

# Mineral Industry Surveys

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## MANGANESE IN DECEMBER 2008

Preliminary reported data (gross weight) for December 2008 indicate that consumption of manganese ore containing 35% or more manganese, exclusive of that consumed at iron and steel plants, was 24,200 metric tons (t), according to the U.S. Geological Survey. This was the same as that reported consumed in November 2008. Manganese ore consumption during the first 12 months of 2008 was 301,000 t. This was 60% of the net manganese ore imports during the same period (503,000 t), and slightly more than the revised amount consumed during the same period in 2007 (298,000 t).

Industry stocks of ore at the end of December were 100,000 t, which were the same as those at the end of November 2008. These data include estimates for annual respondents on the basis of 2007 data.

Data for U.S. imports and exports for November 2008 are published in this issue. On a contained-weight basis, U.S. manganese ore plus dioxide and manganese ferroalloys plus

metal imports were 6 times higher and 2% lower, respectively, than those in October 2008. U.S. manganese ore plus dioxide and manganese ferroalloys plus metal imports during the first 11 months of 2008 were 16% lower and 20% higher, respectively, than those during the same period in 2007 (table 1).

On a contained-weight basis, U.S. manganese ore and manganese ferroalloys plus metal exports for November 2008 were almost 40 times higher and 26% lower, respectively, than those in October 2008. U.S. manganese ore and manganese ferroalloys plus metal exports during the first 11 months of 2008 were 2 times greater and 7% less, respectively, than those during the same period in 2007 (table 1).

**Prices**

Prices for manganese materials in December 2008, manganese content, are listed below.

**Ferroalloys prices<sup>1</sup>**

	<u>Price Range</u>	<u>Average Price</u>
High-carbon ferromanganese <sup>2</sup>	1,375.00-1,975.00	1,547.50
Medium-carbon ferromanganese <sup>3</sup>	140.00-180.00	156.00
Silicomanganese <sup>3</sup>	45.00-59.00	50.00

**Manganese metal and ore prices<sup>4</sup>**

	<u>Price Range</u>	<u>Average Low, Mid, and High Prices</u>
Manganese metal <sup>3</sup>	125.00-145.00	128.75-133.75-138.75
44% Manganese ore <sup>5</sup>	7.00-11.00	8.13-8.66-9.19
48% Manganese ore <sup>5</sup>	8.00-12.00	9.00-9.56-10.13

<sup>1</sup>Source: Platts Metals Week, dealer import price. Average prices reported for all transactions during the month.

<sup>2</sup>Dollars per gross ton.

<sup>3</sup>Cents per pound.

<sup>4</sup>Source: Ryan's Notes, cost and freight, China. Average prices reported for the price range.

<sup>5</sup>Dollars per metric ton unit. 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
2007:						
November	18,300	48,000	66,300	3,060	392	3,450
January-November	305,000	501,000	805,000	11,200	27,900	39,100
2008:						
January	3,910	77,900	81,800	2,200	586	2,790
February	43,700	47,200	90,900	45	556	601
March	1,250	41,600	42,800	81	5,080	5,160
April	53,000	33,100	86,100	4,660	6,370	11,000
May	25,200	73,600	98,800	5,380	1,270	6,650
June	22,700	52,500	75,100	2,060	1,440	3,500
July	20,800	66,800	87,600	634	2,560	3,190
August	30,000	49,700	79,700	510	1,990	2,500
September	25,600	51,600	77,100	152	2,260	2,410
October	3,910	53,900	57,800	204	2,210	2,410
November	25,600	52,800	78,400	8,130	1,630	9,760
Total	256,000	601,000	856,000	24,100	25,900	50,000

