

# 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) 648-8975  
E-mail: hedupuganti@usgs.gov

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

## COPPER IN JULY 2003

Average daily mine production rose to the highest level in 10 months owing to extraordinary production at one mine that was not expected to be sustained in future months. Average daily electrolytic refinery production rose by about 5%, to the highest level since March when curtailment of Kennecott Utah Copper Corp.'s smelter led to anode shortages. Imports for consumption of copper in concentrates for the first 6 months of 2003 totaled only 5,000 metric tons (t) compared with 48,000 t for the first 6 months of 2002. Imports for consumption of refined copper for the first 6 months of the year fell by 20,000 t, to 432,000 t. Exports of copper scrap for the first 6 months of 2003 totaled 326,000 t, up from 252,000 t in the first 6 months of 2002. China (including Hong Kong) was the destination for 65% of scrap exports. This corroborates industry claims that aggressive buying by China has exacerbated the tight supply of copper scrap available to U.S. consumers. Industry reports indicate that higher grades of scrap were also going to China, increasing domestic shortages and explaining why the spread between refined copper prices and high-grade scrap remained very narrow despite the rise in refined copper prices (Platts Metals Week, 2003c). According to American Metal Market data (table 13), the brass mill buying price for No. 1 scrap was only nominally lower than the average COMEX spot price.

According to the President of Phelps Dodge Corp., the company was unwilling to risk harming a "fragile" recovery in copper prices by restarting any of its curtailed U.S. copper production. Accordingly, domestic curtailments announced between 1999 and 2001, amounting to more than 200,000 t, would be retained "for the foreseeable future" (Platts Metals Week, 2003b). Phelps Dodge's global production, including minority share, for the first 6 months of 2003 totaled 577,000 t, essentially unchanged from that during the first 6 months of 2002 (Phelps Dodge Corp., 2003, p. 9).

On August 18, the management of Montana Resources announced plans to restart its idled Continental Mine, in Butte, MT. Montana Resources is a general partnership between privately owned Montana Resources, Inc. (51%), and ASARCO Incorporated (49%). The mine was expected to be fully staffed with about 350 hires by mid-October and to reach full production by mid-November. When the mine closed in July

2000, it was producing about 40,000 metric tons per year (t/yr) of copper in concentrate and about 4,500 t/yr of molybdenum. At that time, Montana Resources attributed closure to low molybdenum prices and high power costs associated with an electricity price squeeze following expiration of its existing electrical supply contract. Montana Resources anticipated being able to negotiate significantly reduced utility costs for restart. At the time of closure, Montana Resources reported being profitable at a copper price of \$0.82 per pound and a molybdenum oxide price of \$2.60 per pound. In August 2003, the producer price for copper and the dealer price for molybdenum oxide averaged \$0.84 and \$5.63 per pound, respectively (Montana Resources, 2003; Platts Metals Week, 2003a).

In a second supply-side announcement, BHP Billiton reported plans to restart sulfide mining and concentrate production at its Tintaya Mine in Peru, following approval of a new mine plan and a review of market conditions. Production at the mine had been curtailed in January 2002, along with about 80,000 t of capacity at BHP Billiton's Escondida Mine in Chile, as part of BHP Billiton's announced cutbacks in response to rising global inventories. Production was expected to begin in early 2004. Tintaya has the capacity to produce 90,000 t/yr of copper in concentrate in addition to its current 34,000 t/yr production of electrowon copper (BHP Billiton, 2003).

Australia-based Equitorial Mining Ltd. was awarded a \$136.9 million judgment against Aker Kvaerner ASA of Norway by the Fifth Judicial Court of Nevada following allegations that Kvaerner had misrepresented the value of the Tonapah, NV, copper project. Equitorial had purchased the Tonapah property from Cyprus Amax Metals Co. in 1997, and awarded Kvaerner a \$50 million contract for engineering, construction, and start-up assistance for the mine. A bankable feasibility study conducted by Kvaerner in 1997 indicated that the mine could profitably produce 25,000 t/yr of electrowon cathode. The mine, which had begun production in March 2000 and closed in July 2001, never achieved anticipated production rates and was viewed as an economic disaster (American Metal Market, 2003).

