

# Mineral Industry Surveys

**For information, contact:**

Lisa A. Corathers, Manganese Commodity Specialist  
 U.S. Geological Survey  
 989 National Center  
 Reston, VA 20192  
 Telephone: (703) 648-4973, Fax: (703) 648-7757  
 E-mail: lcorathers@usgs.gov

Elena Lita (Data)  
 Telephone: (703) 648-7980  
 Fax: (703) 648-7975  
 E-mail: elita@usgs.gov

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

## MANGANESE IN JANUARY 2006

On a gross-weight basis, reported consumption of manganese ore containing 35% or more manganese, exclusive of that consumed at iron and steel plants, was 32,700 metric tons (t) in January 2006, which was a 37% decrease compared with that in December 2005, according to the U.S. Geological Survey. This figure increases to 35,100 t when estimates for annual respondents are added on the basis of 2005 data. Corresponding industry stocks of ore at the end of the month were 317,000 t, which includes an estimate for annual respondents on the basis of 2005 data. This was a 10% increase from that of December 2005.

Foreign trade data for January will appear in a subsequent report. The following comparisons of trade data were made on the basis of manganese content (table 1). The data for December 2005 tabulated in this report indicate that the total exports of 3,230 t were 89% higher than those of the prior month, owing primarily to an increase in exports of manganese ore. Manganese imports were 75,400 t, which was an increase of 2% compared with those of November. The increase in manganese imports was primarily attributable to increases in manganese metal and silicomanganese imports.

### Ferroalloy Prices, manganese content

	High-carbon ferromanganese <sup>1</sup> (dollars per gross ton)	Medium-carbon ferromanganese <sup>1</sup> (cents per pound)	Silicomanganese <sup>1</sup> (cents per pound)	Manganese metal <sup>2</sup> (cents per pound)
January 5	710.00-750.00	49.50-52.00	36.00-39.00	68.00-70.00
January 12	710.00-750.00	46.00-48.00	36.00-39.00	68.00-70.00
January 19	710.00-750.00	49.00-52.00	36.00-39.00	68.00-70.00
January 26	710.00-750.00	49.00-54.00	36.00-39.00	68.00-70.00

### Ore Prices, dollars per metric ton unit, manganese content<sup>3</sup>

	44% Manganese Ore <sup>2</sup>	48% Manganese Ore <sup>2</sup>
January 5	1.85-1.95	2.35-2.50
January 12	1.85-1.95	2.35-2.50
January 19	1.85-1.95	2.35-2.50
January 26	1.85-1.95	2.30-2.40

<sup>1</sup>Source: Platts Metals Week, dealer import price.

<sup>2</sup>Source: Ryan's Notes, North American transaction price.

<sup>3</sup>To determine dollars per metric ton, multiply the manganese content percentage by the price.

TABLE 1  
SELECTED U.S. FOREIGN TRADE IN MANGANESE<sup>1</sup>

(Metric tons, manganese content)<sup>2</sup>

	Imports for consumption			Exports		
	Ore and dioxide	Ferroalloy and metal	Total	Ore	Ferroalloy and metal	Total
2004:						
December	19,600	61,400	80,900	21,300	2,410	23,700
January-December	250,000	638,000 <sup>r</sup>	888,000 <sup>r</sup>	61,500	10,300	71,800
2005:						
January	7,650	45,000	52,600	162	955	1,120
February	40,700	29,000	69,700	111	1,170	1,280
March	22,300	42,000	64,300	206	1,160	1,360
April	38,400	39,900	78,300	2,350	778	3,130
May	16,500	47,400	64,000	364	1,380	1,740
June	19,500	41,000	60,500	272	1,550	1,820
July	21,000	40,000	61,000	197	934	1,130
August	23,800	25,400	49,100	234	1,360	1,600
September	41,800	31,700	73,600	564	909	1,470
October	41,000	40,200	81,200	480	1,330	1,810
November	40,400	33,600	74,000	101	1,620	1,720
December	39,800	35,600	75,400	1,690	1,550	3,230
Total	353,000	451,000	804,000	6,730	14,700	21,400

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

Source: U.S. Census Bureau.

