

# Mineral Industry Surveys

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### **MANGANESE IN JUNE 2001**

In June, reported consumption of manganese ore containing 35% or more manganese, exclusive of that consumed at iron and steel plants, was estimated as 30,000 metric tons (t), which was an increase of about 11% compared with that for the previous month, according to the U.S. Geological Survey. This brought the year-to-date total to 170,000 t. The figures for June increase to 32,400 t and 184,000 t, respectively, when estimates for annual respondents are added on the basis of 1999 data. Corresponding industry stocks of ore at the end of the month were estimated as 235,000 t, which includes an estimate for annual respondents on the basis of 1999 data. This was an increase of about 3% compared with the corresponding figure for stocks at the end of May.

Data for domestic consumption and stocks of manganese ferroalloys and metal will appear in a subsequent monthly report.

Foreign trade data for June will appear in a subsequent report. The data for May tabulated in this report indicate that, except for manganese dioxide, total quantities for the various categories of imports were the greatest for at least the past 7 to 11 months, depending on category. As metal, the total units imported were the greatest since November 1999. Among exports, shipments of manganese as ferromanganese were the greatest since February 2000. **Note:** For early availability, the trade data appearing in this report were placed on MINES FaxBack in preliminary form as of July 26. The FaxBack document number for the preliminary June trade data will be 420206.

The Defense National Stockpile Center (DNSC) of the Defense Logistics Agency, U.S. Department of Defense, reported no cash disposals of manganese materials from the National Defense Stockpile in June. This was the first month since February that no disposals were reported. The DNSC's disposal report indicated a decrease of 1,603 t for disposals of natural battery-grade ore, which was the result of an inventory write-off.

## **Update**

Production of manganese ferroalloys was being cut back and/or restructured in Brazil and Western Europe. The cutback in Brazil resulted from a Government program of power rationing that began June 1. This program called for a 25% reduction in energy use because of a depletion of hydropower that was brought on by severe drought conditions. As a consequence, production in 2001 of manganese and silicon ferroalloys by Cia. Vale do Rio Doce, the country's leading ferroalloy producer, could be reduced in excess of 40,000 t (Kepp, 2001).

In Europe, France's Eramet was making changes in the operation of plants it controlled in France, Italy, and Norway. In France, of the three blast furnaces for production of highcarbon ferromanganese at the coastal Boulogne-sur-Mer plant of Société du Ferromanganèse de Paris-Outreau, the only furnace to continue working was that recently refurbished to accept manganese sinter from Gabon. The other two were shut down, one temporarily for scheduled maintenance (TEX Report, 2001a). In Italy, production was suspended at the silicomanganese smelter at Cairo Montenotte, inland and to the west of Genoa in northwestern Italy. Capacity of this plant was 37,000 metric tons per year (TEX Report, 2001b). In Norway at the Sauda plant on the southwestern coast northeast of Stavanger, the smaller of three electric furnaces was shut down (TEX Report, 2001a). Of the changes by Eramet, those in France and Norway were effective as of the end of June, while that in Italy was effective from the end of May.

On June 29, BHP Ltd. of Australia and Billiton Plc of the United Kingdom completed their merger. The plans for the merger were announced in mid-March (Mining Journal, 2001a, b). The resulting BHP Billiton had a dual-listed structure in which BHP Billiton Ltd. was registered and listed in Australia and BHP Billiton Plc was registered in London and listed in South Africa and the United Kingdom. Manganese assets included in the merger were mines and smelters that in South Africa were being operated by Samancor Ltd. and in Australia

and Tasmania that were sold by BHP to Billiton in December 1998 and were being administered by Samancor. Under BHP Billiton, these assets were placed in the carbon-steel materials "Customer Sector Group," which was one of seven such groups established.