## References Cited

American Metal Market, 2003, Kvaerner likely to appeal \$136.9M judgment:  
American Metal Market, v. 111, no. 29-2, July 22, p. 5.  
BHP Billiton, 2003, BHP Billiton to resume mining at Tintaya: London, United Kingdom, BHP Billiton news release, August 12, 1 p.  
Montana Resources, 2003, Montana Resources to recommence mining operations in Butte: Butte, MT, Montana Resources press release, August 18, 2 p.

Phelps Dodge Corp., 2003, Phelps Dodge reports second quarter results:  
Phoenix, AZ, Phelps Dodge Corp. news release, July 28, 15 p.  
Platts Metals Week, 2003a, Montana Mine restart small but signals market change: Platts Metals Week, v. 74, no. 34, August 25, p. 2-3.  
Platts Metals Week, 2003b, Phelps Dodge to keep copper curtailments in place: Platts Metals Week, v. 74, no. 31, August 4, p. 8.  
Platts Metals Week, 2003c, US scrap tight, spreads little changed: Platts Metals Week, v. 74, no. 22, June 2, p. 3.

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>	2002 <sup>p</sup>	2003		
			June	July	January - July
<b>Production:</b>					
<b>Primary:</b>					
Mine, recoverable	(2)	1,140,000	94,600	98,000	644,000
<b>Refinery:</b>					
<b>Electrolytic:</b>					
Domestic	(4)	801,000	53,400	57,900	395,000
Foreign	(4)	40,000 <sup>3</sup>	W	W	W
Electrowon	(4)	601,000	49,600	49,500	345,000
Total	(4)	1,440,000	103,000	107,000	740,000
<b>Secondary recoverable copper:</b>					
Refineries	(5)	69,900	4,890	4,890	34,000
Ingot makers <sup>4</sup>	(5)	122,000	10,200	10,200	71,200
Brass and wire-rod mills	(5)	735,000	57,200	53,500	396,000
Foundries, et. <sup>4</sup>	(5)	64,800	5,400	5,400	37,800
Smelter, total	(3)	683,000	49,700	46,600	304,000
<b>Consumption:</b>					
Apparent	(8)	2,610,000	209,000	NA	NA
Refined (reported)	(7)	2,360,000	185,000	176,000	1,310,000
Purchased copper-base scrap	(9)	1,260,000	97,600 <sup>r</sup>	92,500	681,000
<b>Stocks at end of period:</b>					
Total refined	(11)	1,030,000	810,000 <sup>r</sup>	775,000	XX
Blister, etc.	(11)	44,400	45,800	42,300	XX
<b>Prices:</b>					
U.S. producer cathode (cents per pound) <sup>5</sup>	(12)	75.805	79.716	82.245	79.553
<b>Imports:<sup>6</sup></b>					
Ores and concentrates <sup>7</sup>	(14)	71,900	--	NA	NA
Refined	(14)	927,000	62,300	NA	NA
<b>Exports:<sup>6</sup></b>					
Ores and concentrates <sup>7</sup>	(15)	23,000	1,410	NA	NA
Refined	(15)	26,600	23,000	NA	NA

<sup>p</sup>Preliminary. <sup>r</sup>Revised. NA Not available. W Withheld to avoid disclosing company proprietary data; included in "Domestic." 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>January-April only; excludes withheld data.

<sup>4</sup>Monthly data and 2002 cumulative data estimated based on 2001 monthly average.

<sup>5</sup>Source: Platts Metals Week.

<sup>6</sup>Source: U.S. Census Bureau.

<sup>7</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
2002: <sup>P</sup>						
January - July	448,000 <sup>r</sup>	217,000	665,000 <sup>r</sup>	354,000 <sup>r</sup>	319,000 <sup>r</sup>	674,000 <sup>r</sup>
July	63,600	29,700	93,300	50,900	43,400	94,300
August	65,300	28,400	93,700	51,000	43,900	94,900
September	62,700	34,500	97,200	48,900	49,700	98,600
October	62,200	32,000	94,200	48,600	46,800	95,500
November	62,500	32,800	95,300	47,100	49,400	96,500
December	66,500	30,500	96,900	50,500	47,700	98,200
Year	767,000	375,000	1,140,000	601,000	557,000	1,160,000
2003:						
January	62,400	28,600	91,100	49,900	42,300	92,200
February	55,800	26,700	82,500	45,900	37,600	83,500
March	64,100	33,100	97,200	52,000	46,600	98,500
April	59,800	27,600	87,400 <sup>r</sup>	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	34,100	98,000	49,500	49,900	99,400
January - July	433,000	211,000	644,000	345,000	308,000	653,000