<sup>1</sup>Data 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 NOVEMBER 2008<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	--	--	--	504	328	\$857,000
Australia	362	237	\$567,000	34,800	22,800	67,000,000
Canada	--	--	--	204	152	242,000
China	--	--	--	2	2	6,000
Georgia	5,600	4,450	11,500,000	59,800	44,900	116,000,000
Korea, Republic of	--	--	--	3,820	2,390	7,540,000
Macedonia	--	--	--	12,900	8,470	27,500,000
Mexico	1,400	913	2,050,000	13,300	8,740	18,400,000
Norway	11,900	7,580	24,400,000	72,100	45,200	135,000,000
Poland	--	--	--	13	8	17,000
Romania	--	--	--	2,340	1,660	5,010,000
Russia	--	--	--	2,070	1,370	3,870,000
Saudi Arabia	768	524	1,770,000	5,150	3,430	10,700,000
South Africa	11,200	7,530	18,400,000	143,000	95,600	268,000,000
Total	31,300	21,200	58,600,000	350,000	235,000	660,000,000

-- Zero.

<sup>1</sup>Data 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 3  
U.S. IMPORTS FOR CONSUMPTION OF FERROMANGANESE IN NOVEMBER 2008<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>						
Brazil	--	--	--	649	508	\$2,420,000
Canada	--	--	--	42	34	137,000
China	2,300	1,940	\$9,020,000	33,400	28,000	110,000,000
Korea, Republic of	500	400	1,960,000	2,000	1,610	6,940,000
Mexico	1,070	864	2,840,000	9,870	8,000	23,200,000
Norway	--	--	--	3,830	3,150	14,200,000
United Kingdom	--	--	--	72	61	43,200
Total	3,870	3,210	13,800,000	49,900	41,400	157,000,000
<b>Medium carbon, 1%-2% C:</b>						
Brazil	--	--	--	1,240	988	4,820,000
China	741	596	2,690,000	39,100	31,000	118,000,000
France	--	--	--	80	66	345,000
Georgia	345	293	1,240,000	4,480	3,630	10,800,000
Korea, Republic of	--	--	--	7,600	6,140	25,400,000
Mexico	878	702	1,800,000	11,600	9,290	21,700,000
Norway	--	--	--	1,170	962	3,420,000
South Africa	--	--	--	26,200	21,200	70,800,000
Turkey	20	17	94,000	99	82	466,000
Ukraine	633	558	2,440,000	1,270	1,110	4,480,000
Total	2,620	2,170	8,270,000	92,800	74,500	260,000,000
<b>Medium carbon, 2%-4% C:</b>						
China	--	--	--	633	498	275,000
Georgia	--	--	--	3,050	2,610	9,920,000
South Africa	36	29	80,100	54	44	122,000
Ukraine	--	--	--	220	191	837,000
Total	36	29	80,100	3,960	3,340	11,200,000
<b>High carbon:</b>						
Australia	515	393	1,080,000	1,530	1,170	3,870,000
Brazil	--	--	---	2,440	1,850	5,730,000
British Virgin Islands	--	--	--	176	132	418,000
Canada	--	--	--	18	13	24,000
China	1,210	919	3,520,000	37,400	28,500	87,100,000
Georgia	--	--	--	488	415	1,170,000
India	1,350	1,000	3,440,000	20,000	14,900	51,000,000
Japan	3,000	2,250	8,700,000	3,000	2,250	8,700,000
Korea, Republic of	3,300	2,500	9,190,000	21,600	16,400	54,800,000
Macedonia	--	--	--	5,480	4,390	15,500,000
Mexico	--	--	--	43	34	147,000
Russia	--	--	--	3,020	2,300	8,370,000
South Africa	7,890	6,090	18,300,000	155,000	119,000	351,000,000
Spain	4,000	3,030	9,510,000	6,740	5,130	16,600,000
Ukraine	9,940	7,740	28,000,000	24,700	19,300	62,700,000
Venezuela	--	--	--	284	211	533,000
Total	31,200	23,900	81,800,000	282,000	216,000	668,000,000
Grand total	37,700	29,300	104,000,000	428,000	336,000	1,100,000,000

-- Zero.