## **References Cited**

- Kepp, Michael, 2001, Brazilian ferroalloy output to decline in 2001: American Metal Market, v. 109, no. 127, July 2, p. 9.
- Mining Journal, 2001a, BHP and Billiton to merge: Mining Journal, v. 336, no. 8626, March 23, p. 209, 211.
- ———2001b, BHP Billiton born: Mining Journal, v. 337, no. 8641, July 6, p. 16.
- TEX Report, 2001a, Eramet decided further shutdown of furnace for Mn ferroalloys at plants in Europe: TEX Report, June 8, p. 2.
- ——2001b, Eramet stops Si-Mn production at Italian plant from end May: TEX Report, April 27, p. 4.

## TABLE 1 SELECTED U.S. FOREIGN TRADE IN MANGANESE 1/

(Metric tons, manganese content) 2/

	Impo	rts for consumption	Exports				
	Ore and	Ferroalloy		Ferroalloy			
	dioxide	and metal	Total	Ore	and metal	Total	
2000:							
May	4,020	42,700	46,700	309	543	852	
January-May	83,300	206,000	289,000	1,200	4,820	6,020	
2001:							
January	23,400 3/	35,100	58,400	185	1,830	2,020	
February	11,900	25,400	37,300	723 3/	383	1,110	
March	24,600 3/	24,300 3/	48,900	425	645	1,070	
April	23,100	34,800	57,900	138	630	768	
May	28,600 3/	45,700	74,300	267	967	1,230	
Total	112,000	165,000	277,000	1,740	4,460	6,190	

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

Source: U.S. Census Bureau.

 ${\it TABLE~2}$  U.S. IMPORTS FOR CONSUMPTION OF SILICOMANGANESE IN MAY 2001 1/

(Metric tons, unless otherwise specified)

				Year to date				
	Gross	Mn	Customs	Gross	Mn	Customs		
Source	weight	content	value	weight	content	value		
Australia	6,170	4,100	\$2,230,000	19,700	13,100	\$7,410,000		
Canada	56	37	12,300	93	61	20,500		
India	12,300	8,060	4,870,000	33,500	21,600	13,300,000		
Kazakhstan	2,770	1,890	1,180,000	18,000	12,200	7,340,000		
Lithuania				4,000	2,710	1,720,000		
Mexico	2,100	1,370	988,000	8,220	5,380	3,850,000		
Norway	4,600	2,790	2,650,000	8,400	5,100	4,850,000		
South Africa	5,730	3,850	2,180,000	35,200	23,600	13,200,000		
Spain				600	371	407,000		
Total	33,800	22,100	14,100,000	128,000	84,000	52,100,000		
Total, general imports	33,800	22,100	14,100,000	128,000	84,000	52,100,000		

<sup>--</sup> Zero.

<sup>2/</sup> As reported except as estimated for imports of manganese dioxide and manganese waste and scrap and for exports from gross weights.

<sup>3/</sup> All or part of these data have been referred to the U.S. Census Bureau for verification.

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

 ${\bf TABLE~3}$  U.S. IMPORTS FOR CONSUMPTION OF FERROMANGANESE IN MAY 2001 1/

(Metric tons, unless otherwise specified)