<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 Idaho, Missouri, 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
2002: <sup>P</sup>	
January - July	405,000
July	50,400
August	50,300
September	54,400
October	59,800
November	57,500
December	56,500
Total	683,000
2003:	
January	54,200
February	42,300
March	35,700
April	29,700
May	46,000
June	49,700
July	46,600
January - July	304,000

<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		
	Domestic <sup>3</sup>	Foreign				
2002: <sup>P</sup>						
January - July <sup>r</sup>	462,000	40,000	354,000	857,000	43,100	900,000
July	74,100	W	50,900	125,000	5,500	130,000
August	67,600	W	51,000	119,000	5,880	124,000
September	66,100	W	48,900	115,000	4,820	120,000
October	73,100	W	48,600	122,000	7,120	129,000
November	67,900	W	47,100	115,000	5,120	120,000
December	64,600	W	50,500	115,000	3,930	119,000
Year	801,000	40,000 <sup>3</sup>	601,000	1,440,000	70,000	1,510,000
2003:						
January	69,800	W	49,900	120,000	4,500	124,000
February	60,500	W	45,900	106,000	3,910	110,000
March	60,700	W	52,000	113,000	5,680	118,000
April	46,600	W	47,400	94,000	6,150	100,000
May	46,100	W	50,400	96,500	4,050	101,000
June	53,400	W	49,600	103,000	4,890	108,000
July	57,900	W	49,500	107,000	4,900	112,000
January - July	395,000	W	345,000	740,000	34,100	774,000

<sup>P</sup>Preliminary. <sup>r</sup>Revised. W Withheld to avoid disclosing company proprietary data; included in "Domestic."

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

<sup>2</sup>Based on source of material at smelter level.

<sup>3</sup>January-April only; excludes withheld data.

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	
2002: <sup>P</sup>									
January - July <sup>r</sup>	22,700	20,400	16,200	55,000	422,000	11,700	13,900	24,000	586,000
July	2,810	2,690	2,310	7,850	61,000	1,720	1,980	3,420	83,800
August	3,400	2,480	2,310	7,850	64,300	1,570	1,980	3,420	87,300
September	2,940	1,870	2,310	7,850	63,800	1,190	1,980	3,420	85,400
October	3,390	3,720	2,310	7,850	54,100	1,080	1,980	3,420	77,900
November	2,110	3,010	2,310	7,850	54,500	2,110	1,980	3,420	77,300
December	1,980	1,950	2,310	7,850	56,900	1,110	1,980	3,420	77,500
Year	36,500	33,400	27,800	94,200	716,000	18,700	23,700	41,100	991,000
2003:									
January	1,410	3,080	2,310	7,850	63,000	1,470	1,980	3,420	84,500
February	1,210	2,700	2,310	7,850	54,200	1,270	1,980	3,420	74,900
March	1,340	4,340	2,310	7,850	55,400	732	1,980	3,420	77,400
April	1,340	4,810	2,310	7,850	53,100	1,380	1,980	3,420	76,200
May	1,340	2,710	2,310	7,850	54,000	1,310	1,980	3,420	75,000
June	1,340	3,550	2,310	7,850	56,000 <sup>r</sup>	1,200	1,980	3,420	77,600 <sup>r</sup>
July	1,340	3,560	2,310	7,850	52,300	1,140	1,980	3,420	73,900
January - July	9,300	24,700	16,200	55,000	388,000	8,500	13,900	24,000	540,000

<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 2002 cumulative data estimated based on 2001 annual data.