TABLE 2  
U.S. IMPORTS FOR CONSUMPTION OF SILICOMANGANESE IN DECEMBER 2005<sup>1</sup>

(Metric tons)

Source	Gross weight	Mn content	Customs value <sup>2</sup>	Year to date		
				Gross weight	Mn content	Customs value <sup>2</sup>
Argentina	--	--	--	88	58	\$64,000
Australia	4,010	2,680	\$2,630,000	35,400	23,500	20,900,000
Canada	93	68 <sup>3</sup>	52,800	1,100	844	628,000
France	--	--	--	2	1	2,860
Georgia	3,000	2,190 <sup>3</sup>	1,980,000	14,500	10,900	8,890,000
Kazakhstan	--	--	--	20	13	17,500
Korea, Republic of	--	--	--	5,220	3,410	3,280,000
Mexico	4,600	3,020	2,740,000	27,300	18,100	18,600,000
Norway	3,000	1,960	1,930,000	53,400	33,700	52,000,000
Romania	14,000	9,750	9,800,000	71,100	48,100	51,500,000
Russia	1,540	1,230 <sup>3</sup>	1,090,000	14,500	9,960	11,400,000
South Africa	1,300	863	821,000	101,000	66,600	61,100,000
Spain	--	--	--	4,000	2,670	2,770,000
Total	31,600	21,800	21,000,000	327,000	218,000	231,000,000

-- Zero.

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

<sup>2</sup>Customs value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the material into the United States.

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

Source: U.S. Census Bureau.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF FERROMANGANESE IN DECEMBER 2005<sup>1</sup>

(Metric tons)

Source	Gross weight	Mn content	Customs value <sup>2</sup>	Year to date		
				Gross weight	Mn content	Customs value <sup>2</sup>
<b>Low carbon:</b>						
China	455	405	\$698,000	14,700	12,600	\$24,100,000
Japan	--	--	--	3,300	2,650	3,830,000
Korea, Republic of	--	--	--	2,650	2,050	2,990,000
Mexico	900	715	905,000	7,940	6,360	8,610,000
Netherlands	--	--	--	17	14	29,800
Norway	--	--	--	240	197	385,000
South Africa	634	316 <sup>3</sup>	574,000	3,250	2,730	5,340,000
Spain	--	--	--	36	28	41,800
Total, low carbon	1,990	1,440	2,180,000	32,200	26,600	45,300,000
<b>Medium carbon, 1%-2% C:</b>						
Brazil	--	--	--	14	9	25,400
China	--	--	--	3,150	2,520	4,490,000
Korea, Republic of	--	--	--	13,000	10,400	11,300,000
Mexico	753	595	697,000	13,700	10,800	14,200,000
Norway	--	--	--	1,810	1,480	2,610,000
South Africa	2,260	1,830	1,580,000	28,700	23,300	30,800,000
Total, m.c., 1%-2% C	3,010	2,420	2,280,000	60,300	48,500	63,400,000
<b>Medium carbon, 2%-4% C:</b>						
South Africa	--	--	--	61	48	30,600
<b>High carbon:</b>						
Australia	--	--	--	4,960	3,810	2,630,000
Brazil	6,050	4,670	2,500,000	19,900	15,400	12,200,000
Canada	--	--	--	36	28	32,900
China	--	--	--	9,040	6,890	5,940,000
France	--	--	--	4,100	3,200	2,830,000
Hong Kong	--	--	--	3,360	2,550	1,960,000
Mexico	3	2	2,670	800	625	729,000
Norway	--	--	--	114	92	100,000
Poland	--	--	--	11	9	17,500
South Africa	3,940	3,060	1,760,000	117,000	90,900	63,100,000
Ukraine	21	16	13,200	2,860	2,250	1,270,000
Total, high carbon	10,000	7,750	4,280,000	162,000	126,000	90,900,000
Grand total	15,000	11,600	8,740,000	255,000	201,000	200,000,000

-- Zero.

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

<sup>2</sup>Customs value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the material into the United States.

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

Source: U.S. Census Bureau.