China         324         296         \$328,000         685         625         697,000           Italy         288         244         252,000         735         622         670,000           Japan            1         31         22,100           Mexico         300         240         224,000         1,220         981         934,000           Netherlands            21         17         18,700           Norway         912         744         736,000         1,250         1,010         1,050,000           South Africa            2,550         2,220         2,460,000           Total, low carbon         1,820         1,530         1,540,000         6,490         5,530         5,870,000           Medium carbon         1,820         1,530         1,540,000         6,490         5,530         5,870,000           Medium carbon         1,820         1,530         1,540,000         6,490         5,530         5,870,000           Medium carbon         1,820         1,530         1,540,000         6,490         5,530         5,870,000           M						Year to date	
Canada		Gross	Mn	Customs	Gross	Mn	Customs
Canada         -         -         -         36         29         \$19,400           China         324         296         \$328,000         685         625         697,000           Italy         288         244         252,000         735         622         670,000           Japan         -         -         -         -         1         31         22,100           Mexico         300         240         224,000         1,220         981         934,000           Netherlands         -         -         -         -         21         17         18,700           Norway         912         744         736,000         1,250         1,010         1,050,000           South Africa         -         -         -         -         2,550         2,220         2,460,000           Total, general imports         of low carbon         1,820         1,530         1,540,000         6,490         5,530         5,870,000           Medium carbon, 1%-2% C:         Brazil         20         15         20,700         20         15         20,700           Germany         11         8         6,990         11         8         6,	Source	weight	content	value	weight	content	value
China         324         296         \$328,000         685         625         697,000           Italy         288         244         252,000         735         622         670,000           Japan             1         31         22,000           Mexico         300         240         224,000         1,220         981         934,000           Netherlands            21         17         18,700           Norway         912         744         736,000         1,250         1,010         1,050,000           South Africa            2,550         2,220         2,460,000           Total, low carbon         1,820         1,530         1,540,000         6,490         5,530         5,870,000           Medium carbon, 1%-2% C:            2,240         1,90         1,540,000         6,490         5,530         5,870,000           Medium carbon, 1%-2% C:            2,240         1,790         1,360,000         6         490         5,530         5,870,000         1         15         2	Low carbon:						
Italy	Canada				36	29	\$19,400
Japan	China	324	296	\$328,000	685	625	697,000
Mexico   300   240   224,000   1,220   981   934,000   Netherlands   21   17   18,700   Norway   912   744   736,000   1,250   1,010   1,050,000   South Africa   2,550   2,220   2,460,000   Total, general imports of low carbon   1,820   1,530   1,540,000   6,490   5,530   5,870,000   Medium carbon, 1%-2% C:   Brazil   20   15   20,700   20   15   20,700   20   2460,000   Mexico   1,130   895   820,000   6,380   5,130   4,470,000   Mexico   1,130   895   820,000   6,380   5,130   4,470,000   Mexico   1,300   1,040   739,000   10,300   8,320   7,080,000   Spain   700   568   536,000   Spain   700   568   536,000   Total, general imports of m.c., 1%-2% C   3,490   2,800   2,140,000   20,600   16,700   14,000,000   High carbon   3,410   2,620   985,000   14,900   11,400   5,510,000   Mexico   3,490   2,800   2,140,000   20,600   16,700   14,000,000   High carbon   3,300   2,590   1,160,000   17,500   13,900   5,510,000   Mexico   3,490   2,800   2,140,000   20,600   16,700   14,000,000   High carbon   3,300   2,590   1,160,000   17,500   13,900   7,500,000   Germany   9 7   3,060   9 7   3,060   Germany   9 7   3,060   6,000   6,000   6,000   6,000   6,000   6,000   6,000   6,000   6	Italy	288	244	252,000	735	622	670,000
Netherlands	Japan				1	31	22,100
Norway   912   744   736,000   1,250   1,010   1,050,000	Mexico	300	240	224,000	1,220	981	934,000
South Africa	Netherlands				21	17	18,700
Total, low carbon         1,820         1,530         1,540,000         6,490         5,530         5,870,000           Total, general imports of low carbon         1,820         1,530         1,540,000         6,490         5,530         5,870,000           Medium carbon, 1%-2% C:         Brazil         20         15         20,700         20         15         20,700           China             2,240         1,790         1,360,000           Germany         111         8         6,090         11         8         6,090           Mexico         1,130         895         820,000         6,380         5,130         4,470,000           Norway         1,030         839         557,000         10,300         839         557,000           Spain            -         700         568         536,000           Spain            700         568         536,000           Spain            700         568         536,000           Total, me, 1%-2% C         3,490         2,800         2,140,000         20,600         16	Norway	912	744	736,000	1,250	1,010	1,050,000
Total, general imports of low carbon         1,820         1,530         1,540,000         6,490         5,530         5,870,000           Medium carbon, 1%-2% C:         Brazil         20         15         20,700         20         15         20,700           China            2,240         1,790         1,360,000           Germany         11         8         6,090         11         8         6,090           Mexico         1,130         895         820,000         6,380         5,130         4,470,000           Norway         1,030         839         557,000         1,030         839         557,000           Spain             700         568         536,000           Total, m.c., 1%-2% C         3,490         2,800         2,140,000         20,600         16,700         14,000,000           High carbon:              3,490         2,800         2,140,000         20,600         16,700         14,000,000           High carbon:              3,390         3,970         1,470,000	South Africa				2,550	2,220	2,460,000