<sup>4</sup>Does not include an estimate, based on reported 2001 data, of 3,190 tons per month from new scrap and 2,010 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
2002: <sup>P</sup>						
January - July	867,000 <sup>r</sup>	1,030,000	871,000 <sup>r</sup>	1,030,000	XX	XX
July	119,000	144,000	120,000	147,000	50,000	25,400
August	128,000	148,000	128,000	152,000	50,400	21,500
September	124,000	145,000	122,000	148,000	53,200	18,600
October	127,000	158,000	125,000	155,000	55,800	20,900
November	114,000	138,000	116,000	129,000	53,400	28,900
December	106,000	108,000	103,000	108,000	56,200	29,000
Year	1,470,000	1,720,000	1,460,000	1,720,000	XX	XX
2003:						
January	119,000	140,000	120,000	139,000	55,200	29,500
February	110,000	133,000	110,000	132,000	55,600	30,200
March	115,000	139,000	114,000	132,000	59,700	37,300
April	115,000	127,000	115,000	127,000	59,500	37,200
May	111,000	125,000	112,000	129,000	58,200	33,400 <sup>r</sup>
June	114,000 <sup>r</sup>	126,000 <sup>r</sup>	114,000	125,000 <sup>r</sup>	57,700 <sup>r</sup>	34,800 <sup>r</sup>
July	110,000	123,000	113,000	126,000	54,900	31,400
January - July	793,000	913,000	797,000	911,000	XX	XX

<sup>P</sup>Preliminary. <sup>r</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
2002: <sup>P</sup>				
January - July <sup>r</sup>	1,010,000	354,000	34,700	1,400,000
July	142,000	49,300	4,950	197,000
August	152,000	51,400	4,950	209,000
September	143,000	50,900	4,950	199,000
October	151,000	50,200	4,950	206,000
November	142,000	46,300	4,950	193,000
December	113,000	40,600	4,950	159,000
Year	1,710,000	593,000	59,400	2,360,000
2003:				
January	137,000	47,200	4,950	189,000
February	140,000	49,600	4,950	195,000
March	142,000	50,000	4,950	197,000
April	129,000	49,500	4,950	184,000
May	133,000	49,900	4,950	188,000
June	130,000 <sup>r</sup>	50,400 <sup>r</sup>	4,950	185,000
July:				
Cathodes	122,000	37,600	1,140	161,000
Wire bars	--	--	(3)	(3)
Ingots and ingot bars	--	1,150	1,690	2,850
Cakes and slabs	--	(3)	(3)	(3)
Billets and other	W	10,800	2,120	12,900
Total	122,000	49,500	4,950	176,000
January - July	934,000	346,000	34,700	1,310,000

<sup>P</sup>Preliminary. <sup>r</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 2001 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
2002: <sup>P</sup>						
January - June	732,000 <sup>r</sup>	105,000 <sup>r</sup>	566,000	12,500	76,000 <sup>r</sup>	1,320,000 <sup>r</sup>
June	121,000	18,700	79,500	6,770	(33,900)	246,000
July	125,000	17,700	83,500	7,690	13,500	205,000
August	119,000	17,400	98,200	2,550	(7,350)	239,000
September	115,000	16,400	64,000	1,320	(4,620)	199,000
October	122,000	18,100	91,500	606	(14,300)	245,000
November	115,000	18,400	74,900	506	6,190	202,000
December	115,000	16,400	83,000	1,460	4,580	208,000
Year	1,440,000	210,000	1,060,000	26,600	74,000	2,610,000
2003:						
January	120,000	17,900	61,500	2,540	(23,300)	220,000
February	106,000	17,300	64,700	766	(69,200)	257,000
March	113,000	18,400	52,500	1,510	2,950	179,000
April	94,000	19,500	52,200	606	(571)	166,000
May	96,500 <sup>r</sup>	17,300	56,000	15,900	(70,600) <sup>r</sup>	224,000 <sup>r</sup>
June	103,000	18,100	51,500	23,000	(59,200) <sup>r</sup>	209,000
July	107,000	18,000	NA	NA	(35,500)	NA
January - June	632,000	108,000	338,000	44,400	(220,000)	1,250,000

