000	4,330	(30,600)	198,000
October	103,000	19,000	69,100	4,640	(58,300)	245,000
November	96,700	18,100	63,300	8,470	(24,400)	194,000
December	107,000	18,600	57,200	22,300	(11,000)	172,000
Year	1,250,000	224,000	687,000	93,300	(381,000)	2,450,000
2004:						
January	100,000	19,400	43,700	11,000	(77,100)	229,000
February	95,000	19,400	45,400	18,500	(63,600)	205,000
March	101,000	19,600 <sup>r</sup>	62,500	23,900	(75,600) <sup>r</sup>	235,000
April	101,000	18,900	NA	NA	(93,400)	NA
January - March	296,000	58,400	152,000	53,400	(216,000)	669,000

<sup>P</sup>Preliminary. <sup>r</sup>Revised. NA Not available.

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

<sup>2</sup>Includes reported monthly production of copper from old scrap of copper-base, an estimate for annual reporters, and a monthly average of copper from non-copper-base materials based on 2002 data.

<sup>3</sup>Source: U.S. Census Bureau.

TABLE 9  
CONSUMPTION OF PURCHASED COPPER-BASE SCRAP<sup>1</sup>

(Metric tons, gross weight)

Period	Smelters and refineries		Ingot makers <sup>2</sup>		Brass and wire-rod mills <sup>3</sup>		Foundries, etc. <sup>2</sup>		Total scrap used
	New scrap	Old scrap	New scrap	Old scrap	New scrap	Old scrap	New scrap	Old scrap	
2003: <sup>P</sup>									
January - April	5,350	15,300	14,000 <sup>r</sup>	42,700 <sup>r</sup>	278,000 <sup>r</sup>	10,300 <sup>r</sup>	14,100 <sup>r</sup>	14,900 <sup>r</sup>	395,000 <sup>r</sup>
April	1,350	5,440	3,490	10,700	64,400	2,970	3,530	3,730	95,500
May	1,350	2,750	3,490	10,700	65,700	2,960	3,530	3,730	94,200
June	1,380	2,790	3,490	10,700	67,900	2,970	3,530	3,730	96,400
July	1,390	2,780	3,490	10,700	62,800	2,790	3,530	3,730	91,200
August	1,350	2,600	3,490	10,700	65,900	2,230	3,530	3,730	93,600
September	1,350	2,900	3,490	10,700	67,500	2,850	3,530	3,730	96,000
October	1,350	3,180	3,490	10,700	70,800	2,990	3,530	3,730	99,800
November	1,350	2,560	3,490	10,700	64,000	2,550	3,530	3,730	91,900
December	1,350	2,760	3,490	10,700	65,200	2,980	3,530	3,730	93,700
Year	16,200	37,600	41,900	128,000	808,000	32,600	42,300	44,800	1,150,000
2004:									
January	1,350	2,880	3,490	10,700	71,900	3,730	3,530	3,730	101,000
February	1,350	2,610	3,490	10,700	70,800	4,020	3,530	3,730	100,000
March	1,350	3,020 <sup>r</sup>	3,490	10,700	75,900 <sup>r</sup>	3,760	3,530	3,730	105,000 <sup>r</sup>
April	1,350	3,050	3,490	10,700	74,500	2,930	3,530	3,730	103,000
January - April	5,400	11,600	14,000	42,700	293,000	14,400	14,100	14,900	410,000

<sup>P</sup>Preliminary. <sup>r</sup>Revised.

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

<sup>2</sup>Monthly data and 2003 cumulative data estimated from 2002 annual data.

<sup>3</sup>Consumption at brass and wire-rod mills assumed equal to receipts.

TABLE 10  
CONSUMPTION OF PURCHASED COPPER-BASE SCRAP<sup>1,2</sup>

(Metric tons, gross weight)