of low carbon         1,820         1,530         1,540,000         6,490         5,530         5,870,000           Medium carbon, 1%-2% C:         Brazil         20         15         20,700         20         15         20,700           China            2,240         1,790         1,360,000           Germany         11         8         6,090         11         8         6,090           Mexico         1,130         895         820,000         6,380         5,130         4,470,000           Norway         1,030         839         557,000         10,300         839         557,000           Spain             700         568         536,000           Total, m.c., 1%-2% C         3,490         2,800         2,140,000         20,600         16,700         14,000,000           High earbon:             3,490         2,800         2,140,000         20,600         16,700         14,000,000           Brazil             3,980         3,070         1,470,000           Canada	Total, low carbon	1,820	1,530	1,540,000	6,490	5,530	5,870,000
Medium carbon, 1%-2% C:         Brazil         20         15         20,700         20         15         20,700           China            2,240         1,790         1,360,000           Germany         11         8         6,090         11         8         6,090           Mexico         1,130         895         820,000         6,380         5,130         4,470,000           Norway         1,030         839         557,000         1,030         839         557,000           South Africa         1,300         1,040         739,000         10,300         8,320         7,080,000           Spain             700         568         536,000           Total, m.c., 1%-2% C         3,490         2,800         2,140,000         20,600         16,700         14,000,000           High carbon:         3,490         2,800         2,140,000         20,600         16,700         14,000,000           High carbon:         3,410         2,620         985,000         14,900         11,400         5,510,000           Brazil           -         17         13         <	Total, general imports						
Brazil         20         15         20,700         20         15         20,700           China             2,240         1,790         1,360,000           Germany         11         8         6,090         11         8         6,090           Mexico         1,130         895         820,000         6,380         5,130         4,470,000           Norway         1,030         839         557,000         1,030         839         557,000           South Africa         1,300         1,040         739,000         10,300         8,320         7,080,000           Spain         -         -         -         -         700         568         536,000           Total, mc., 1%-2% C         3,490         2,800         2,140,000         20,600         16,700         14,000,000           High carbon:         Australia         3,410         2,620         985,000         14,900         11,400         5,510,000           Brazil         -         -         -         -         17         13         9,600           Canada         -         -         -         -         17         13<	of low carbon	1,820	1,530	1,540,000	6,490	5,530	5,870,000
China            2,240         1,790         1,360,000           Germany         11         8         6,090         11         8         6,090           Mexico         1,130         895         820,000         6,380         5,130         4,470,000           Norway         1,030         839         557,000         1,030         839         557,000           South Africa         1,300         1,040         739,000         10,300         8,320         7,080,000           Spain            700         568         536,000           Total, m.c., 1%-2% C         3,490         2,800         2,140,000         20,600         16,700         14,000,000           High carbon:         Australia         3,410         2,620         985,000         14,900         11,400         5,510,000           Brazil             3,980         3,070         1,470,000           Canada            17         13         9,600           France         3,300         2,590         1,160,000         17,500         13,900         7,56	Medium carbon, 1%-2% C:	•					
Germany         11         8         6,090         11         8         6,090           Mexico         1,130         895         820,000         6,380         5,130         4,470,000           Norway         1,030         839         557,000         1,030         839         557,000           South Africa         1,300         1,040         739,000         10,300         8,320         7,080,000           Spain         -         -         -         -         700         568         536,000           Total, m.c., 1%-2% C         3,490         2,800         2,140,000         20,600         16,700         14,000,000           High carbon:         Australia         3,410         2,620         985,000         14,900         11,400         5,510,000           Brazil         -         -         -         -         3,980         3,070         1,470,000           Canada         -         -         -         -         17         13         9,600           France         3,300         2,590         1,160,000         17,500         13,900         7,560,000           Germany         9         7         3,060         9	Brazil	20	15	20,700	20	15	20,700
Mexico         1,130         895         820,000         6,380         5,130         4,470,000           Norway         1,030         839         557,000         1,030         839         557,000           South Africa         1,300         1,040         739,000         10,300         8,320         7,080,000           Spain             700         568         536,000           Total, m.c., 1%-2% C         3,490         2,800         2,140,000         20,600         16,700         14,000,000           High carbon:         Australia         3,410         2,620         985,000         14,900         11,400         5,510,000           Brazil             3,980         3,070         1,470,000           Canada            17         13         9,600           France         3,300         2,590         1,160,000         17,500         13,900         7,560,000           Germany         9         7         3,060         9         7         3,060           India         1,130         859         429,000         3,480	China				2,240	1,790	1,360,000