<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 2001 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	
2002: <sup>P</sup>									
January - July	22,200 <sup>r</sup>	21,600 <sup>r</sup>	25,800 <sup>r</sup>	76,200 <sup>r</sup>	538,000 <sup>r</sup>	12,000	24,500 <sup>r</sup>	25,900 <sup>r</sup>	746,000 <sup>r</sup>
July	2,840	2,900	3,690	10,900	77,900	1,770	3,500	3,700	107,000
August	3,450	2,580	3,690	10,900	81,300	1,630	3,500	3,700	111,000
September	3,000	1,960	3,690	10,900	81,500	1,250	3,500	3,700	110,000
October	3,450	2,490	3,690	10,900	69,100	1,130	3,500	3,700	97,900
November	2,130	3,270	3,690	10,900	68,600	2,160	3,500	3,700	97,900
December	2,100	1,990	3,690	10,900	71,900	1,160	3,500	3,700	98,900
Year	36,400	33,900	44,300	131,000	910,000	19,300	42,000	44,400	1,260,000
2003:									
January	1,430	3,130	3,690	10,900	79,700	1,510	3,500	3,700	108,000
February	1,230	2,730	3,690	10,900	68,100	1,320	3,500	3,700	95,100
March	1,350	4,000	3,690	10,900	70,000	781	3,500	3,700	97,900
April	1,350	5,440	3,690	10,900	65,900	1,420	3,500	3,700	95,900
May	1,350	2,750	3,690	10,900	67,300	1,350	3,500	3,700	94,500
June	1,380	3,590	3,690	10,900	69,600 <sup>r</sup>	1,240	3,500	3,700	97,600 <sup>r</sup>
July	1,390	3,580	3,690	10,900	64,600	1,170	3,500	3,700	92,500
January - July	9,470	25,200	25,800	76,200	485,000	8,790	24,500	25,900	681,000

<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 2002 cumulative data estimated from 2001 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	2002 <sup>p</sup>		2003		
	January - July	Year	June	July	January - July
<b>No. 1 wire and heavy:</b>					
Smelters and refiners	44,800 <sup>r</sup>	73,900	5,790 <sup>r</sup>	5,790	40,500
Brass and wire-rod mills	224,000 <sup>r</sup>	379,000	32,600 <sup>r</sup>	31,100	224,000
<b>No. 2 mixed heavy and light:</b>					
Smelters and refiners	26,300 <sup>r</sup>	43,000	3,050	3,060	21,400
Brass and wire-rod mills	3,550 <sup>r</sup>	6,630	464	357	3,140
<b>Total unalloyed scrap:</b>					
Smelters and refiners	71,100 <sup>r</sup>	117,000	8,850	8,850	61,900
Brass and wire-rod mills	227,000 <sup>r</sup>	386,000	33,100 <sup>r</sup>	31,400	227,000
<b>Red brass:<sup>3</sup></b>					
All plants	31,200 <sup>r</sup>	53,300	4,270 <sup>r</sup>	4,170	29,900
<b>Leaded yellow brass:</b>					
All plants	203,000 <sup>r</sup>	340,000	25,800	22,700	183,000
<b>Yellow and low brass:</b>					
All plants	65,900 <sup>r</sup>	104,000	3,530	3,690	30,100
<b>Cartridge cases and brass:</b>					
Smelters and refiners	W	W	W	W	W
Brass mills	35,500 <sup>r</sup>	70,300	6,960	6,650	46,800
<b>Auto radiators:</b>					
Smelters and refiners	24,100 <sup>r</sup>	41,400	3,460 <sup>r</sup>	3,460	24,100
<b>Bronzes:</b>					
Smelters and refiners	6,870 <sup>r</sup>	11,800	973 <sup>r</sup>	973	6,870
Brass mills	7,380 <sup>r</sup>	12,600	446	443	3,270
<b>Nickel-copper alloys:</b>					
All plants	9,850 <sup>r</sup>	15,300	1,390	1,290	9,530
<b>Low grade and residues:</b>					
Smelters and refiners	8,480 <sup>r</sup>	14,500	1,170 <sup>r</sup>	1,170	8,480
<b>Other alloy scrap:<sup>4</sup></b>					
Smelters and refiners <sup>5</sup>	1,340 <sup>r</sup>	2,290	191	191	1,340
Brass mills	4,040 <sup>r</sup>	6,980	265 <sup>r</sup>	381	2,180
<b>Total alloyed scrap:</b>					
Smelters and refiners	75,400 <sup>r</sup>	129,000	10,700 <sup>r</sup>	10,700	75,400
Brass mills	322,000 <sup>r</sup>	544,000	37,800	34,400	270,000
<b>Total scrap:</b>					
Smelters and refiners	146,000 <sup>r</sup>	246,000	19,600	19,600	137,000
Brass and wire-rod mills	550,000 <sup>r</sup>	930,000	70,800 <sup>r</sup>	65,800	497,000