TABLE 4  
U.S. IMPORTS FOR CONSUMPTION OF MANGANESE ORE (20% OR MORE Mn) IN DECEMBER 2005<sup>1,2</sup>

(Metric tons)

Source	Gross weight	Mn content	Customs value <sup>3</sup>	Year to date		
				Gross weight	Mn content	Customs value <sup>3</sup>
More than 20%, but less than 47% manganese:						
China	--	--	--	5,140	1,050	\$35,100
Gabon	--	--	--	9,660	8,290	1,180,000
Ghana	--	--	--	18	7	2,340
Mexico	--	--	--	8,810	4,320	1,030,000
Namibia	--	--	--	26,000	10,400	1,950,000
United Kingdom	--	--	--	87	40	6,000
Total	--	--	--	49,700	24,100	4,200,000
47% or more manganese:						
Australia	--	--	--	41,100	21,300	5,700,000
Belgium	19	13	15,000	172	114	129,000
Brazil	--	--	--	12,400	7,020	2,230,000
China	291	145	17,400	8,890	4,440	798,000
France	--	--	--	60	56	6,670
Gabon	76,100	38,600	5,710,000	476,000	244,000	37,900,000
Ghana	--	--	--	72	50	4,320
India	--	--	--	85	42	12,800
South Africa	--	--	--	68,000	33,100	7,170,000
Total	76,400	38,700	5,740,000	606,000	310,000	54,000,000
Grand total	76,400	38,700	5,740,000	656,000	334,000	58,200,000

-- Zero.

<sup>1</sup>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>Customs value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the material into the United States.

Source: U.S. Census Bureau.

TABLE 5  
U.S. IMPORTS FOR CONSUMPTION OF MANGANESE DIOXIDE IN DECEMBER 2005<sup>1</sup>

(Metric tons, gross weight)

Source	Quantity	Customs value <sup>2</sup>	Year to date	
			Quantity	Customs value <sup>2</sup>
Australia	258	\$335,000	15,900	\$21,000,000
Belgium	19	33,100	393	861,000
Brazil	160	80,000	589	544,000
China	1,120	1,250,000	10,300	10,900,000
Germany	8	42,300	96	355,000
Japan	289	394,000	4,210	5,770,000
Poland	--	--	7	12,000
United Kingdom	--	--	1	6,370
Total	1,850	2,130,000	31,500	39,500,000

-- Zero.

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

<sup>2</sup>Customs value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the material into the United States.

Source: U.S. Census Bureau.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF MANGANESE METAL IN DECEMBER 2005<sup>1</sup>

(Metric tons)

Source	Gross weight	Customs value <sup>2</sup>	Year to date	
			Gross weight	Customs value <sup>2</sup>
<b>Unwrought flake:</b>				
China	1,140	\$1,670,000	13,300	\$19,900,000
Germany	--	--	7	28,200
Hong Kong	--	--	18	30,000
South Africa	443	825,000	5,600	9,980,000
Total	1,580	2,500,000	18,900	30,000,000
<b>Unwrought powder:</b>				
China	--	--	1,400	2,130,000
South Africa	431	840,000	3,980	7,880,000
Total	431	840,000	5,380	10,000,000
<b>Unwrought, other:</b>				
China	20	12,700	240	389,000
Germany	--	--	2,540	4,870,000
Spain	--	--	2,780	6,570,000
South Africa	140	252,000	1,400	2,680,000
Total	160	265,000	6,960	14,500,000
<b>Other manganese, wrought:</b>				
Austria	--	--	1	53,300
Canada	--	--	1	12,400
China	--	--	320	522,000
France	--	--	25	259,000
Germany	--	--	4	42,300
Mexico	--	--	5	8,980
Spain	19	42,100	94	204,000
United Kingdom	--	--	(3)	77,300
Total	19	42,100	450	1,180,000
Grand total	2,190	3,640,000	31,700	55,700,000

-- Zero.

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

<sup>2</sup>Customs value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the material into the United States.

<sup>3</sup>Less than ½ unit.

Note: Imports for consumption of metallic manganese waste and scrap totaled 23 tons, all of which was from Canada, to give a year-to-date total of 639 tons.

Source: U.S. Census Bureau.