Norway         1,030         839         557,000         1,030         839         557,000           South Africa         1,300         1,040         739,000         10,300         8,320         7,080,000           Spain              700         568         536,000           Total, m.c., 1%-2% C         3,490         2,800         2,140,000         20,600         16,700         14,000,000           High carbon:         3,410         2,620         985,000         14,900         11,400         5,510,000           Brazil            17         13         9,600           Canada            17         13         9,600           Germany         9         7         3,060         9         7         3,060           Germany         9         7         3,060         9         7         3,060           South Africa         14,300         11,100         5,070,000         24,800         19,300         9,370,000           Total, high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000	Germany	11	8	6,090	11	8	6,090
South Africa         1,300         1,040         739,000         10,300         8,320         7,080,000           Spain              700         568         536,000           Total, m.c., 1%-2% C         3,490         2,800         2,140,000         20,600         16,700         14,000,000           Total, general imports of m.c., 1%-2% C         3,490         2,800         2,140,000         20,600         16,700         14,000,000           High carbon:         3,410         2,620         985,000         14,900         11,400         5,510,000           Brazil             17         13         9,600           France         3,300         2,590         1,160,000         17,500         13,900         7,560,000           Germany         9         7         3,060         9         7         3,060           Gouth Africa         14,300         11,100         5,070,000         24,800         19,300         9,370,000           Total, high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Grand total         27,400	Mexico	1,130	895	820,000	6,380	5,130	4,470,000
Spain             700         568         536,000           Total, m.c., 1%-2% C         3,490         2,800         2,140,000         20,600         16,700         14,000,000           Total, general imports of m.c., 1%-2% C         3,490         2,800         2,140,000         20,600         16,700         14,000,000           High carbon:         Australia         3,410         2,620         985,000         14,900         11,400         5,510,000           Brazil             3,980         3,070         1,470,000           Canada            17         13         9,600           France         3,300         2,590         1,160,000         17,500         13,900         7,560,000           Germany         9         7         3,060         9         7         3,060           India         1,130         859         429,000         3,480         2,640         1,320,000           South Africa         14,300         11,100         5,070,000         24,800         19,300         9,370,000           Total, high carbon         22,100	Norway	1,030	839	557,000	1,030	839	557,000
Total, m.c., 1%-2% C         3,490         2,800         2,140,000         20,600         16,700         14,000,000           Total, general imports of m.c., 1%-2% C         3,490         2,800         2,140,000         20,600         16,700         14,000,000           High carbon:         Australia         3,410         2,620         985,000         14,900         11,400         5,510,000           Brazil             17         13         9,600           Canada            17         13         9,600           France         3,300         2,590         1,160,000         17,500         13,900         7,560,000           Germany         9         7         3,060         9         7         3,060           India         1,130         859         429,000         3,480         2,640         1,320,000           South Africa         14,300         11,100         5,070,000         24,800         19,300         9,370,000           Total, high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Grand total         27,400         21,500<	South Africa	1,300	1,040	739,000	10,300	8,320	7,080,000
Total, general imports of m.c., 1%-2% C         3,490         2,800         2,140,000         20,600         16,700         14,000,000           High carbon:         Australia         3,410         2,620         985,000         14,900         11,400         5,510,000           Brazil             17         13         9,600           Canada            17         13         9,600           France         3,300         2,590         1,160,000         17,500         13,900         7,560,000           Germany         9         7         3,060         9         7         3,060           India         1,130         859         429,000         3,480         2,640         1,320,000           South Africa         14,300         11,100         5,070,000         24,800         19,300         9,370,000           Total, high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Grand total         27,400         21,500         11,300,000         91,800         72,600         45,200,000	Spain				700	568	536,000
of m.c., 1%-2% C         3,490         2,800         2,140,000         20,600         16,700         14,000,000           High carbon:         Australia         3,410         2,620         985,000         14,900         11,400         5,510,000           Brazil             17         13         9,600           Canada            17         13         9,600           France         3,300         2,590         1,160,000         17,500         13,900         7,560,000           Germany         9         7         3,060         9         7         3,060           India         1,130         859         429,000         3,480         2,640         1,320,000           South Africa         14,300         11,100         5,070,000         24,800         19,300         9,370,000           Total, high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Grand total         27,400         21,500         11,300,000         91,800         72,600         45,200,000	Total, m.c., 1%-2% C	3,490	2,800	2,140,000	20,600	16,700	14,000,000