<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 7,290 tons of scrap per month in 2001; monthly data include estimates of about 14,600 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, zincy 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					LME <sup>6</sup>	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>		
2002: <sup>P</sup>								
July	101,000	15,500	25,500	27,500	3,600	338,000	636,000	1,050,000
August	81,500	12,100	24,600	28,800	3,600	341,000	628,000	1,040,000
September	76,700	11,600	27,100	26,600	3,600	344,000	621,000	1,030,000
October	76,500	10,600	29,300	22,600	3,600	346,000	607,000	1,020,000
November	76,300	14,400	21,200	32,700	3,600	347,000	607,000	1,030,000
December	44,400	11,700	23,000	28,700	3,600	362,000	601,000	1,030,000
2003:								
January	44,100	6,300	37,900	29,700	3,600	360,000	570,000	1,010,000
February	46,800	3,720	23,000	23,600	3,600	340,000	544,000	938,000
March	47,100	5,270	33,500	23,100	3,600	330,000	545,000	941,000
April	41,900	3,770	40,300	17,900	3,600	351,000	524,000	940,000
May	46,900	7,160	42,500	16,100	3,600	305,000	495,000	869,000
June	45,800	4,750 <sup>r</sup>	36,200 <sup>r</sup>	21,500 <sup>r</sup>	3,600	291,000	453,000	810,000 <sup>r</sup>
July	42,300	4,820	28,400	24,400	3,600	282,000	431,000	775,000

<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 2001 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
2002:			
July	76.487	72.329	72.082
August	71.981	67.823	67.097
September	71.863	67.705	67.057
October	72.319	68.161	67.286
November	76.729	72.571	71.758
December	76.541	72.383	72.365
Year	75.805	71.672	70.721
2003:			
January	79.529	75.371	74.722
February	81.121	76.963	76.360
March	79.875	75.717	75.234
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
January - July	79.553	75.750	75.298

<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
2002:				
June	74.78	71.38	44.00	37.00
July	71.91	60.59	44.00	37.00
August	66.89	55.66	42.27	37.00
September	66.80	55.68	40.80	37.00
October	66.83	56.70	39.09	37.00
November	71.38	60.50	41.00	37.00
December	71.60	61.31	41.00	37.00
Year	70.23	59.45	42.36	37.00
2003:				
January	73.67	62.38	46.90	37.33
February	75.55	63.95	52.00	38.00
March	74.69	64.26	52.00	38.00
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
January - July	74.12	64.18	49.30	37.66

Source: American Metal Market.

TABLE 14  
U.S. IMPORTS FOR CONSUMPTION 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		
	2003			2003			2003			2003		
	2002	June	January - June	2002	June	January - June	2002	June	January - June	2002	June	January - June
Belgium	--	--	--	--	--	46	--	--	--	34	--	--
Brazil	--	--	--	--	--	--	--	--	--	45,000	--	2,010
Canada	8,350	--	86	75	--	38	83,700	6,900	44,700	235,000	11,800	97,800
Chile	51,800	--	4,940	--	--	--	37,400	3,940	20,800	245,000	23,400	169,000
Germany	--	--	--	--	--	59	(2)	--	--	3,260	73	4,400
Indonesia	2,910	--	--	--	--	--	--	--	--	--	--	--
Mexico	4	--	--	324	25	296	16,200	377	4,610	57,200	3,650	13,200
Namibia	--	--	--	--	--	--	6,340	3,350	9,310	--	--	--
Peru	5,960	--	--	--	--	--	4,730	--	--	288,000	20,700	132,000
Russia	--	--	--	--	--	--	--	--	--	28,800	--	--
Taiwan	17	--	--	621	54	294	--	--	--	10	--	--
Turkey	2,910	--	--	--	--	--	--	--	--	--	--	--
United Kingdom	--	--	--	--	--	--	2	--	(2)	3,410	2,370	10,100
Other	2	--	--	19	--	3	70	--	--	21,900	389	3,570
Total	71,900	--	5,020	1,040	79	736	148,000	14,600	79,400	927,000	62,300	432,000