Scrap type and processor	2003 <sup>p</sup>		2004			
	January - April	Year	February	March	April	January - April
<b>No. 1 wire and heavy:</b>						
Smelters and refiners	23,300 <sup>r</sup>	70,100	5,850	5,850	5,850	23,400
Brass and wire-rod mills	126,000 <sup>r</sup>	377,000	35,000	34,900 <sup>r</sup>	35,700	140,000
<b>No. 2 mixed heavy and light:</b>						
Smelters and refiners	13,000 <sup>r</sup>	30,800	2,030	2,440 <sup>r</sup>	2,470	9,240
Brass and wire-rod mills	1,890 <sup>r</sup>	5,750	710	865	573	2,850
<b>Total unalloyed scrap:</b>						
Smelters and refiners	36,300 <sup>r</sup>	101,000	7,880	8,290 <sup>r</sup>	8,320	32,600
Brass and wire-rod mills	128,000	383,000	35,700	35,800 <sup>r</sup>	36,300	143,000
<b>Red brass:<sup>3</sup></b>						
All plants	16,300 <sup>r</sup>	48,900	4,310	4,350	4,210	17,200
<b>Leaded yellow brass:</b>						
All plants	109,000	310,000	26,700	29,800	28,000	112,000
<b>Yellow and low brass:</b>						
All plants	19,300 <sup>r</sup>	49,800	3,370	3,370	3,410	13,500
<b>Cartridge cases and brass:</b>						
Smelters and refiners	W	W	W	W	W	W
Brass mills	26,700 <sup>r</sup>	78,700	6,990	7,800	7,040	29,000
<b>Auto radiators:</b>						
Smelters and refiners	13,300 <sup>r</sup>	39,900	3,330	3,330	3,330	13,300
<b>Bronzes:</b>						
Smelters and refiners	3,360 <sup>r</sup>	10,100	840	840	840	3,360
Brass mills	1,920 <sup>r</sup>	5,390	436	596	611	2,180
<b>Nickel-copper alloys:</b>						
All plants	4,960 <sup>r</sup>	16,700	1,630	2,100	2,030	7,360
<b>Low grade and residues:</b>						
Smelters and refiners	4,460 <sup>r</sup>	13,400	1,120	1,120	1,120	4,460
<b>Other alloy scrap:<sup>4</sup></b>						
Smelters and refiners <sup>5</sup>	1,260 <sup>r</sup>	3,760	314	314	314	1,260
Brass mills	1,370 <sup>r</sup>	4,110	332	513	419	1,960
<b>Total alloyed scrap:</b>						
Smelters and refiners	41,000 <sup>r</sup>	123,000	10,200	10,200	10,200	41,000
Brass mills	161,000	458,000	39,200	43,900	41,100	164,000
<b>Total scrap:</b>						
Smelters and refiners	77,300 <sup>r</sup>	224,000	18,100	18,500 <sup>r</sup>	18,600	73,600
Brass and wire-rod mills	289,000	841,000	74,800	79,700 <sup>r</sup>	77,400	308,000

<sup>p</sup>Preliminary. <sup>r</sup>Revised. W Withheld to avoid disclosing company proprietary data; included in "Other alloy scrap: Smelters and refiners."

<sup>1</sup>Does not include: consumption by foundries, chemical plants, and miscellaneous manufacturers, estimated to total about 7,240 tons of scrap per month based on 2002 annual data; monthly data include estimates of about 14,200 tons of scrap per month consumed by ingot makers.

<sup>2</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>3</sup>Includes composition turnings, silicon bronze, zinc bronze, railroad car boxes, cocks and faucets, gilding metal, and commercial bronze.

<sup>4</sup>Includes refinery brass, beryllium copper, phosphor copper, and aluminum bronze.

<sup>5</sup>Includes items indicated by symbol W.

TABLE 11  
COPPER STOCKS AT END OF PERIOD<sup>1</sup>

(Metric tons)

Period	Crude copper <sup>2</sup>	Refined copper					Total refined	
		Refineries <sup>3</sup>	Wire-rod mills <sup>3</sup>	Brass mills <sup>3</sup>	Other <sup>4</sup>	Comex <sup>5</sup>		LME <sup>6</sup>
2003: <sup>p</sup>								
April	41,900	3,770	42,800	17,900	3,600	351,000	524,000	943,000
May	46,900	7,160	42,500	16,100	3,600	305,000	495,000	869,000
June	45,800	4,750	36,200	21,500	3,600	291,000	453,000	810,000
July	42,300	4,820	28,400	23,700	3,600	282,000	431,000	774,000
August	47,900	5,310	30,100	20,400	3,600	276,000	444,000	780,000
September	44,500	4,100	33,300	17,600	3,600	271,000	419,000	749,000
October	51,700	3,590	23,200	14,700	3,600	267,000	379,000	691,000
November	57,500	6,960	20,900	19,500	3,600	262,000	353,000	667,000
December	56,800	12,100	29,700	20,200	3,600	255,000	335,000	656,000
2004:								
January	49,900	9,840	22,500	12,500	3,600	239,000	291,000	578,000
February	48,100	10,100	25,200	16,300	3,600	219,000	240,000	515,000
March	43,200 <sup>r</sup>	10,800	30,200 <sup>r</sup>	14,200	3,600	213,000	167,000	439,000 <sup>r</sup>
April	48,500	8,510	19,900	15,800	3,600	172,000	126,000	346,000

<sup>p</sup>Preliminary. <sup>r</sup>Revised.