High carbon:           Australia         3,410         2,620         985,000         14,900         11,400         5,510,000           Brazil             3,980         3,070         1,470,000           Canada            17         13         9,600           France         3,300         2,590         1,160,000         17,500         13,900         7,560,000           Germany         9         7         3,060         9         7         3,060           India         1,130         859         429,000         3,480         2,640         1,320,000           South Africa         14,300         11,100         5,070,000         24,800         19,300         9,370,000           Total, high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Total, general imports of high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Grand total         27,400         21,500         11,300,000         91,800         72,600         45,200,000	Total, general imports						
Australia         3,410         2,620         985,000         14,900         11,400         5,510,000           Brazil             3,980         3,070         1,470,000           Canada            17         13         9,600           France         3,300         2,590         1,160,000         17,500         13,900         7,560,000           Germany         9         7         3,060         9         7         3,060           India         1,130         859         429,000         3,480         2,640         1,320,000           South Africa         14,300         11,100         5,070,000         24,800         19,300         9,370,000           Total, high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Total, general imports of high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Grand total         27,400         21,500         11,300,000         91,800         72,600         45,200,000	of m.c., 1%-2% C	3,490	2,800	2,140,000	20,600	16,700	14,000,000
Brazil            3,980         3,070         1,470,000           Canada            17         13         9,600           France         3,300         2,590         1,160,000         17,500         13,900         7,560,000           Germany         9         7         3,060         9         7         3,060           India         1,130         859         429,000         3,480         2,640         1,320,000           South Africa         14,300         11,100         5,070,000         24,800         19,300         9,370,000           Total, high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Total, general imports of high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Grand total         27,400         21,500         11,300,000         91,800         72,600         45,200,000	High carbon:						
Canada            17         13         9,600           France         3,300         2,590         1,160,000         17,500         13,900         7,560,000           Germany         9         7         3,060         9         7         3,060           India         1,130         859         429,000         3,480         2,640         1,320,000           South Africa         14,300         11,100         5,070,000         24,800         19,300         9,370,000           Total, high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Total, general imports of high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Grand total         27,400         21,500         11,300,000         91,800         72,600         45,200,000	Australia	3,410	2,620	985,000	14,900	11,400	5,510,000
France         3,300         2,590         1,160,000         17,500         13,900         7,560,000           Germany         9         7         3,060         9         7         3,060           India         1,130         859         429,000         3,480         2,640         1,320,000           South Africa         14,300         11,100         5,070,000         24,800         19,300         9,370,000           Total, high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Total, general imports of high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Grand total         27,400         21,500         11,300,000         91,800         72,600         45,200,000	Brazil				3,980	3,070	1,470,000
Germany         9         7         3,060         9         7         3,060           India         1,130         859         429,000         3,480         2,640         1,320,000           South Africa         14,300         11,100         5,070,000         24,800         19,300         9,370,000           Total, high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Total, general imports of high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Grand total         27,400         21,500         11,300,000         91,800         72,600         45,200,000	Canada				17	13	9,600
India         1,130         859         429,000         3,480         2,640         1,320,000           South Africa         14,300         11,100         5,070,000         24,800         19,300         9,370,000           Total, high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Total, general imports         0 f high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Grand total         27,400         21,500         11,300,000         91,800         72,600         45,200,000	France	3,300	2,590	1,160,000	17,500	13,900	7,560,000
South Africa         14,300         11,100         5,070,000         24,800         19,300         9,370,000           Total, high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Total, general imports         0 17,200         7,650,000         64,700         50,400         25,300,000           Grand total         27,400         21,500         11,300,000         91,800         72,600         45,200,000	Germany	9	7	3,060	9	7	3,060
Total, high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Total, general imports of high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Grand total         27,400         21,500         11,300,000         91,800         72,600         45,200,000	India	1,130	859	429,000	3,480	2,640	1,320,000
Total, high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Total, general imports of high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Grand total         27,400         21,500         11,300,000         91,800         72,600         45,200,000	South Africa	14,300	11,100	5,070,000	24,800	19,300	9,370,000
of high carbon         22,100         17,200         7,650,000         64,700         50,400         25,300,000           Grand total         27,400         21,500         11,300,000         91,800         72,600         45,200,000		22,100	17,200	7,650,000	64,700	50,400	25,300,000
Grand total 27,400 21,500 11,300,000 91,800 72,600 45,200,000	Total, general imports						
	of high carbon	22,100	17,200	7,650,000	64,700	50,400	25,300,000
	Grand total	27,400	21,500	11,300,000	91,800	72,600	45,200,000
	Grand total, general imports	27,400	21,500	11,300,000	91,800	72,600	45,200,000