-- 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		
	2003			2003			2003			2003		
	2002	June	January - June	2002	June	January - June	2002	June	January - June	2002	June	January - June
Australia	21	--	4	5	--	--	77	--	35	1,650	--	32
Belgium	42	20	82	12	36	39	179	--	--	--	--	2
Canada	17,500	1,310	5,800	2,560	18	2,290	17,700	1,130	7,940	3,130	138	1,190
China	1,110	48	130	63	--	102	515	33	369	14,900	20,600	36,800
Egypt	--	--	--	--	--	--	--	--	--	2,200	--	--
Germany	28	--	--	85	--	--	241	104	224	79	55	127
Hong Kong	25	--	25	160	--	--	2,600	79	1,300	38	--	16
India	9	--	--	153	--	169	83	12	69	825	99	817
Japan	36	6	72	1,330	--	25	40	--	84	48	132	197
Korea, Republic of	197	--	--	40	--	5	707	33	335	524	18	151
Mexico	2,620	1	162	12,400	1,540	6,580	38	85	159	135	937	3,590
Netherlands	38	--	--	35	--	1	1,100	--	--	16	--	--
Peru	1,230	--	214	39	--	--	--	--	--	--	--	--
Philippines	--	--	--	3	--	--	5,880	12	44	3	--	119
Singapore	60	--	2	(2)	--	(2)	614	60	242	7	(2)	31
Spain	--	18	18	4	--	(2)	259	20	300	6	5	5
Taiwan	80	--	11	104	--	--	1,000	60	539	1,630	1,000	1,000
United Kingdom	16	--	35	65	8	46	469	40	209	527	(2)	20
Other	54	10	155	75 <sup>r</sup>	--	86	1,400 <sup>r</sup>	50	407	858 <sup>r</sup>	17	289
Total	23,000	1,410	6,710	17,100	1,600	9,340	32,900	1,720	12,300	26,600	23,000	44,400

<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		
	2003			2003			2003			2003		
	2002	June	January - June	2002	June	January - June	2002	June	January - June	2002	June	January - June
Barbados	229	24	127	18	--	--	--	--	--	--	--	--
Belgium	--	--	--	--	--	--	2,210	123	1,120	7,050	704	2,370
Canada	13,900	268	2,650	38,700	3,130	18,600	20,100	1,570	10,300	19,900	1,960	10,100
China	--	--	--	547	4	204	122,000	17,600	106,000	155,000	20,100	100,000
Costa Rica	1,100	67	395	458	25	187	--	--	--	2	--	6
Dominican Republic	1,360	79	578	884	36	394	--	--	--	--	4	4
Germany	118	2	9	1,110	406	1,500	14,200	542	4,750	16,400	768	4,600
Guatemala	536	62	266	1,190	65	479	--	--	--	(2)	--	--
Honduras	399	45	184	347	17	182	--	--	--	--	--	--
Hong Kong	3	--	--	--	--	--	7,180	296	943	6,140	617	4,160
India	--	--	--	(2)	--	--	3,920	345	2,960	43,500	5,250	25,200
Jamaica	362	31	340	239	12	66	--	--	--	--	--	--
Japan	97	18	43	193	38	245	11,000	605	3,780	9,120	697	5,200
Korea, Republic of	19	--	--	40	--	14	14,900	2,760	14,100	18,700	1,210	8,800
Malaysia	--	--	--	264	--	90	--	275	3,350	243	--	53
Mexico	9,250	616	3,710	18,300	1,310	8,540	2,280	207	1,080	248	170	538
Nicaragua	321	6	145	170	14	82	--	--	--	--	--	--
Norway	--	--	351	--	--	39	--	--	--	253	16	187
Panama	173	--	--	792	52	429	--	--	--	79	--	--
Taiwan	15	--	--	389	--	188	10,100	596	4,840	9,060	804	4,440
United Kingdom	155	18	142	1,760	54	394	17	--	--	1,380	18	480
Venezuela	93	--	12	2,090	72	429	--	--	--	--	--	--
Other	1,110 <sup>†</sup>	40	249	3,360 <sup>†</sup>	233	1,390	4,820 <sup>†</sup>	163	1,840	10,600 <sup>†</sup>	342	4,320
Total	29,300	1,280	9,200	70,900	5,460	33,500	213,000	25,000	156,000	298,000	32,700	171,000

<sup>†</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.