<sup>1</sup>Data 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 4  
U.S. IMPORTS FOR CONSUMPTION OF MANGANESE ORE (20% OR MORE Mn) IN NOVEMBER 2008<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>
<b>More than 20%, but less than 47% manganese:</b>						
Brazil	3,950	1,070	\$648,000	4,950	1,540	\$1,100,000
Gabon	16,500	8,010	1,270,000	122,000	57,400	20,400,000
India	--	--	--	4	1	6,050
Total	20,500	9,080	1,920,000	127,000	58,900	21,500,000
<b>47% or more manganese:</b>						
Australia	--	--	--	46,200	23,700	16,400,000
Brazil	1,070	534	79,700	63,300	32,800	18,200,000
China	--	--	--	862	516	436,000
Gabon	30,200	15,000	9,890,000	199,000	106,000	56,200,000
Ghana	--	--	--	12,500	6,230	5,580,000
South Africa	--	--	--	30,800	14,600	18,400,000
Total	31,200	15,600	9,970,000	353,000	184,000	115,000,000
Grand total	51,700	24,700	11,900,000	480,000	243,000	137,000,000

-- Zero.

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

<sup>2</sup>Data 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 NOVEMBER 2008<sup>1,2</sup>

(Metric tons, gross weight)

Source	Quantity	Customs value <sup>3</sup>	Year to date	
			Quantity	Customs value <sup>3</sup>
Australia	--	--	4,380	\$6,230,000
Belgium	--	--	299	836,000
Brazil	--	--	221	334,000
China	--	--	507	565,000
France	15	\$15,800	30	41,100
Germany	--	--	52	115,000
Japan	665	1,520,000	4,540	8,070,000
Mexico	--	--	3,000	1,420,000
Singapore	10	16,700	126	213,000
South Africa	853	1,430,000	8,250	16,900,000
Other (3 countries)	--	--	11	39,800
Total	1,540	2,980,000	21,400	34,700,000

-- Zero.

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

<sup>2</sup>Presentation of monthly data is based on the year-to-date quantities of the 10 leading countries.

<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 6  
U.S. IMPORTS FOR CONSUMPTION OF MANGANESE METAL IN NOVEMBER 2008<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	833	\$2,780,000	13,300	\$45,400,000
Germany	--	--	500	1,470,000
New Caledonia	--	--	120	348,000
South Africa	94	313,000	888	2,520,000
United Kingdom	20	58,100	20	58,100
Total	947	3,150,000	14,800	49,800,000
<b>Unwrought powder:</b>				
China	289	1,260,000	3,210	13,500,000
Korea, Republic of	--	--	44	143,000
Mexico	--	--	41	217,000
Spain	--	--	24	132,000
South Africa	377	1,800,000	4,080	18,200,000
Total	666	3,060,000	7,400	32,200,000
<b>Unwrought, other:</b>				
China	208	660,000	4,170	13,400,000
Germany	73	331,000	1,510	6,370,000
Russia	24	111,000	59	240,000
South Africa	76	358,000	324	1,500,000
United Kingdom	18	89,600	610	2,760,000
Total	400	1,550,000	6,670	24,300,000
<b>Other manganese, wrought:</b>				
Belgium	--	--	2	13,100
Canada	--	--	(3)	4,210
China	179	679,000	645	2,300,000
Japan	--	--	(3)	5,160
Mexico	--	--	426	2,530,000
Poland	(3)	4,200	(3)	4,200
Singapore	--	--	(3)	2,100
United Kingdom	--	--	(3)	5,860
Total	179	683,000	1,070	4,860,000
Grand total	2,190	8,440,000	29,900	111,000,000

-- Zero.