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

<sup>2</sup>Copper content of blister and other materials in transit and in process of refining.

<sup>3</sup>Stocks of refined copper as reported; no estimates are made for nonrespondents.

<sup>4</sup>Monthly estimates based on reported and 2002 annual data, comprising stocks at ingot makers, chemical plants, foundries, and miscellaneous manufacturers.

<sup>5</sup>Commodity Exchange Inc., New York.

<sup>6</sup>London Metal Exchange Ltd., U.S. warehouses.

TABLE 12  
AVERAGE PRICE OF COPPER IN THE UNITED STATES  
AND ON THE LONDON METAL EXCHANGE

(Cents per pound)

Period	U.S. producers delivered price cathode <sup>1</sup>	Comex first position <sup>2</sup>	LME cash price Grade A
2003:			
April	76.365	72.176	71.988
May	78.020	75.045	74.746
June	79.716	76.926	76.484
July	82.245	78.055	77.549
August	84.165	79.995	79.826
September	86.030	81.840	81.152
October	92.290	88.104	87.099
November	96.867	92.681	93.215
December	103.917	99.731	99.831
Year	85.247	81.050	80.684
2004:			
January	114.336	110.150	109.911
February	129.302	125.116	125.144
March	138.323	134.137	136.439
April	133.646	128.481	133.694
January - April	128.902	124.471	126.297

<sup>1</sup>Listed as "U.S. producer cathode."

<sup>2</sup>Listed as "Comex high grade first position."

Sources: Platts Metals Week and American Metal Market.

TABLE 13  
NEW YORK AVERAGE BUYING PRICES FOR COPPER SCRAP

(Cents per pound)

Month	Brass mills No. 1 scrap	Refiners No. 2 scrap	Dealers (New York)	
			No. 2 Scrap	Red brass turnings and borings
2003:				
April	70.82	61.80	49.41	38.00
May	73.95	64.53	49.00	38.00
June	76.29	67.36	49.00	38.00
July	73.86	65.00	46.77	36.27
August	79.48	69.43	49.00	38.00
September	81.96	72.75	54.43	38.00
October	87.09	77.89	55.18	38.00
November	92.22	82.81	59.44	38.44
December	98.76	89.69	67.00	46.00
Year <sup>f</sup>	79.86	70.15	52.51	38.50
2004:				
January	108.80	98.38	72.60	50.20
February	124.08	112.66	75.84	52.37
March <sup>f</sup>	132.89	118.57	91.00	60.30
April	127.30	107.18	90.91	58.82
January - April	123.27	109.20	82.59	55.42

<sup>f</sup>Revised.

Source: American Metal Market.

TABLE 14  
U.S. IMPORTS FOR CONSUMPTION OF COPPER (UNMANUFACTURED), BY CLASS

(Metric tons, copper content)

Country or territory	Ore and concentrate			Matte, ash and precipitates			Blister and anodes			Refined		
	2004			2004			2004			2004		
	2003	March	January - March	2003	March	January - March	2003	March	January - March	2003	March	January - March
Brazil	--	--	--	--	--	--	(2)	--	--	11,847	4	4
Canada	86	--	--	187	--	27	83,636	8,967	22,478	217,520	23,013	76,981
Chile	4,938	--	--	--	--	--	45,220	5,829	11,659	348,054	29,611	49,405
Germany	--	--	--	59	--	--	--	--	--	8,534	1,584	3,562
Japan	--	--	--	(2)	--	--	--	--	19	5,016	528	1,215
Mexico	22,039	--	8,608	501	34	69	10,158	629	1,700	21,611	1,229	1,229
Namibia	--	--	--	--	--	--	17,729	4,003	4,003	--	--	--
Peru	--	--	--	--	--	--	5	--	--	258,212	14,604	42,322
Taiwan	--	--	--	699	50	227	--	--	--	--	(2)	(2)
United Kingdom	--	--	--	--	--	--	2	(2)	(2)	10,137	--	10
Other	--	--	--	54 <sup>r</sup>	8	33	23	1	--	1,219 <sup>r</sup>	106	108
Total	27,063	--	8,608	1,500	92	356	156,773	19,429	39,859	882,150	70,679	174,836

<sup>r</sup>Revised. -- Zero.