<sup>--</sup> Zero

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

TABLE 4 U.S. IMPORTS OF MANGANESE ORE (20% OR MORE Mn) IN MAY 2001 1/ 2/  $\,$ 

### (Metric tons)

	20% - 47%	Mn	47% or more	e Mn	Total		
Source	Gross	Mn	Gross	Mn	Gross	Mn	
	weight	content	weight	content	weight	content	
Gabon			3,600 3/	10,500 3/	3,600	10,500	
South Africa	11,600	4,160	26,600	12,500	38,100	16,700	
Total	11,600	4,160	30,200	23,000	41,700	27,200	
Year to date:							
Brazil	7,700	3,460			7,700	3,460	
Gabon	14,300	6,310	121,000	76,000	136,000	82,300	
Mexico	1,680	648			1,680	648	
Morocco			20	11	20	11	
South Africa	11,600	4,160	26,600	12,500	38,100	16,700	
Total	35,300	14,600	148,000	88,500	183,000	103,000	

<sup>--</sup> Zero.

Source: U.S. Census Bureau.

 ${\rm TABLE}~5$  U.S. IMPORTS FOR CONSUMPTION OF MANGANESE DIOXIDE AND MANGANESE METAL IN MAY 2001 1/

(Metric tons, gross weight, unless otherwise specified)

		Mangane	ese dioxide		Manganese metal			
			Year to date		Unw	rought/	Other	
		Customs		Customs				
Source	Quantity	value	Quantity	value	Quantity	Year to date	Quantity	Year to date
Australia	1,440	\$2,070,000	8,020	\$12,700,000				2
Belgium	18	26,800	236	332,000				
Canada								1
China	144	140,000	525	512,000	420	1,240	20	54
France							7	17
Germany	(2/)	3,960	40	144,000	177	833	10	18
Greece			563	728,000				
India			1	3,130			37	170
Ireland	370	537,000	2,720	3,740,000				
Japan	18	66,300	244	471,000				3
Malaysia							5	5
Mexico							19	69
Morocco			1	2,530				
Netherlands								24
Russia								385
South Africa	286	404,000	1,760	2,480,000	1,330	5,360		
Spain					84	196		
United Kingdom	6	11,000	6	11,000		69		(2/)
Total	2,290	3,250,000	14,100	21,100,000	2,010	7,690	98	747
Total, general imports	2,290	3,250,000	14,100	21,100,000	2,010	7,620	98	807

<sup>--</sup> Zero

Note: Imports for consumption of metallic manganese waste and scrap totaled 56 tons, all of which was from Canada, to give a year-to-date total of 463 tons.