<sup>1</sup>Data 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 waste and scrap totaled 33 metric tons, all of which was from Canada, to give a year-to-date total of 105 metric 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 NOVEMBER 2008<sup>1</sup>

(Metric tons, gross weight)

Country	Manganese ore		Ferromanganese, 2% or less C		Silicomanganese		Manganese metal <sup>2</sup>	
	November	Year to date	November	Year to date	November	Year to date	November	Year to date
Argentina	--	--	--	--	--	--	--	4
Australia	--	--	--	10	3	3	--	--
Belgium	--	--	--	--	--	--	33	613
Brazil	--	1	--	--	--	96	11	11
Canada	93	1,560	118	10,100	123	859	7	100
Chile	--	--	--	40	--	--	--	--
China	16,100	45,300	267	267	--	--	19	684
Colombia	--	--	--	--	--	--	--	1
Finland	--	--	--	--	--	--	112	196
France	--	--	--	--	--	--	--	11
Germany	22	837	--	--	--	--	2	124
Hong Kong	--	--	--	--	--	--	--	435
India	--	1	--	--	--	--	19	251
Indonesia	--	--	--	--	--	--	--	19
Israel	--	16	--	--	--	--	--	--
Italy	--	--	--	--	--	203	9	20
Japan	--	2	--	6	--	217	76	1,050
Korea, Republic of	62	343	--	--	--	--	--	2
Latvia	--	23	--	--	--	--	--	--
Malaysia	--	5	--	--	--	--	--	--
Mexico	--	10	221	3,390	46	2,360	--	59
Netherlands	--	18	--	796	--	429	--	--
Nigeria	--	--	--	--	--	405	--	--
Panama	--	--	--	--	--	--	--	47
Peru	--	--	--	--	--	--	--	44
Poland	--	--	--	--	--	--	--	20
Russia	--	13	--	--	--	--	--	--
South Africa	--	--	--	--	--	--	--	51
Spain	--	--	--	1,040	--	1,640	--	--
St. Kitts-Nevis	--	--	--	--	--	--	(3)	(3)
Sweden	19	31	--	--	--	--	--	--
Taiwan	--	--	--	--	--	--	--	141
United Kingdom	--	--	--	--	--	--	--	194
Vietnam	--	--	--	--	--	--	61	146
Total	16,300	48,200	606	15,700	172	6,220	349	4,220

-- Zero.

<sup>1</sup>Data 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 872 metric tons (t), of which 445 t went to Mexico, 398 t went to Canada, and 29 t went to Germany, to give a year-to-date total of 6,630 t.

Source: U.S. Census Bureau.

TABLE 8  
U.S. FOREIGN TRADE IN SELECTED MANGANESE CHEMICALS IN NOVEMBER 2008, 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	282	\$413	Mexico 202; \$285	4,248	\$4,069	Mexico 1,859; \$1,682
Manganites, manganates, and other permanganates	--	--	--	69	70	Poland 69; \$70
Potassium permanganate	60	193	Czech Republic 42; \$135	618	1,667	Czech Republic 353; \$951
Sodium permanganate	16	24	China 16; \$24	332	692	China 314; \$623
Sulfates, basket category, including manganese sulfate	2,005	3,827	China 1,222; \$1,687	38,813	42,426	China 17,384; \$17,503
<b>Exports:</b>						
Manganese dioxide	1,157	1,774	Canada 508; \$566	10,418	13,588	Canada 5,060; \$3,762
Manganese oxides other than dioxide	652	738	Canada 439; \$177	13,216	14,006	Canada 7,933; \$3,448
Manganites, manganates, and other permanganates	3	6	Canada 3; \$6	243	617	Canada 123; \$308
Potassium permanganate	40	246	Mexico 20; \$86	2,842	6,563	Belgium 2,089; \$3,989
Sodium permanganate	166	394	Mexico 58; \$108	1,574	3,862	Belgium 454; \$834
Sulfates, basket category, including manganese sulfate	1,131	1,244	Canada 882; \$709	22,542	24,344	Canada 16,857; \$14,165

-- 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.