TABLE 7  
U.S. EXPORTS OF MANGANESE ORE (20% OR MORE Mn), FERROMANGANESE,  
SILICOMANGANESE, AND MANGANESE METAL BY COUNTRIES OF DESTINATION IN DECEMBER 2005<sup>1</sup>

(Metric tons, gross weight)

	Manganese ore		Ferromanganese, 2% or less C		Silicomanganese		Manganese metal <sup>2</sup>	
	December	Year to date	December	Year to date	December	Year to date	December	Year to date
Australia	--	--	--	--	5	11	5	11
Belgium	--	--	--	--	--	--	90	1,100
Brazil	--	--	--	--	--	41	--	20
Canada	54	3,000	714	9,400	--	300	11	273
Chile	--	4	--	1	--	--	--	5
China	--	6,390	--	--	--	--	--	--
Colombia	6	12	--	--	--	--	--	4
Denmark	--	17	--	--	--	--	--	--
El Salvador	--	--	--	--	--	--	--	13
France	3,300	3,300	--	--	--	101	1	1
Germany	19	172	--	--	--	--	--	292
Hong Kong	--	--	--	7	--	--	1	4
Indonesia	--	39	--	--	--	22	--	8
Israel	--	4	--	--	--	--	--	--
Italy	--	--	--	--	--	33	--	4
Japan	--	--	--	--	--	--	82	564
Korea, Republic of	--	34	--	--	--	--	--	27
Kuwait	--	83	--	--	--	--	--	--
Malaysia	--	--	--	--	--	--	3	10
Mexico	--	101	--	703	--	359	--	197
Netherlands	--	--	--	2	2	24	--	--
New Zealand	--	2	--	--	--	--	--	--
Peru	--	--	--	--	--	--	--	5
Poland	--	193	--	--	--	--	--	--
Russia	--	21	--	--	--	--	--	--
Singapore	--	1	--	--	--	--	--	--
Spain	--	--	--	--	--	8	--	10
Sweden	--	94	--	--	--	--	--	124
Taiwan	--	--	--	--	--	--	--	(3)
Trinidad and Tobago	--	--	--	--	--	--	--	3
United Kingdom	--	--	--	--	--	--	--	1
Venezuela	--	--	--	--	--	--	--	4
Total	3,380	13,500	714	10,100	8	899	193	2,670

-- Zero.

<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.

<sup>3</sup>Less than ½ unit.

Note: Exports of ferromanganese with more than 2% carbon totaled 993 tons, of which 946 tons went to Mexico, 27 tons went to Canada, and 20 tons went to Argentina give a year-to-date total of 4,330 tons.

Source: U.S. Census Bureau.

TABLE 8  
U.S. FOREIGN TRADE IN SELECTED MANGANESE CHEMICALS IN DECEMBER 2005, BY CLASS<sup>1</sup>

Class	Gross weight (metric tons)	Value <sup>2</sup> (thousands)	Principal sources and destinations: gross weight (metric tons); value <sup>2</sup> (thousands)	Year to date		
				Gross weight (metric tons)	Value <sup>2</sup> (thousands)	Principal sources and destinations: gross weight (metric tons); value <sup>2</sup> (thousands)
<b>Imports for consumption:</b>						
Manganese oxides other than dioxide	459	\$289	Mexico 347; \$151	5,030	\$3,250	Mexico 2,650; \$1,120
Manganites, manganates, and other permanganates	8	17	Japan 8; \$17	46	140	Germany 38; \$123
Potassium permanganate	110	228	Czech Republic 74; \$159	1,050	2,190	Czech Republic 666; \$1,410
Sodium permanganate	16	8	China 16; \$8	316	673	China 180; \$197
Sulfates, basket category, including manganese sulfate	1,800	1,220	Mexico 1,270; \$674	44,700	25,500	Mexico 21,500; \$11,200
<b>Exports:</b>						
Manganese dioxide	479	442	Canada 283; \$155	5,900	5,040	Canada 3,400; \$1,630
Manganese oxides other than dioxide	2,590	1,280	Canada 2,160; \$775	14,800	8,940	Canada 11,400; \$4,130
Manganites, manganates, and other permanganates	--	--	--	87	206	Canada 47; \$99
Potassium permanganate	531	877	Spain 418; \$590	3,960	8,180	Spain 1,790; \$3,190
Sodium permanganate	61	146	Hong Kong 27; \$50	715	1,840	Japan 446; \$1,170
Sulfates, basket category, including manganese sulfate	1,300	669	Canada 1,130; \$487	22,400	14,600	Canada 19,000; \$8,230

-- Zero.

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

<sup>2</sup>For imports, Customs value; for exports, free alongside ship value.

Source: U.S. Census Bureau.