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

<sup>2</sup>Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 15  
U.S. EXPORTS OF COPPER (UNMANUFACTURED), BY CLASS<sup>1</sup>

(Metric tons, copper content)

Country or territory	Ore and concentrate			Matte, ash and precipitates			Blister and anodes			Refined		
	2004		January - March	2004		January - March	2004		January - March	2004		January - March
	2003	March		2003	March		2003	March		2003	March	
Canada	7,542	2,568	6,927	6,736	1,541	4,627	17,157	1,606	6,795	2,101	39	251
China	1,375	201	288	153	--	1	567	38	80	71,564	4,690	16,080
Germany	--	--	25	(2)	--	--	441	60	160	185	30	44
Hong Kong	27	--	29	74	--	1	2,653	326	919	52	--	2
India	--	31	31	175	--	20	118	2	54	1,369	192	666
Italy	--	--	--	5	--	--	219	20	35	81	7,144	7,646
Korea, Republic of	--	--	23	12	--	--	788	150	341	742	1,038	3,020
Mexico	224	26	39	8,093	225	992	252	7	24	12,168	900	921
Peru	214	--	--	20	--	--	--	--	--	--	--	--
Philippines	--	--	--	--	--	--	44	183	183	163	--	--
Singapore	--	--	--	--	--	--	--	--	--	28	1,493	3,860
Spain	46	12	12	36	--	--	422	100	178	5	--	--
Taiwan	11	--	--	--	--	--	1,273	100	399	3,627	7,775	19,186
Other	423 <sup>r</sup>	21	49	330 <sup>r</sup>	23	206	2,148 <sup>r</sup>	261	610	1,205 <sup>r</sup>	582	1,689
Total	9,862	2,859	7,423	15,634	1,789	5,847	26,082	2,853	9,778	93,290	23,883	53,365

<sup>r</sup>Revised. -- Zero.

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

<sup>2</sup>Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 16  
U.S. COPPER SCRAP TRADE<sup>1</sup>

(Metric tons, gross weight)

Country or territory	Imports						Exports					
	Unalloyed			Alloyed			Unalloyed			Alloyed		
	2004			2004			2004			2004		
	2003	March	January - March	2003	March	January - March	2003	March	January - March	2003	March	January - March
Barbados	229	23	59	8	--	--	--	--	--	--	--	--
Belgium	--	--	--	46	--	--	2,631	324	1,086	6,009	726	1,464
Canada	4,129	624	1,265	37,274	4,421	11,420	21,246	2,743	5,829	17,500	1,625	3,558
Chile	--	--	--	--	--	--	--	--	--	--	--	--
China	--	--	--	824	60	233	225,120	18,398	48,163	244,925	27,805	67,255
Costa Rica	921	79	244	404	61	103	--	--	--	6	--	--
Dominican Republic	1,096	84	277	766	80	206	--	--	--	4	--	--
France	--	--	--	76	--	11	205	--	--	2,690	570	1,008
Germany	19	2	2	5,248	512	908	7,902	479	1,310	7,684	839	2,372
Guatemala	474	46	120	869	32	91	--	--	--	--	--	--
Honduras	534	127	235	488	70	159	--	--	--	--	--	--
Hong Kong	--	--	--	--	--	--	2,526	1,488	1,843	9,601	1,695	4,100
India	--	--	--	18	--	--	5,547	603	1,479	45,387	3,307	7,832
Jamaica	640	58	149	140	21	45	--	--	--	--	--	--
Japan	77	7	22	261	--	1	6,791	733	1,616	9,109	848	1,733
Korea, Republic of	--	--	--	21	--	--	25,441	3,386	8,633	15,514	1,876	4,538
Malaysia	--	--	--	272	10	48	3,616	--	--	88	--	28
Mexico	9,951	767	2,252	18,719	2,408	5,625	3,199	410	1,139	808	57	308
Taiwan	--	--	--	462	509	770	8,504	1,022	3,009	6,858	2,444	4,431
United Kingdom	278	20	60	781	138	197	97	--	--	857	189	389
Other	1,252 <sup>r</sup>	160	442	4,304 <sup>r</sup>	307	856	2,730 <sup>r</sup>	57	276	6,383 <sup>r</sup>	555	1,596
Total	19,600	1,997	5,127	70,981	8,629	20,673	315,555	29,643	74,383	373,423	42,536	100,612

<sup>r</sup>Revised. -- Zero.

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

Source: U.S. Census Bureau.