 $<sup>1/\</sup>left. Quantities for general imports and imports for consumption are identical.$ 

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

<sup>3/</sup> All or part of these data have been referred to the U.S. Census Bureau for verification.

<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.

## TABLE 6 U.S. EXPORTS OF MANGANESE ORE (20% OR MORE Mn), FERROMANGANESE, SILICOMANGANESE, AND MANGANESE METAL BY COUNTRIES OF DESTINATION IN 2001 1/

## (Metric tons, gross weight)

			Ferrom	anganese,				
	Manganese ore		2% c	r less C	Silicon	nanganese	Manganese metal 2/	
	May	Year to date	May	Year to date	May	Year to date	May	Year to date
Australia	19	74				5		2
Belgium			-					19
Brazil		46				15		
Canada	428	1,250	498	839	25	158	6	24
Chile		3						
Finland								18
France					4	4		29
Germany		395						58
Hong Kong	21	21						1
Ireland		137						
Italy	47	125						1
Japan								158
Korea, Republic of							1	6
Mexico			51	116	9	2,340	41	103
Netherlands					4	18	36	199
Norway		139						
Saudi Arabia		5						
Singapore				4				
Spain						8		
Sweden	19	38					18	54
Switzerland		34						
Taiwan		53						
United Kingdom		1,140						
Venezuela		16						
Total	533	3,480	549	959	43	2,540	103	671

<sup>--</sup> Zero.

Note: Exports of ferromanganese with more than 2% carbon totaled 509 tons, all of which went to Canada, to give a year-to-date total of 1,710 tons.

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

<sup>2/</sup> Includes manganese-aluminum, some other alloys, and waste and scrap.

TABLE 7 U.S. FOREIGN TRADE IN SELECTED MANGANESE CHEMICALS IN MAY 2001, BY CLASS 1/

				Year to date				
Class	Gross weight	Value 2/	Principal sources and destinations: gross weight (metric tons);	Gross weight	Value 2/	Principal sources and destinations: gross weight (metric tons);		
Class	(metric tons)	(thousands)	value 2/ (thousands)	(metric tons)	(thousands)	value 2/ (thousands)		
Imports for consumption:	_							
Manganese oxides other than dioxide	54	\$151	South Africa 34; \$89	370	\$644	South Africa 225; \$370		
Sulfates, basket category,								
including manganese sulfate	2,410	1,370	China 1,330; \$411	15,000	8,680	Mexico 6,220; \$3,310		
Potassium permanganate	122	235	India 74; \$141	719	1,390	India 362; \$686		
Manganites, manganates, and								
other permanganates			XX	33	146	Germany 17; \$113		
Exports:	_							
Manganese dioxide	397	622	Canada 90; \$29	1,920	2,510	Canada 853; \$350		
Manganese oxides other than dioxide	621	490	Canada 330; \$131	3,050	3,410	Canada 1,240; \$493		
Sulfates, basket category,								
including manganese sulfate	2,530	1,030	Canada 2,060; \$485	12,000	6,640	Canada 9,520; \$2,340		
Potassium permanganate	227	410	Spain 150; \$280	698	1,410	Spain 365; \$668		
Manganites, manganates, and								
other permanganates	71	488	Mexico 40; \$271	207	1,280	Mexico 61; \$522		
VV N-41:1-1- 7			,	,	, - *	,		

XX Not applicable. -- Zero.

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

<sup>2/</sup> For imports, Customs value; for exports, f.a.s. value.